



1887.

(THIRD SESSION.)

NEW SOUTH WALES.

Legislative Council

FISHERIES OF THE COLONY.

(REPORT OF THE COMMISSIONERS OF FISHERIES UP TO 31 DECEMBER, 1886.)

Ordered by the Council to be printed 15 December, 1887.

REPORT of the Commissioners of Fisheries for New South Wales on the Fisheries of the Colony, to the 31st December, 1886.

To the Honorable The Colonial Secretary.

Sir,

We have the honor to submit to you the following Report on the Fisheries of the Colony to the end of the year 1886.

After the presentation of our last very voluminous Report, it became apparent to us that the system under which the Oyster Fisheries on our coast were being worked was proving absolutely destructive to the continued existence of the natural beds, and that unless some other system of dealing with them could be devised, oysters would soon become a product of the past.

Our deliberations in this regard resulted in the passing into law of the present statute, the "Oyster Fisheries Act, 1884."

By this Act the indiscriminate dredging of oysters under license, which had been working such havoc both on the natural beds and the foreshore deposits, had to give place to the more equitable and economic system of distributing the oyster-bearing areas amongst persons who were willing to hold them under leases of lengthened tenure, and to devote themselves to the not unprofitable work of cultivating and producing oysters as a means of livelihood; the Crown on its part affording to the lessees such an absolute control over their leased areas, and such complete protection against trespass, that your Commissioners were warranted in expecting not only that the hitherto wholesale destruction of oysters would cease, but that the supply would be regular and ample for the demands of the market. That we were justified in our expectations may be gathered from the fact that within five months from the measure becoming law, no less than 700 applications for leases had been received, and these applications embraced the enormous extent of over 505,000 lineal yards of foreshore.

It will be readily comprehended that such an influx of applications pouring in immediately upon the enactment of the new legislation, very much retarded the work of modelling the Department to fit it for the administration of the new law.

As it was found impossible within any reasonable time to have all these areas measured and reported on, with the view to the early issue of the leases, and as, nevertheless, it was our desire that the applicants should speedily obtain some beneficial results from the areas for which virtually they had paid the State a rental, we availed ourselves of the provision afforded by the Regulations to allow applicants to work their areas under permits. These permits entitled the holders to enter upon and occupy the portions of foreshore for which they had applied for the purposes of cultivation, and removal of oysters.

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This system would have worked fairly well, and to a large extent would have compensated *bond fide* workers for the non issue of their leases, but it was found that the law as it stood did not protect their work from spoliation by others, and it was by no means an infrequent experience of these holders to find their areas, upon which they had expended considerable labour and time, divested by unprincipled persons of every oyster that could be found there. Notwithstanding this, however, the yield of oysters shows a very fair average, no less than 14,774 bags having been won during the year 1886, as against 12,801 bags taken during 1885.

We note that the greatest output has been from Port Stephens, 3,223 bags. This is followed by 2,683 bags from the Hawkesbury and 1,922 bags from the Clarence, 1,469 from the Clyde, and 1,324 bags from the Shoalhaven and Crookhaven Rivers.

At the close of the year 1,831 leases had been applied for, and of these 736 had been granted.

Very nearly all the coastal waters are oyster-bearing, but those above enumerated may at present be regarded as the chief sources of supply.

The royalty collected during 1886 amounted to £2,216 2s. The greatest take was obtained in January, when 2,103 bags were won. The monthly average during the summer was about 1,436 bags. Fully detailed information respecting the catch will be found in Appendix C.

In addition to oysters locally produced, there were received from other colonies during 1886 no less than 4,906 bags. These oysters are not subject to royalty, and lessees complain very strongly of the heavy handicap under which they are thus placed. To instance this it may be stated that it costs in freight alone on an average 2s. 9d. per bag to land oysters in Sydney from Port Stephens, and on arrival they are subject to an additional charge of 3s. per bag for royalty, while at the same time oysters can be carried from New Zealand for 2s. 6d. per bag, and on arrival are not subject to any Crown charge whatever.

As against this argument, it must be remembered that lessees hold their areas at a very nominal rental, only 20s. for every 100 lineal yards of foreshore, and as these areas in some instances extend into deep water 600 yards, and on an average quite 300 yards, it will be apparent that for 20s. a considerable superficial area, viz., from 6 to 12 acres, is assured to the lessee.

Of course it is not contended that all of such an area would be oyster bearing, but in judiciously selected portions much of it would be naturally so, and much more could be made so by artificial means.

Referring again to the advantage accruing by the leasing over the previous system of indiscriminate dredging, such advantage is especially evidenced in the report for 1885 of the Inspector for the Northern Division of Fisheries, who, writing of the output of oysters from the Clarence River, says, that when opened to dredgers in 1883 it was worked by sixty-four boats, and although these boats were limited to two days work each per week no less than 1,000 bags were won within a month, and this rate of catch had in four months so reduced the beds as to necessitate their immediate closing against further dredging.

This same river, worked under lease during 1885 under the new law, which makes oysters the property of the lessees, was under judicious management allowed to produce an average of only 166 bags per month.

A like experience, though perhaps in a less degree, has been gained in other coastal waters, but we cite the fact to show, that while under the licensed dredging system the oyster-beds and shore deposits were really plundered and destroyed, they may under the present system of leases embracing them, and affording to the lessees a secure tenure and an almost permanent vested interest, be expected to thrive and yield a steady market supply.

The Crown holds large areas of shore on which the oyster thrives only to a certain limit, and then ceasing to grow further remains useless for market purposes. Oysters of this kind are to be found in abundance in the lower parts of most of our tidal waters, the rocks between high and low water mark being literally plastered with them.

In the Oyster Fisheries Act provision has been very wisely made for the disposal of these immature oysters to holders of oyster culture leases for the purpose of stocking their areas, which in many instances, notably so in the Hawkesbury River, are more suitable for fattening than production; this provision has been largely availed of, and will be more so as soon as its advantages become more widely known.

Coming to the year 1886, it is to be noted, with much regret, that a fatality has exhibited itself amongst the oysters, but it has been almost confined to the waters north of Port Jackson. This disease

in the tidal waters between the Richmond River and Port Macquarie is attributed by the Inspector to the appearance of a fine sea-weed which was washed into the inlets, and decomposing in quantities on the beds caused the destruction. In the Evans River the deposit was so heavy as to destroy not only the oysters but the fish also.

In the Manning the fatality is attributed to deposits of mud and sand. In the Hawkesbury, to an extensive growth of congewoi, and in the Hunter and Port Stephens to the ravages of a small worm which, boring through the shell, affords the entrance for a deposit of fine mud, by which the mollusc is eventually killed.

Your Commissioners having given very careful consideration to the latter, which at one time it was thought would lead to the ultimate extinction of the oyster in at least the northern waters, have arrived at the conclusion that although it has asserted itself in different ways in different waters its existence is due to the one cause of the long continued absence of floods. It is a recognised fact that oysters will not thrive in water of a too great salinity—it is the salinity of the water which hinders the perfect development of oysters at the mouths of tidal waters,—while in waters, the salinity of which is modified by the admixture of a considerable proportion of fresh water, oysters arrive very rapidly at maturity and fatten quickly.

Until floods of sufficient volume and force occur to clear the accumulated mud, silt, or marine vegetable growth, as the case may be, we may not expect our oyster-beds to resume that vigor and productiveness which they previously possessed.

Mr. Benson, the Inspector for the Southern Division of Fisheries in his report writes somewhat despondingly of the state of the oysters in his district. He states that lessees are not paying that attention to their areas which it was reasonably expected they would do, and that their sole desire seems to be to get as many marketable oysters off the beds as possible, leaving none for breeding purposes, thus annihilating the very source of production. While saying thus much of the greed and negligence of these lessees, he notes, as exceptions, certain leaseholders in the Clyde River, who, he says, are carrying on their workings in a systematic manner, and while obtaining a fair return for their outlay are improving their holdings considerably.

Mr. Benson's summarised remarks on the several waters in his division, which are to be found in the appendices hereto, afford a very fair idea of their respective oyster-bearing capabilities; a perusal of these remarks and of the reports from inspectors on other costal waters is invited.

We have much satisfaction in stating the revenue returns from our Oyster Fisheries during the last three years.

In 1884 there were received as rental, £2,980; and as royalty, £1,098 3s. 6d. In 1885, as rental, £2,141; as royalty, £1,920 3s.; and in 1886, as rental, £3,641 5s. 2d.; as royalty, £2,216 2s.—making a total of £14,996 13s. 8d., giving an average of £4,998 17s. 10d. per year.

During the year 1885 a very strong pressure was brought to bear against the granting of leases for oyster culture along the shores of Port Jackson and its tributaries. It was represented that such a disposition of those shores would debar the public from what was deemed to be their legitimate rights to those shores for purposes of recreation and amusement.

In deference to this represented public feeling we succeeded in obtaining the cancellation of all the applications which had been made for areas in those waters.

Following upon the success of the agitation in regard to the Port Jackson shores, numerous signed petitions were sent to us praying that leases might not be granted in George's River.

After very careful deliberation your Commissioners having regard to the public interest could not see their way to meet the prayer of the petitioners.

George's River is a very capable oyster-bearing water, and to have withdrawn it from the leasing provisions of the Oyster Fisheries Act would, in fact, have been to deprive the general public of a prolific source of supply. However, we decided on a compromise which we think is in the public interest equitable. We have proposed the issue of leases on all parts of its shores, excepting for a distance of one half mile on either side of the Railway Bridge. This area we propose to reserve from lease for the use of persons seeking pleasure and recreation.

A further concession to recreationists is to be found in the proclamation as a Public Oyster Reserve of the shores of the National Park at Port Hacking.

FISH.

The supply of fish to the Metropolis is obtained almost wholly from the Home Division of Fisheries, the limits of which are Port Stephens on the north, and Shoalhaven on the south. In the absence of proper facilities for carriage, the waters to the north and south of this Division are too remote to admit of fish being landed in a fresh state, except in the extreme winter months.

In these remoter waters, however, fish of all kinds abound, but are not utilised, except for meeting local demand, or affording a supply to a few Chinamen engaged in curing them for the China market.

Your Commissioners contemplate with deep regret the fact that so far capital and enterprise have not been forthcoming to render these enormous preserves available to the metropolis and its suburbs as an article of every day food.

When it is remembered that in the greater number of homes fish is regarded as a luxury to be indulged in only occasionally, it might reasonably be expected that any scheme which would result in bringing that food to those homes in cheapness and plenty would yield abundant profit to the enterprising persons embarking in the undertaking.

In the appendices will be found carefully prepared tables setting forth particulars of the supply of fish food to the Sydney Markets.

The large quantities shown therein to have passed into consumption will perhaps be a matter of surprise to many.

As an evidence that a popular taste for fish food exists amongst us to a large degree, we quote from these tables and offer the quotations in support of our argument that a properly conceived scheme for the carriage of fish from remote waters would yield handsome results.

During the last year no less than 45,583 baskets of mixed fish were brought to the Fish Market, besides 1,130½ dozens of schnapper, 1,060 dozens of mullet, 19½ dozens of jew-fish, 173½ dozens of king-fish, 660 dozens of salmon, 117½ dozens of various large fish, and 2,673 dozens of cray-fish. The sales of these fish realised no less an amount than £34,331 18s. 9d.

In 1884 the supply reached 32,956 baskets, which realised £30,115 17s. 1d., while the revenue derived by the Department for fishermen's and fishing-boat licenses was £543 10s.

In 1885 there were passed through the Market 38,162 baskets on which £30,789 were realised, the Departmental revenue being £564.

If with this large supply, fish be, as it certainly is, a rarity in most homes, what a vastly increased total might be quoted if, in plentiful supply, it could be brought to every door.

There may be said to be in the home division seven principal sources of supply. We give them in the following order of productiveness:—Lake Macquarie, Botany and George's River, Lake Illawarra, Broken Bay, Tuggerah, Port Stephens, and Port Jackson. To conserve these sources to the greatest possible extent we have adopted the practice of closing against the use of fishing-nets all the tributaries of those waters. These tributaries thus become havens of protection to spawning fish and young fry, as, by a provision of the Fisheries Act, persons found netting in them render themselves liable to the confiscation of their nets and to a considerable money penalty. The beneficial result of exempting these waters from the use of fishing-nets has already made itself apparent, and its advantages are beginning to be admitted even by some of those fishermen who have made the loudest complaints of the curtailment of what they have been accustomed to regard as their legitimate right.

For convenience of perusal we epitomise the inspectors' reports on some of the principal waters in the home division.

LAKE MACQUARIE.

This lake continues to be our most productive water; no less than 12,739 baskets of fish were taken from it during last year, which is very nearly double the quantity taken from the Illawarra Lake.

Its productive quality causes it to be very much worked by fishermen; and the temptation to evade the law by using nets of unlawful length and mesh seems to have been very great, for it has resulted in the conviction and punishment of several fishermen for offences—in some cases more than once repeated.

As in other waters so in this have the tributaries and entrance been in the interests of the fishermen protected against the use of fishing nets.

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The great drawback which has to be contended with is the difficulty in sending the catch to market.

The lake entrance, being very shallow, can be availed of only at certain states of tide, and the plan of sending the catch by boat to a steamer in waiting off the bar was attempted; the attempt, however, fell through—strange to say, for want of support—so the old plan of sending *via* Newcastle had to be resumed. This route involves a journey by dray of some 12 miles over a very rough road; the subsequent transference of the fish to the steamboat; and at the Sydney end, from the steamboat to the fish market—the result being, especially in hot weather, that a large proportion of the consignments are, on arrival at the market, found to be unfit for human food.

It may be noted that during last summer the lake channel became the resort of an immense quantity of salmon, a fish not highly esteemed for food, but very destructive to the more edible varieties. In December some persons undertook the task of destroying these salmon, and were largely successful; but the remedy created an evil of another kind, for, having left the results of their efforts to decay on the shore, the pestilential odours arising therefrom rendered it for a time almost impossible for the residents to remain in the locality.

This lake is not oyster-bearing; a few are to be found in isolated spots, but not in quantity.

GEORGE'S RIVER AND BOTANY.

The inspector states that these waters are more abundant than ever in their supply of fish, notwithstanding that their number of net and line fishers have doubled. Oysters on the contrary have not thriven although the fall of spat during the year was unusually plentiful.

LAKE ILLAWARRA.

This water is a very important breeding ground and nursery for fish, so much so that it was found necessary to secure its closure against the use of fishing nets; but, on urgent representations by the local fishermen that this step had deprived them of their means of living and prevented the residents of Illawarra from obtaining any fish whatever, the closure was eventually modified so as to include only the tributaries and the sea entrance with a certain length of shore on either side of each, leaving the great body of the lake open to the use of fishermen.

The Inspector, whom consequently it was found necessary to appoint to protect the closures from netting, reports that the lake is extremely prolific, and certainly it has contributed very largely to the metropolitan supply.

It is worthy of remark that the local supply, the alleged curtailment of which was made a matter of such urgency by the fishermen, is reported by the Inspector to be very small, averaging only one basket per week. He states that the fishermen will not trouble to hawk fish about the district, as they find it more profitable to ship direct to Sydney, so that, notwithstanding the now modified closure, the matter of local supply must be almost as deficient as before.

There are no oysters in Lake Illawarra.

THE HAWKESBURY.

Both net and line fishing are carried on in this water, and in the lower part of the river it is continued through the year, for being so adjacent to Sydney fish can be carried fresh in the hottest weather.

The supply during the past year has, however (it is hoped temporarily), fallen off materially, owing to continuous blasting operations on the railway line, the effect of which has been to drive the fish away from some of their most usual grounds. Shoals of large mullet and quantities of young fish frequent the upper parts of the river.

Schnapper, bream, and other fish find the waters of Cowan Creek—which, like those of the ocean, are clear and salt—a favourable resort.

During the spring and summer months schnapper entered the creek in large numbers to spawn; it was noted that at this time they would not take the bait.

The oyster fishery has been only moderately successful; those taken were chiefly rock oysters—artificial layings yielding only a small percentage, but owing to their having been stocked for only a very short time better results ought not to have been expected. Besides, a disease, popularly known as the worm disease, began to show itself towards the end of last year, and has fatally affected some of the layings. It is feared that this fatality will materially lessen the supply for 1887.

BRISBANE WATER

is reported to be improving greatly in its oyster-bearing capabilities. The Inspector states that two years since not twenty bags of marketable oysters could be found, while during last year some 300 were produced. He attributes this result to the careful oversight and attention of lessees.

There are said to be thousands of yards in Woy Woy Creek fit for oyster culture, but they have not, so far, been availed of, owing to their liability to interference by the railway labourers working on its banks.

TUGGERAH BEACH LAKES.

These waters are not oyster producing.

During last year they were not netted, except in certain months, but in those months they maintained their celebrity for fish supply. Regarding the importance these waters possess as breeding grounds and nurseries, we have bestowed much attention upon them.

We think that the temporary prevention of netting has been beneficial; but if the tributaries and entrances to the lakes can be protected against the use of fishing-nets, we think it probable that the main water may be kept available for fish capture unimpeded by further restrictions.

PORT STEPHENS.

The supply has been fair in quantity, and obtained principally from the lower part of the Harbour, and from the outside fishing grounds.

The Inspector reports that, during the months from May to August, there were no fish in the upper waters of the harbour. After this they appeared in large numbers; but as the upper waters are too remote for means of transit, they are not much netted by the fishermen.

PORT JACKSON.

This water comes seventh in order of productiveness. The Inspector reports that in the early part of the year fish were very scarce in all of the Port, from Middle Harbour to Hen and Chicken Bay on the Parramatta River; but while this was the case as regards fish, prawns were more plentiful than has hitherto been known. We regard the tributaries of this Port as of great value as nurseries for spawning fish, and we keep them constantly closed against netters. Inspector Mulhall and his assistants are most unceasing in their efforts to protect these closures from plunder, and very much improvement in the shape of increasing supply is observable.

INLAND FISHERIES.

As we have before had the honor to report, the Inland Fisheries are very imperfectly protected by legislation so that our control of them is but little more than nominal. The principal catch is made on the Murray River in the vicinity of Moama, from whence it is forwarded by rail to the Melbourne market. During last year 46,828 lb. were so captured and sent. This catch is by far the lowest we have yet recorded, the quantity obtained in 1883 having been no less than 330,568 lb.; the decrease, which is attributed to the high state of the waters and the vigour with which the Inspector has suppressed the use of the destructive bag nets previously in use, has been regular since that year, for in 1884 the catch weighed 155,918 lb., in 1885, 73,752 lb., and in 1886, as already stated, 46,828 lb.

As however all of this supply has gone to the Victorian market the decrease has not affected New South Wales prejudicially. The Murray River fisheries cannot be said to be revenue producing, for there are only about twelve men engaged in catching, and these men are not required by law to pay any license fee. All the law demands is an annual fee of £1 for the boats they use.

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What supervision we are maintaining over this water is practically for the benefit of Victoria only. We think an effort should be made to conserve this fishery for our own people, or at least that legislation sufficient to prevent the supervision being an unremunerative charge on our revenue should be provided.

We invite attention to the report of the local Inspector, Mr. Osborne Wilshire, which will be found in the appendix.

The Lake George fishery, which by rail to Bungendore can be reached in six or seven hours, is within distance which can be made readily available for a supply of fresh water fish to the metropolis; this fishery is deserving of more attention than it has hitherto received from fishermen.

Your Commissioners have pleasure in stating that in response to an invitation from the local Commission they undertook the preparation and collection for the Colonial and Indian Exhibition, 1886, of exhibits which should be illustrative of the condition and progress of the fisheries of the Colony.

These exhibits consisted of specimens of oysters taken from our several coastal waters, also of the various edible kinds of fish preserved to our order, both in the fresh and smoked state by two of the principal meat preserving companies, the Sydney Meat Preserving Company (Limited), and Messrs. Walsh, Elliott, and Rennie, of Botany, as well as tinned oysters, prawns, and crayfish, and a collection of fish oils.

In addition, assisted by the Australian Museum, we supplied a splendid collection of Australian sponges.

Dr. Von Lendenfeld, who has made this matter of sponges one of diligent research, estimates the number of known species at 350, and considering how little knowledge we possess of the Australian marine invertebrates, compared with our acquaintance with those in European seas, we may conclude that the species in our waters exceed in number those found in any other locality of like extent.

In addition, and with like assistance, we were enabled to supply photographs, as well as life-size oil paintings, of Australian fish, fish in alcohol, stuffed fishes, and marine mammalia.

A reference to the Appendix B, 1885, will afford information as to the extent and description of these exhibits, and we venture to think that at that Exhibition New South Wales was in this particular direction worthily represented.

Your Commissioners find a satisfaction in being able to state that in the three years, 1884, 1885, and 1886, the revenue of the Department has in total exceeded the expenditure by the sum of £2,151 1s. 1d., as will be seen from the following table:—

Year.	Revenue.			Expenditure.								
1884	£5,865	17	9	...	...	...	£4,525	6	9
1885	4,988	4	0	...	...	...	5,565	18	8
1886	7,089	3	2	...	...	...	5,700	18	5
				£17,943	4	11				£15,792	3	10

Excess of total revenue over expenditure, £2,151 1s. 1d.

Your Commissioners hope early next year to be able to report a similar favourable result for 1887.

Since your Commissioners last had the honor to address you, three vacancies occurred on their Board by reason of the resignations of Messrs. Geddes, Want, and Thomas. These vacancies were respectively filled by the appointments of Messrs. James Richard Hill, Alexander Oliver, M.A., and S. H. Hyam, M.P., so that the Commission at present consists of the following:—

James C. Cox, M.D., President;
 Edward Pierson Ramsay, LL.D.;
 James Richard Hill;
 Alexander Oliver, M.A.;
 S. H. Hyam.

In October of the present year Drs. Cox and Ramsay's tenure of office as Commissioners will have expired.

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In the permanent staff at head quarters no change has taken place beyond the appointment of the Secretary, Mr. Lindsay Thompson, to the additional position of Chief Inspector of Fisheries. The creation of this office was considered desirable in the interests of the fisheries. In order to cope with the large number of applications for leases for oyster culture, and to secure the efficient performance of the general business of the Department, it was found necessary to employ temporary assistance; some of this assistance being still required has so far been retained.

In the inspectorial staff we have to report the removal of Mr. Jas. Quinan, the Inspector for the Home Division of Fisheries, his services having been dispensed with. It is not at present intended to recommend that the vacancy so created be filled; also, the appointment of Mr. D. W. Benson to Lake Illawarra, of Mr. C. H. Otway to Port Stephens, in the room of Mr. J. C. White, resigned, and of Mr. Angus Sutherland to Moruya *vice* Captain Tranent, deceased. We may note also the appointment of Bourne Russell as an Acting Assistant Inspector of Fisheries at Eden, and Frederick Nelson to a like position at Lake George.

In submitting this Report for your consideration, we think we are warranted in offering our congratulations upon the general results achieved.



James C. Cox
President

1884.

APPENDIX A.

AWARDS of the Juries of the International Fisheries Exhibition, London, 1883.

NEW SOUTH WALES.

	Gold Medal.	Silver Medal.	Bronze Medal.	Diploma.
JURY No. 3.				
The Commissioners of the New South Wales Fisheries—Collection of Fishing-gear, Nets, &c.	.....	.....	B.	
JURY No. 15.				
The Commissioners of the New South Wales Fisheries—Collective Exhibit.....	G.			
The Commissioners of the New South Wales Fisheries—Tinned Fish.....		S.		
The Commissioners of the New South Wales Fisheries—Smoked and Dried Fish.....	.....	.....	B.	
JURY No. 23. Sec. I.				
The Trustees of the Australian Museum, Sydney—General Exhibit.....	G.			
The Commissioners of the New South Wales Fisheries—Edible Mollusks.....	.....	S.		
JURY No. 23. Sec. II.				
The Trustees of the Australian Museum, Sydney—Collection of Fish in Spirits.....	G.			
The Commissioners of New South Wales Fisheries—Collection of Oil-Paintings of Fish.	G.			
The Hon. W. J. Macleay, F.L.S.—Work on Ichthyology.....	G.			
E. P. Ramsay, F.L.S., F.G.S., &c.,—MS. Notes on Australian Fishes and Photographs.	G.			
The Rev. J. E. Tenison-Woods, F.L.S.—Works on Ichthyology.....	.....	.....	.....	D.
JURY No. 23. Sec. III.				
The Trustees of the Australian Museum, Sydney—General Exhibit of Seals and other Aquatic Mammals destructive to Fish.	G.			
The Trustees of the Australian Museum, Sydney—Dugongs (<i>Halicore australis</i>).....	G.			
The Trustees of the Australian Museum, Sydney—Collection of Birds destructive to Fish, &c.	.....	S.		
JURY No. 26.				
The Trustees of the Australian Museum, Sydney—Squalidæ.....	G.			
The Trustees of the Australian Museum, Sydney—Muraenidæ.....	G.			
The Trustees of the Australian Museum, Sydney—Mugilidæ.....	G.			
The Trustees of the Australian Museum, Sydney—Cirrhitudæ.....	G.			
The Trustees of the Australian Museum, Sydney—Trigluidæ.....	.....	S.		
The Trustees of the Australian Museum, Sydney—Scombridæ.....	.....	S.		
The Trustees of the Australian Museum, Sydney—Percidæ.....	.....	S.		
The Trustees of the Australian Museum, Sydney—Sparidæ.....	.....	S.		
The Trustees of the Australian Museum, Sydney—Raiidæ.....	.....	S.		
The Trustees of the Australian Museum, Sydney—Large specimen of <i>Orthogoriscus</i> sp.	.....	S.		
The Trustees of the Australian Museum, Sydney—Siluridæ.....	.....	.....	B.	
The Trustees of the Australian Museum, Sydney—Sciænidæ.....	.....	.....	B.	
JURY No. 27. Sec. I.				
The Trustees of the Australian Museum, Sydney—Collection of Stuffed Fish.....	G.			
Total.....	13	9	4	1
TASMANIA.				
JURY No. 23. Sec. I.				
Beddome, Lieut. C. E.—General Collection of Tasmanian Shells.....	G.			
JURY No. 23. Sec. II.				
The Commissioners of the Tasmanian Fisheries—Collection of Fish.....	G.			
The Commissioners of the Tasmanian Fisheries—Collection of Water-colour Paintings.	.....	S.		
JURY No. 23. Sec. III.				
The Commissioners of the Tasmanian Fisheries—General Exhibit of Birds and Mammals.	.....	S.		
JURY No. 26.				
The Commissioners of the Tasmanian Fisheries—Trichiuridæ.....	G.			
The Commissioners of the Tasmanian Fisheries—Cirrhitudæ.....	.....	S.		
Total.....	3	3		

APPENDIX B.

COMMISSIONERS of Fisheries for New South Wales, 1884:—

James C. Cox, Esq., M.D., President.

George F. Want, Esq.,

Edward P. Ramsay, Esq.,

John H. Geddes, Esq.,

Frederick Thomas, Esq.

Official Staff, 1884.

Lindsay G. Thompson, Secretary to the Commissioners and Chief Inspector of Fisheries.

Edward J. Ellis, 1st Clerk.

Edgar Cox, Clerk.

J. F. O'Grady, Clerk.

W. A. Trengrouse, Draftsman.

J. H. Mackenzie, „

A. Reid, „

William Lannen, Messenger.

James

James Quinan, Inspector for Home Division of Fisheries.		
Thos. Temperley,	"	Northern "
George G. Bruson	"	Southern "
Andrew Gyler, Assistant Inspector of Fisheries,		Manning River.
Thomas Mulhall,	"	Sydney.
Henry Curan,	"	Newcastle.
Peter Smith,	"	Hawkesbury River.
Charles Gordon,	"	Shoalhaven.
J. C. White,	"	Port Stephens.
William Boyd,	"	Lake Macquarie.
John D. Grant,	"	Botany and George's River.
Richard Seymour, Assistant Inspector of Fisheries,		Fish Market, Sydney.
W. N. Cain	"	Brisbane Water.
F. W. Smithers,	"	Eden.
William McGregor, Acting Assistant Inspector of Fisheries,		Tweed River.
Thomas Stewart,	"	Bellinger River.
W. J. Whaites,	"	Nambucca River.
John Jamieson,	"	Macleay River.
A. H. Kendall,	"	Capo Hawke.
H. W. C. Windeyer,	"	Port Macquarie.
Thomas Laman,	"	Port Stephen's Heads.
A. T. Black,	"	Broken Bay.
Bourne Russell,	"	Twofold Bay.
Angus Sutherland,	"	Moruya.
George Glading, Boatman Sydney.		
Richard Hellings,	"	
Frank Aldrich,	"	Botany and George's River.

APPENDIX C.

RETURN showing the quantity of fish exported from Moama to Melbourne during 1884:—

	lbs.		lbs.
January	27,776	July	93,016
February	18,256	August	3,172
March	21,280	September	5,560
April	15,680	October	9,576
May	6,904	November	20,272
June	3,120	December	15,196
			9,126
	93,016		155,918

APPENDIX D.

RETURN of the number of bags of Oysters received at Sydney from various places on the Coast during each month of the year 1884, and the amount of Royalty collected thereon at the Custom House.

Date.	Port of Shipment.	Name of Place.	No. of Bags.	Rate.	Royalty.	Amount.
1884.				s. d.	£ s. d.	£ s. d.
Jan.....	Bateman's Bay	Clyde	5	2 6	0 12 6	
	Palmer's Island	Clarence	633	"	79 2 6	
	George's River	George's River	70	"	8 15 0	
	Crokis	Manning River	53	"	6 12 6	
	Port Stephens	Port Stephens	188	"	23 10 0	
	Jervis Bay	Bherewerre	222	"	27 15 0	
	Shoalhaven	Shoalhaven	74	"	9 5 0	
	Moruya	Turoos	173	"	21 12 6	
	Forster	Wallis Lake, Cape Hawke	71	"	8 17 6	
	Eden	Wondboyne	47	"	5 17 6	
			1,536			192 0 0
Feb.....	Bateman's Bay	Clyde	402	2 6	50 5 0	
	Palmer's Island	Clarence River	136	"	17 0 0	
	George's River	George's River	35	"	4 7 8	
	Crokis	Manning River	69	"	8 12 6	
	Port Stephens	Port Stephens	850	"	106 5 0	
	Shoalhaven	Shoalhaven	131	"	16 7 6	
	Moruya	Turoos	225	"	28 2 6	
	Do	Moruya	97	"	12 2 6	
	Forster	Wallis Lake, Captain Hawke	15	"	1 17 6	
	Tathra	Bega River	6	"	0 12 6	
	Evans River	Evans River	88	"	11 0 0	
	Ballina	Richmond	66	"	8 5 0	
	Eden	Pambula	26	"	3 5 0	
			2,145			268 2 6

APPENDIX E—continued.

Date.	Port of Shipment.	Name of Place.	No. of Bags.	Rate.	Royalty.	Amount.
1884.				s. d.	£ s. d.	£ s. d.
March ...	Bateman's Bay	Clyde	184	2 6	23 0 0	
	Palmer's Island	Clarence	8	"	1 0 0	
	George's River	George's River	88	"	4 15 0	
	Crokie	Manning River	408	"	51 0 0	
	Shoalhaven	Shoalhaven	20	"	2 10 0	
	Moruya	Turoos	170	"	21 5 0	
	Evans River	Evans River	26	"	3 5 0	
	Tathra	Bega River	12	"	1 10 0	
	Ulladulla	Ulladulla	6	"	0 15 0	
	Ballina	Richmond	409	"	51 2 6	
	Eden	Wonboyno	22	"	2 15 0	
	Do	Panbula	30	"	3 15 0	
		Narrawilla	27	"	3 7 6	
		Port Jackson	4	"	0 10 0	
			1,364			170 10 0
April ...	Ballina	Richmond	54	2 6	6 15 0	
	Bateman's Bay	Clyde	67	"	8 7 6	
	Crokie	Manning	30	"	3 15 0	
	Shoalhaven	Shoalhaven	16	"	2 0 0	
	Port Jackson	Port Jackson	6	"	0 15 0	
	Eden	Wonboyno	20	"	2 10 0	
			193			24 2 6
May	Bateman's Bay	Clyde	47	2 6	5 17 6	
	Crokie	Manning	18	"	2 5 0	
	Eden	Wonboyno	6	"	0 15 0	
			71			8 17 6
June ...	Bateman's Bay	Clyde	159	2 6	19 17 6	
	Croki	Manning	98	"	12 5 0	
	Ballina	Richmond	22	"	2 15 0	
	Tweed	Tweed	54	"	6 15 0	
	Port Stephens	Port Stephen	10	"	1 5 0	
	Eden	Wonboyno	13	"	1 12 6	
			356			41 10 0
July	Bateman's Bay	Clyde	142	2 6	17 15 0	
	Croki	Manning	66	"	8 5 0	
	Ballina	Richmond	6	"	0 15 0	
	Eden	Wonboyno	20	"	2 10 0	
			234			29 5 0
August ..	Bateman's Bay	Clyde	152	2 6	19 0 0	
	Croki	Manning	15	"	1 17 6	
	Ballina	Richmond	6	"	0 15 0	
	Port Stephens	Port Stephens	26	"	3 5 0	
	Eden	Wonboyno	10	"	1 5 0	
			209			26 2 6
Sept. ...	Bateman's Bay	Clyde	164	2 6	20 10 0	
	Croki	Manning	15	"	1 17 6	
	Ballina	Richmond	8	"	1 0 0	
	Port Stephens	Port Stephens	42	"	5 5 0	
	Forster	Wallis Lake, Cape Hawke	27	"	3 7 6	
	Port Macquarie	Hastings	31	"	3 17 6	
	Camden Haven	Camden Haven	5	"	0 12 6	
	Eden	Wonboyno	19	"	2 7 6	
	Palmer's Island	Clarence	8	"	1 0 0	
			319			39 17 6
October .	Bateman's Bay	Clyde	96	2 6	12 0 0	
	Forster	Wallis Lake, Cape Hawke	20	"	2 10 0	
	Port Stephens	Port Stephens	88	"	11 0 0	
	Tomakin	Tomakin	24	"	3 0 0	
	Moruya	Turoos	17	"	2 2 6	
	Port Macquarie	Hastings	29	"	3 12 6	
	Shoalhaven	Shoalhaven	15	"	1 17 6	
	Ballina	Richmond	2	"	0 5 0	
	Eden	Panbula	7	"	0 17 6	
			298			37 5 0
Nov.	Bateman's Bay	Clyde	70	3 0	10 10 0	
	Shoalhaven	Shoalhaven	96	"	14 8 0	
	Moruya	Turoos	31	"	4 13 0	
	Port Stephens	Port Stephens	122	"	16 6 0	
	Tomago	Tomago	7	"	1 1 0	
	Forster	Wallis Lake, Cape Hawke	44	"	6 12 0	
	Ballina	Richmond	37	"	5 11 0	
	Newcastle	Newcastle	9	"	1 7 0	
	Eden	Panbula	15	"	2 5 0	

APPENDIX E—continued.

Date.	Port of Shipment.	Name of Place.	No. of Bags.	Rate.	Royalty.	Amount.
1884.				s. d.	£ s. d.	£ s. d.
Nov.	Broken Bay	Broken Bay	105	3 0	15 15 0	
	Croki	Manning	26	"	3 18 0	
	Palmer's Island	Clarence	14	"	2 2 0	
	George's River	George's River	8	"	1 4 0	87 12 0
			584			
Dec.	Port Stephens	Port Stephens	305	3 0	45 15 0	
	Shoalhaven	Shoalhaven	201	"	30 3 0	
	Broken Bay	Broken Bay	182	"	23 0 0	
	Tomago	Tomago	6	"	0 18 0	
	Forster	Wallis Lake, Cape Hawke	35	"	5 5 0	
	Port Macquarie	Hastings	26	"	3 18 0	
	Ballina	Richmond	16	"	2 8 0	
	Camden Haven	Camden Haven	42	"	6 6 0	
	Croki	Manning	49	"	7 7 0	
	Bateman's Bay	Clyde	167	"	23 1 0	
	Palmer's Island	Clarence	41	"	6 3 0	
	Eden	Pambula	13	"	1 19 0	
	Wagonga	Wagonga	9	"	1 7 0	
	Bermagui	Bermagui	4	"	0 12 0	
	Newcastle	Newcastle	8	"	1 4 0	
	George's River	George's River	9	"	1 7 0	169 19 0
			1,133			
		Total	8,142			1,098 3 6

APPENDIX E.

RETURN of Revenue for 1884.

					£	s.	d.	£	s.	d.	
Fishing-boat licenses...	222	@	1	0	0	222	0	0
Do	61	@	0	10	0	30	10	0
Fishermen's licenses	513	@	0	10	0	256	10	0
Do	138	@	0	5	0	34	10	0
Oyster-dealers' licenses	94	@	5	0	0	470	0	0
Do	9	@	2	10	0	22	10	0
Oyster-dredging licenses	163	@	3	0	0	489	0	0
Brand certificates	56	@	0	2	6	7	0	0
Royalties on oysters raised from natural beds						1,098	3	6
Deposits on applications for leases for oyster culture						2,980	0	0
Sundries, including moiety of penalties, fines, and forfeitures recovered under Fisheries Act						255	14	3
									£5,865	17	9

APPENDIX F.

SCHEDULE of Applications for Leases of Shore for Oyster Culture.

	Yds.			Yds.	
Edwin Cain	500	Duras Water	P. M. Rotton	1,000	Wagonga River, Nooroona
Walter Foreman	800	The Pages, Turoos Lake	Claude Quinan	2,000	Karuah River, Port Stephens
James Barclay	200	Narrawillee Creek	William Ougley	1,000	Myall River
Samuel Lilley	1,000	Fenningham Island, Port Stephens	William Ougley	600	Pipe-clay River
Peter Melvey	200	Fisherman's Point, Hawkesbury River	Gother K. Mann	200	Ball's Head Bay, Port Jackson
Peter Melvey	300	do do	Daniel O'Connor	250	Platt's Passage, Hunter River
Joseph Southwell	800	Manning River	Henry Woodward	2,000	Bull's Island, Port Stephens
Marian Quinan	2,000	Bob's Farm Creek, Port Stephens	Do	1,000	Mud Island, Port Stephens
Mary Ann Quinan	2,000	Boto Boto Point, Port Stephens	Percy Wakefield	300	Nelson's Lake, Tanja
Claud Quinan	2,000	Karuah River, Port Stephens	James Newell	800	North Creek, Richmond River
Annie Beatrice Quinan	2,000	do do	Margaret C. Hawdon	1,000	Kyla Park, Turoos Lake
Laura Quinan	2,000	Middle Bed, Karuah River	James Newell	1,000	North Creek, Richmond River
Harold Quinan	2,000	Swan Bay, Port Stephens	Patrick O'Connor	2,000	Browers Creek, Hawkesbury River
Nina Quinan	2,000	Karuah River, Port Stephens	Do	1,200	Platt's Passage, Hunter River
Joseph Kennedy	400	Mooney Mooney Creek, Hawkesbury River	Thomas Wilson, senr.	800	Crookhaven River
Murdock M'Intosh	300	South Foster, Wallis Lake	Thomas Wilson, junr.	800	Western Arm, Crookhaven River
John Forster	1,000	Wagonga River, parish of Nooroona	John Wilson	800	Comerong Bay, Crookhaven River
Frank Griffin	1,360	Port Stephens, between Limeburners' and Pipe-clay Creeks,	Joseph Haiser	800	do do
Thomas Colville	1,400	Between the North of Pipe-clay Creek and the Little Mountain	Henry Haiser	800	do do
Alber Stuart	200	Turoos Lake	George Haiser	800	Curley's Bay do
Thomas Padden	200	Evans River	Do	800	do do
Charles Evans	1,000	Schnapper Island, Port Stephens	Joseph Coote, junr.	800	Comerong Bay do
Alexander Ross	400	Micalo Island, Tolombi	William Coote	800	do do
			Richard Ostem	800	do do
			Joseph Coote	800	do do
			Alfred Reginald Fremlin ..	2,000	Limeburners' Creek, Hastings river
			Do	2,000	Limeburners' Creek
			Do	2,000	do
			Mutlow Cuthbert Fremlin ..	2,000	Limeburners' Creek, Hastings River
			Reginald William Fremlin ..	2,000	do do

APPENDIX F—continued.

	Yds.			Yds.	
Cuthbert Mutlow Fremlin	2,000	Limeburner's Creek, Hastings River	Thomas Davis	500	Long Point, Turoos Lake
Henry B. Cohen	2,000	do do	Frederick J. Gibbins	700	North Creek, Richmond River
Do	2,000	do do	Henry Burns	2,000	Warwiba Creek, Manning River
William Cohen	2,000	do do	Frederick J. Gibbins	2,000	do do
Edward Rose	300	Turoos Lake	Alfred J. Gibbins	1,500	North Creek, Richmond River
Albert Stuart	300	do	Bezwick Bulmer	220	Oyster Reach, Manning River
Herbert M'Intosh	500	Wallis Lake	William Ougley	70	Narrabeen Lagoon
John Lonesborough	700	Crookhaven River	Frederick J. Gibbins	2,000	Spit Island, Hunter River
Alexander Philp, junr.	1,000	Micalo Island, Clarence River	Hans Anderson	1,340	do do
Henry Woodward	1,700	Lake Channel, Clarence River	William Bird	700	Camden Haven
Do	5,000	do do	Frederick J. Gibbins	2,000	do
Do	1,700	do do	John Bird	2,000	do
Do	750	do do	William Ougley	900	Cabbagetre Island, Manning River
Annie Beatrice Quinan	2,000	Wonboyn River	Andrew Knox	1,000	East side, Clyde River
Laura Quinan	2,000	do	Do	1,500	do do
Harold Quinan	2,000	Port Stephens	Joseph Coote	800	Sand Island, Port Stephens
Claudius Quinan	2,000	do	Richard Ostern	500	do do
H. W. Bell	1,200	Turoos Lake	Edwin Cain	1,000	Clyde River
William Coote	500	Appletree Island, Crookhaven River	H. V. Harrison	600	Kiah River
Joseph Coote	500	do do	Do	1,000	Myrri Inlet, Eden
Joseph Coote, junr.	500	do do	L. V. Harrison	1,000	do do
Richard Ostern	500	do do	John Davison	500	Wagonga Bay
Patrick Donovan	200	Clyde River	Alexander Ross	600	Lake Channel, Clarence River
Michael Ryan	400	do	Peter Engsham	600	Curraee Lake
Thomas Templeman	300	do	Charles Brice	800	Bermagui River
Richard Ostern	800	Windy Wappa, Myall River	John Severs	944	Broadwater
William Coote	800	Sand Island, Myall River	William Lavington, senr.	400	South bank, Bega River
Joseph Coote	800	do do	Do	100	do do
John E. Weekes	800	do do	James Stanbury, junr.	500	Crookhaven
Richard R. Armstrong	2,000	Cabbage-tree Lagoon, Port Hacking	William Lavington, senr.	300	North bank, Bega River
John C. Walker	2,000	do do	Do	100	do do
Waldyve Wellington Tarleton	900	Oyster Creek, Clarence River	Do	1,300	South bank, do
Richard R. Armstrong	1,100	Quibray Bay, Botany	Do	300	North bank, do
William Martin	1,100	do	Philip Wetheridge	500	Shoalhaven River
James Hunt	2,000	Oyster Creek, Clarence River	Philonon Wetheridge	500	Duck Creek, Shoalhaven River
Robert C. Rose	2,000	do do	P. Witheridge	1,000	Comerong Island Shoalhaven River
W. H. Hicks	1,100	Quibray Bay, Botany	Frederick Christenson	2,000	Shoalhaven River
John Bird	500	Camden Haven	Alfred Reginald Fremlin	1,000	Hastings River
J. Arnold	1,100	Quibray Bay, Botany	Philip Cohen	1,000	do
James Hanley	500	Camden Haven	Alfred J. Gibbins	1,500	Richmond River
Thomas H. Budden	2,000	Wonboyn River	Do	750	do
Do	2,000	do	Philip Cohen	1,000	Limeburner's Creek, Hastings River
William Frederick Griffin	500	Limeburner's Creek, Port Stephens	H. V. Harrison	500	Kiah River
A. E. Griffin	600	do	Albert Edward Stuart	500	Turoos Lake
F. A. Griffin	600	do	Athanasio Comino	2,000	Evans River
Joseph Haiser	500	Crookhaven River	John Fisher	2,000	do
Henry Haiser	500	do	George Dimitri	2,000	Evans River
George Haiser, junr.	500	do	Sydney Heber Loten	300	Cabbage-tree Island, Manning River
George Haiser, senr.	500	do	William Lavington, senior	600	Bega River
Margaret C. Hawdon	300	Kyla Park, Turoos Lake	Frederick J. Gibbins	400	Evans River
Do	400	do do	Do	2,000	do
Do	100	do do	Thomas Paddon	1,000	do
Do	200	do do	Do	194	do
Joseph Coote	1,000	Tillighery Creek, Port Stephens	William Templeman	400	Clyde River
William Coote	1,000	do do	John Duren	500	Wagonga River
Charles Peterson	1,000	Bull's Island, Tillighery Creek	Edwin Kirkham	500	do
Henry Woodward	300	Mogo Creek, Clyde River	Walter Thomas Coonan	500	Karuah River
John Holdom	500	Karuah River, Port Stephens	Do	500	do
Do	400	do do	Do	500	do
John M'Millan	300	Durras Lake	Frederick Henry Melmeth	200	Sawyer's Point, Karuah River
John M'Millan, senr.	500	do	John Smith	300	Clyde River
James M'Millan	300	do	William Templeman	200	do
William Latta	1,000	do	Cuthbert Mutlow Fremlin	2,000	Wattamolla, Port Hacking
Thomas Hewlett	1,000	Bateman's Bay	J. H. Young	2,000	Hastings River
J. Sharp & E. M'Kinnon	200	North Creek, Richmond River	William Thomas Pool	2,000	Cockle Creek
Geo. Maunsell	2,000	Clyde River	P. Lynch	500	Wagonga River
John Callaghan	300	Middle Ground, Karuah River	Joseph Benjamin Oliffe	2,000	Wonboyn River
Do	100	Billy Button's Point, Port Stephens	Do	2,000	do
John S. Dick	400	Port Macquarie	Richard R. Armstrong	2,000	do
J. Surcombe	900	Bega River, north side	Do	2,000	do
C. J. Carter	600	South side of Bega River, Tathra	Tancred D. C. Armstrong	2,000	do
William Clement	250	North Creek, Richmond River	Laurens F. M. Armstrong	2,000	do
George Dent, junr.	500	Currumbene Creek, Jervis Bay	William Geo. Armstrong	2,000	do
Alfred Harvey Emerson	1,500	North Bank, Wagonga River	J. Sharp & E. Mackinnon	800	Richmond River
Thomas Field	500	do do	Christopher West	200	Cockle Creek
E. J. Coonan	2,000	Wagonga River	Arthur Maldon	500	Broadwater, Panbula River
Thomas Howlett	2,000	do	Henry Groll	522	Panbula River
George Philben	500	do	William Stephens	1,000	do
C. H. Hespio	1,000	Clyde River	George Stephens	500	Broadwater, Panbula River
Edwin Cain	500	Durras Lake	Henry Woodward	1,000	Camden Haven
John Bryce	300	Bherrewerro River	Do	400	Wallis Lake
Charles Brown	2,000	South Bank, Turoos River	Do	1,000	do
John & Alexander Ayles	300	North Creek, Richmond River	Alfred Carter	2,000	Panbula River
William Vincent Seymour	200	Money Money Creek, Hawkesbury River	Henry C. Beall	2,000	do
E. J. Cowan	2,000	Wagonga River	Do	2,000	do
John Crumpton	200	Berowra Pt., Hawkesbury River	Andrew Gyler, junior	500	Scott's Creek, Manning River
			Henry C. Beall, junior	2,000	Panbula River

APPENDIX F—continued.

	Yds.			Yds.	
Alexander Newton	300	Manning River	A. Emerson	600	George's River
M. A. Black	700	Rose Bay	William Marsh	700	North Creek, Richmond River
Henry Woodward	1,000	Wallis Lake	Edward Butcher	100	Lane Cove River
Do	1,000	do	Henry Moore	189	Rose Bay
Do	220	Manning River	Eliza C. Davis	200	Cockle Creek
Do	220	Manning River	R. C. Bose	1,500	Bull's Island, Port Stephens
Do	500	Port Hacking	Walter Black	300	Oyster Channel
Do	500	do	Sarah Ann Baker	800	Clarence River
J. R. Hill	650	Vaucluse, Port Jackson	Frederick Schmitzer	100	Manning River
Frank Bertram	500	Evans River	J. F. Merrett	100	Cockle Creek
Richard Lloyd	200	Peat's Ferry, Hawkesbury River	Mary Agnes Dick	250	Port Macquarie
Constantine Fisher	1,000	Wagonga River	Mathew Henry Woolland	300	Green Point, Pambula
Mark Fisher	2,000	do	Reginald C. F. Armstrong	2,000	Weeny Bay, George's River
Peter Melvey	500	Bar Point, Hawkesbury River	William George Armstrong	200	do do
Timothy Wray	500	Clyde River	Richard R. Armstrong	200	do do
Christopher Fredk. Schmidt	200	do	Laurens F. M. Armstrong	200	do do
Thomas Cadell	170	Kirribilli	James Kennedy	600	Comerong Island
Nicholas J. Cusack	2,000	Evans Creek	John Ruprecht	400	Manning River
Mrs. H. Baker	800	Oyster Creek, Clarence River	John Severs	400	Saltwater Creek, Panbula River
A. Hunter & M. Russell	600	South Ballina, Richmond River	John Severs, jun.	1,000	Broadwater, Panbula River
Thomas Abbott Palmer	100	Cockle Creek	John Wilson	300	Blackwall, Brisbane Water
Do	100	do	John Longworth	264	Camden Haven River
Peter Melvey	900	Browera Creek, and Hawkesbury River	Do	1,000	do
Mrs. Marian Quinan	500	Merica Creek	Do	400	do
Samuel Lilley	500	Port Stephens	Sarah Martins	200	Oyster Channel, Clarence River
Henry Thompson	1,000	do	Do	200	South Arm, Brunswick River
Samuel Lilley	500	Port Stephens	Do	1,000	North Arm, do
Do	1,000	Flemming's Island, Port Stephen	Do	300	do do
John Milson	500	Hawkesbury River	John Gylor	400	Manning River
R. Wisdom & S. H. Terry	2,000	George's River	Fred J. Gibbins	1,200	Camden Haven River
William Layton	300	Manning River	Joseph Laurie	500	do
John Cameron	200	do	J. Graham Love	2,000	Wallunga Lake
Hans Anderson	880	Moquito Island, Hunter River	W. Thompson	300	Panbula River
Frederick J. Gibbins	880	Hunter River	E. O. Moriarty	100	Shell Cove
Do	880	do	James Wherry	300	Manning River
Edwin Cain	500	Clyde River	Joseph Ross	400	Goat Island
Frederick Henry Melmeth	200	Sawyer's Point, Port Stephens	James Wherry	100	MicHELL's Island, Manning River
William Cohen	1,000	Hastings River	George Murdoch, jun.	300	Oxley Island, Manning River
Francis Hughes	250	Hunter River	Henry Woodward	2,000	Broughton Creek
Jas. William Gordon	300	Manning River	Do	1,000	Goodwin's Island
Richard Ostern	1,500	Nogee Creek, Wonboyn River	William Mitchell	100	Oxley Island
Henry Thompson	500	Tillighery Creek, Port Stephens	Joseph John Spruson	23	Neutral Bay
James Graham	100	Oyster Beach, Manning River	W. A. Uhr	37	do
Do	200	Oyster Creek, Manning River	Thomas Street	1,500	Manning River
Francis Syron	300	Oyster Bank	H. W. Forster	200	Camden Haven
Percy Wakefield	1,000	Cuttagee Lake	Do	200	do
Do	1,000	do	F. A. Wright	540	Kissing Point Bay
James Dunlop	500	Kincumber, Broadwater	Archibald M'Lean	300	Manning River
Edwin Cain	500	Clyde River	Harold Quinan	300	Panbula River
W. C. Muston & A. Allardice	100	Port Stephens	R. Emmett	1,000	Patonga Creek, Hawkesbury River
Cuthbert Mutlow Fremlin	1,000	Maria and Hastings Rivers	Do	600	Porto Bay, do
Fred. J. Gibbins	2,000	Clyde River	A. W. Davison	500	Kiah River
Richard R. Armstrong	1,500	Danger Island, Hawkesbury River	E. M'Inherney & J. Butler	500	Hastings River
Do	1,500	do do	J. M'Inherney	1,300	do
William Lee	383	Manning River	Archibald Nicoll	300	Mooney Mooney Creek
Do	500	do	Nicholas J. Cusack	100	Clarence River
Alfred J. Gibbins	142	Clyde River	Joseph Lewis	700	North Creek, Richmond River
Henry Woodward	2,000	do	C. & A. Ainsworth	600	do do
James Evans	400	Koruah River	John Severs	800	Panbula River
William O. McMahon	264	Manning River	Joseph Lewis	500	North Creek, Richmond River
Do	264	do	Henry Woodward	200	Manning River
John Haldom	300	Karuah River	Beacwick Bulmer	200	do
E. Brown	500	Turoos Lake	T. E. Harrison	200	Wonboyn River
Do	500	do	J. H. Martin	1,000	Panbula River
Henry Woodward	440	South Passage, Manning River	John Ross	400	Micolo Island
Mrs. F. M. Josephson	440	do do	George F. Want	160	Double Bay
James Cole	600	Mooney Mooney Creek	Henry Rooke	200	Port Stephens
John Archer	400	Evans River	Do	200	do
Henry Woodward	400	Manning River	George Rooke	1,200	do
Do	200	do	Do	100	do
Do	1,000	Camden Haven River	George Schmitzer	200	Manning River
Do	200	do	John A. Bettini	1,000	Clyde River
Samuel Holdom	400	Port Stephens	F. S. Ellis Holt	600	George's River
Frank Bertram	600	Evans River	Francis Budd	400	Donovan's Creek, Clyde River
William Harkus	200	Moruya River	William Latta	400	M'Leod's Creek, do
John William Bettini	1,000	Turoos Lake	David Latta	500	Cullendulla Creek
Abraham Windley	500	Tomago River	Eyre G. Ellis	1,014	Little Cabbage Bay, Manly Cove
Richard R. Armstrong	500	Clyde River	Reginald C. F. Armstrong	200	Batangabee Bay
Alexander Newton	200	Manning River	James Donnelly, jun.	500	Wonboyn River
J. C. Walker	400	Port Stephens	Richard R. Armstrong	1,000	do
Richard R. Armstrong	400	Bob's Creek, Port Stephens	Laurens F. M. Armstrong	900	do
Francis Adams	150	Middle Harbour	T. C. Armstrong	600	do
— Harrison	200	Kiah River	W. G. Armstrong	600	Merica Creek, Wonboyn River
William Clerment	253	North Creek	J. C. Walker	1,200	Wonboyn River
A. Emerson	500	George's River	A. R. Fremlin	300	Hastings River
Do	450	do	William Ougley	400	Middle Harbour
Do	600	do	T. Toule & G. P. Morse	860	Hunter River
			M. A. Black	300	Rose Bay
			John C. Neild	700	Manly Cove
			G. Withers	1,600	Hawkesbury River
			S. Taylor & F. Milford	200	Pittwater
			Samuel Taylor	1,000	Bar Point, Hawkesbury River

APPENDIX F—continued.

	Yds.			Yds.	
Francis Butler	100	Tabouree Lake	Joseph J. Lewis	400	North Creek
Mrs. Jessie Campbell Brown	1,100	St. Hubert's Isle	William Wilson	1,000	George's River
Do	594	do	Do	700	do
F. G. Weaver	100	Double Bay	Francis Guy	500	Durras Lake
Stanley Lees Peydon	44	Lane Cove River	Edward Rose	300	Turoos Lake
James W. Meikle	33½	Rose Bay	William T. Tucker	500	do
Philip Cohen	400	Hastings River	Samuel R. Smart	500	Turoos River
Robert M'Lean	300	Oxley Island	John Allen	500	Big Island
Charles Croese	200	Mosquito Island	John S. Dick	400	Hastings River
C. Cecil Griffiths	1,300	George's River	Isabella Martin	270	Rose Bay
Edward Blake	100	Tounson's Bay, George's River	Robert H. D. White	700	Balbrook Cove
James Ramsay	880	Iron Cove Creek	Henry Woodward	300	Tilligherry Creek
David Ramsay	1,820	Long Cove Creek and Iron Cove Creek	Do	1,000	Manning River
A. R. Fremlin	500	Hastings River	Emily Fremlin	400	Coolabong Creek
E. M. Hunt	300	Rose Bay	Philemon Witheridge	500	Shoalhaven
C. Cecil Griffiths	1,100	George's River	Rock Davis	200	Brisbane Water
E. M. Hunt	300	Rose Bay	Robert Cantley	200	Turoos Lake
D. Quigley & J. Black	2,000	Cockle Bay	James Gill	400	Camden Haven River
William Thomas Poole	1,800	Clarence River	James Pickering	600	Woniora River
D. Quigley & J. Black	2,000	Hunter River	Alexander Finch	200	Wallis Island
A. Armstrong	2,000	Cockle Creek	Do	700	Goodwin Island
W. Spier	2,000	do	Alexander Ross	450	Micalo Island
Alexander Barclay Black	1,200	Sandy Island	F. G. Crouch & M. Solling	85	Richmond River
Rdw. Augustus Macpherson	400	Middle Harbour	John Milton	100	Clyde River
John Hall	600	Cockle Creek	Alexander Bryce, jun.	500	Bherrewerrie River
William Pritchard	993	Five-dock Bay	Thomas Davis, jun.	100	Turoos River
F. L. Partridge	64	Shell Cove	James Armstrong	600	Wapengo Lake
J. Murphy, manager Holt- Sutherland Estate	1,500	Botany Bay	Henry Woodward	1,000	Port Stephens
Do	1,000	Weeny Bay	Frank Griffin	200	do
Do	2,000	Weeny Bay	James Ross	800	Hawkesbury River
Do	500	Quibray Bay	Robert Hardy	100	Brisbane Water
Do	300	Weeny Bay	Henry Woodward	1,000	Port Stephens
Michael Fagan	400	Watson Taylor's Creek	Edwin Cain	300	Clyde River
Do	300	do	F. Veremysee & A. E. Woodward	242	Rose Bay
Do	300	Brisbane Water	Charles Blaxland	600	Parramatta River
Peter Francis Fagan	1,200	do	Murdoch McIntosh	100	Cockatoo Island
Do	550	Hawkesbury River	Do	100	Tancurry
Michael Fagan	800	Brisbane Water	Frank Griffin	200	Port Stephens
William Cooper	1,500	Double Bay	Patrick Murray	100	Brisbane Water
A. Stuart & R. Harnett	2,000	Lane Cove River	Samuel Richardson	100	Double Bay
Do	2,000	Middle Harbour	F. Edward Joyce	150	do
Do	400	Burns' Bay	Richard R. Armstrong	200	Port Stephens
Do	400	Great Sirius Cove	Do	800	do
Do	400	Little Sirius Cove	Henry Woodward	1,000	do
Do	2,000	Sugarloaf Bay	Do	1,000	do
Do	400	Middle Harbour	Samuel Lilly	500	do
Samuel Crawford	300	Broken Bay	Richard Flood	100	Myall River
Do	400	do	Do	100	do
J. L. C. Rankin & Executors of the late Hon. Bowie Wilson	1,000	Middle Harbour	Peter Korsman	100	do
Do	2,000	do	W. Vickers Jacob	100	Rose Bay
Do	1,000	North Sugarloaf Bay	Nina Quinan	1,500	Wonboyn River
Do	1,000	Middle Harbour	Henry Woodward	200	Goat Island
Do	100	do	Do	500	Stinko Creek
G. S. Caird	2,000	do	Walter Foreman	200	Borang Lake
R. Harnett & A. Stuart	2,000	Great Sirius Cove	Do	400	do
R. G. Enneber & G. Phillips	88	Neutral Bay	Do	200	do
William Templeman	1,400	Big Island	Do	200	do
Alexander Martin	47	Long Cove	Do	200	do
Archibald Campbell	400	Tilligherry's Creek	Do	300	do
Isaac Dobbins	100	Manning River	Henry Woodward	300	Broughton Creek
J. Callaghan and W. H. McIntosh	300	Lane Cove River	Nina Quinan	500	Wonboyn River
Do	300	Little Sirius Cove	George Hellings	500	Woolloomooloo Bay
Edwin Cain	200	Cullendulla Creek	William Stannard	8	Double Bay
Robert Craig	100	Neutral Bay	Philip F. Richardson	700	North Creek
Nicholas J. Cusack	400	Oyster Creek, Clarence River	Do	300	do
R. Ostern	200	Wotenger River	G. Haiser, jun.	300	Crookhaven River
William Glover	200	do	Robert H. D. White	700	Farm Cove
Thomas Ball	200	Pargogamar, Moruya	Fred J. Gibbins	2,000	Mullet Creek
A. Hunter & M. Russell	400	Richmond River	George Haiser	300	Shoalhaven
Alexander Templeman	300	Clyde River	Do	1,000	do
Henry C. Ziegler	250	Pompey Point, Broulee	Henry Woodward	800	Crookhaven River
Edwin Cain	200	Cullendulla Creek	Do	500	do
A. Philp	300	Micalo Island	Holt-Sutherland Estate Land Company	2,000	Torria Point, George's River
Charles d'Aprice	140	Lane Cove River	Do	500	Cummins' Point, do
Samuel H. Terry	300	George's River	Frank Griffin	200	Wurrung Island
James Marshall	100	Manning River	William Busby	200	Double Bay
Joseph Kennedy	2,000	Mooney Mooney Creek	Henry Woodward	1,000	Swan Island
Do	2,000	do	Do	600	do
Laura Quinan	2,000	Wonboyn River	Alexander Ross	200	Warringa Island
Annie B. Quinan	2,000	do	S. T. Hobart	100	Tarean
Nina Quinan	2,000	do	Edwin Cain	300	Bateman's Bay
Clara Quinan	1,500	do	Do	200	do
Frederick Chave	200	Pittwater	John Holdom	1,100	Karuah River
Do	200	do	Henry Woodward	1,100	Pelican Island, Clyde River
M. D. Harmston	400	North Creek	Do	300	Clyde River
Do	300	do	Do	200	do
			John Longworth	400	Stinko Creek
			Henry Woodward	200	Clyde River
			Do	200	do
			Do	400	Mundalla Creek

APPENDIX F—continued.

	Yds.			Yds.	
Henry Woodward	326	Crookhaven River	G. F. Want	100	Port Hacking
Do	500	do	Samuel Holdon	200	Karuah River
Do	500	do	R. H. D. White	400	Port Stephens
Do	1,000	do	Philemon Witheridge	600	Shoalhaven
Do	500	do	John Longborough	400	do
Do	300	do	R. Lloyd	400	Hawkesbury River
Do	500	do	G. Haiser	500	Crookhaven River
Do	300	Sheep Station Creek, Clyde River	Richard Lloyd	300	Hawkesbury River
Do	300	do	Henry Woodward	500	Clarence River
Do	200	do	John Longworth	500	Camden Haven
John Longworth	400	Stinko Creek	James Evans	600	Karuah River
Jones Agnew Smith	700	Balberook Cove	James Joase	1,000	Port Stephens
Do	800	Cockrenoyon Point, Pt. Stephens	Henry Engel	400	Swan Bay
Robert H. D. White	200	Garden Island	William Engel	800	Swan Island
F. Edward Joseph	200	Seven-shilling Beach	Edward Cain	200	Bateman's Bay
John Wm. Bettini	500	Horse Island, Tuross	Henry Kaiser	300	Crookhaven River
Do	500	Bateman's Bay	W. Bate	600	Port Stephens
R. Harnett, junr.	400	Mossman's Bay	Mrs. H. Muston	500	do
Do	400	Middle Harbour	A. Windley	200	Bateman's Bay
Henry Woodward	600	Good-night Island	Patrick Graham	100	Manning River
Do	200	Clyde River	William Wells	500	Hunter River
Alexander Ross	200	Oragandaman Island	R. E. Symonds	500	Port Stephens
James Barclay	500	Clyde River	William Wells	500	do
John Milton	300	Bateman's Bay	Percy Wakefield	2,000	Bega
William Davis	500	Coila, Bergalia	George Rablee	200	Cape Hawke
George Sly, jun.	100	Tuross Lake	Arthur Hood Pegus	300	Oyster Channel, Clarence River
Charles Evens	400	Port Stephens	Charles Leusdt	1,000	Scobby's Bay, Port Stephens
Fred. J. Gibbins	800	Hunter River	Walter G. Bate	200	Bundabul Creek, do
Hans Anderson	1,000	Spectacle Island, Hunter River	Do	1,000	Port Stephens
G. F. Want	200	Ewey Bay, Port Hacking	Henry Thompson	200	Tilligherry Creek
Henry Woodward	300	Camden Haven	Do	200	Pelican Island
Do	400	do	William Thompson	400	Tomaree
Andrew Gyler, jun.	400	Mangrove Island	Samuel Lilley	1,000	do
Joseph Southwell	400	do	Thos. V. Want	200	Port Hacking
John Lewis	200	Tomakin River	Do	200	do
Do	400	do	John Holdon	800	Worong Island
Do	300	do	Arthur Hood Pegus	200	Waringa Island
Do	100	do	R. H. D. White	150	Balberook Cove
Do	400	do	Do	250	Telligherry Creek
Do	300	do	Do	200	Farm Cove
Henry Woodward	200	Wallis Lake	Do	250	Telligherry Creek
Do	200	do	F. H. Melmeth	200	Goat Island
William Riley	200	Brisbane Water	Geo. Sly, jun.	100	Horse Island, Tuross
Fred. J. Gibbins	300	Pelican Island	John Longborough	300	Crookhaven River
Robert H. D. White	600	Telligherry Creek	Timothy Wray	100	Clyde River
Demetrius Donnell	100	Wagonga Heads	Peter Melvey	500	Barr Point
Do	500	do	Henry Woodward	200	Wallis Lake
John Murray	100	Brisbane Water	Do	1,000	Cromarty's Bay
R. H. D. White	500	Rocky Point, Port Stephens	Do	400	South Channel, Manning River
Stephen Covell	600	Port Stephens	Jones A. Smith	300	Balberook Cove
Do	600	Karuah River	Do	300	do
Henry Woodward	600	Clyde River	James Holden	500	Clarence River
Do	200	Broughton Creek	Henry Woodward	1,000	Farningham Creek
Do	500	Crookhaven River	F. J. Gibbons	300	Mooney Mooney Creek
Do	174	do	Walter Foreman	150	Congo, Dampier
Do	600	Ferningham's Island	Henry Woodward	300	Wallis Lake
Do	1,600	Crookhaven River	Do	300	do
Do	400	do	Burton Crossland	300	Hawkesbury River
Do	400	do	William Simpson	100	Port Hacking
Do	1,000	Bengs Creek, Shoalhaven	Do	100	do
Do	1,000	do	Do	200	do
R. H. D. White	100	Port Stephens	James Stanbury	100	Crookhaven River
Frank Griffin	200	Karuah River	John Longborough	300	do
Paul B. Bettini	470	Moruya River	Timothy Wray	100	Clyde River
Henry Bannister	100	Clyde River	Henry Woodward	200	Wallis Lake
Anthony Patrech	500	do	Do	1,000	Cromarty Bay
G. F. Want	300	Port Hacking	Do	300	Oyster Channel, Clarence River
Henry Woodward	300	Camden Haven	Robert Rupert Milton	900	Hawkesbury River
G. F. Want	300	Port Hacking	Do	1,250	do
William Bryce	300	Bherrewerre Creek	Frederick J. Gibbins	1,300	Evans River

APPENDIX G.

RETURN showing the quantity, in baskets, of Fish, brought to the Fish Market, Woolloomooloo, from January to December, 1884:—

Place.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Botany	242	392	333	486	243	269	200	337	313	363	299	371	3,877
Broken Bay	185	582	257	314	247	336	265	224	271	375	441	290	3,887
Clarence River					28	153	223	96					500
Manning River					7	17	31	5					60
Newcastle and Lake Macquarie	227	337	312	506	719	520	896	614	608	451	407	248	5,845
Narrabeen Lagoon.....	10	35	54	53	15					137	6	95	495
Port Jackson and tributaries	167	345	278	364	204	95	67	80	87	230	221	240	2,378
Port Stephens		5	25	59	597	726	635	523	550	788	571	341	4,820
Shoalhaven			28	9	94	212	279	221	203	93	18	4	1,161
Shell Harbour	5	9	39	26	15	31	14				19	11	169
Tuggerah Lakes.....	450	794	678	464	661	1,080	510	456	555	713	364	129	6,854
Ulladulla			5		51	65	68	78	47	19	30	3	366
Wollongong	10	73	102	245	360	411	322	301	228	204	156	131	2,543
Various places		33	5			9	18	1		15		10	91
Total.....	1,296	2,605	2,116	2,526	3,241	3,924	3,528	2,936	2,892	3,388	2,531	1,973	32,956
Condemned as unfit for food.....	75	71	424	107	7	18	38	25	15	28	12	34	472 baskets.
Seized under Fisheries- Act	1		1	15		1	1	11					31 "
Prawns			6										6 "
Crayfish						15	155	124	144	213	134	44	829 dozen.
Jew and Kingfish	4		19	11			1	14			12	2	63 "
Mullet			1,479	1,669	150								3,198 "
Schnapper	10		47	75	119	104	774	134	173	58	27	33	8574 "
Various large fish											300		300 "
Turtles											1	1	2 "

APPENDIX H.

RETURNS showing range of prices obtained at Fish Market for fish sold, from January to December, 1884.

Name of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Schnapper, per dozen	16/ to 40/	9/ to 45/	12/ to 66/	9/ to 148/	7/ to 78/	8/ to 90/	13/ to 68/	6/ to 60/	8/ to 48/	8/ to 60/	7/ to 50/	8/ to 84/
Squire "	7/ to 12/	4/ to 15/	3/6 to 10/	4/ to 18/	2/ to 12/	4/ to 18/6	4/ to 15/	4/ to 10/	6/ to 9/	5/ to 10/	3/ to 11/	4/ to 15/
Flathead "	5/ to 12/	2/6 to 20/	2/6 to 12/	3/ to 24/	5/ to 15/	3/ to 18/	3/ to 24/	2/6 to 19/	4/ to 18/	4/ to 36/	2/ to 24/	2/ to 24/
Whiting "	3/ to 6/	2/6 to 10/	3/ to 8/6	2/6 to 9/	1/ to 7/	1/6 to 7/6	1/9 to 8/	1/ to 7/	1/ to 9/	2/6 to 8/	1/3 to 9/	1/ to 10/
Flounders & Soles "	3/ to 12/	2/6 to 11/	3/6 to 8/	2/ to 13/	2/ to 10/	2/6 to 12/	2/6 to 12/	2/ to 16/	2/ to 11/	2/ to 10/	1/6 to 11/	2/ to 14/
Kingfish "	2/6 to 7/	3/ to 17/	4/6 to 12/	4/6 to 18/	2/6 to 18/	3/ to 27/	12/ to 18/	5/ to 60/	.....	6/ to 18/	3/ to 12/	8/ to 18/
Jew "	2/ to 54/	11/ to 96/	12/ to 72/	9/ to 66/	6/ to 126/	8/ to 72/6	9/ to 78/	8/ to 72/	2/ to 78/	8/ to 66/	3/6 to 96/	4/ to 108/
Gropers " .....	.....	12/	.....	12/ to 30/	.....	12/ to 24/	18/	24/	.....	.....	18/ to 42/	36/
Traglin "	4/ to 19/	4/ to 16/	4/ to 18/	8/ to 25/	4/ to 12/	.....	.....	9/	.....	8/ to 10/	5/ to 20/	8/ to 14/
Nannegai " .....	.....	.....	.....	.....	3/6 to 9/6	.....	5/ to 15/	3/6 to 6/	6/ to 10/	8/	.....	3/ to 10/
Salmon "	4/ to 7/	1/6 to 15/	4/ to 10/	.....	3/ to 3/6	7/ to 8/	.....	3/ to 6/	.....	1/ to 2/	6/ to 9/	2/ to 13/
Mullet (sea) "	5/ to 7/	3/ to 18/	1/9 to 10/6	1/ to 13/6	1/6 to 15/	4/ to 14/6	6/ to 18/	4/6 to 11/	6/ to 11/6	5/ to 12/6	3/ to 13/	3/ to 14/6
Long Toms " .....	.....	.....	2/6 to 3/6	2/6 to 4/6	2/6	.....	.....	.....	5/ to 7/	1/6 to 5/	1/6 to 6/	2/ to 4/6
Rock Cod "	4/ to 10/	2/6 to 8/	2/6 to 18/	5/ to 30/	2/6 to 15/	2/ to 6/	2/6 to 7/	2/ to 7/	2/ to 6/	2/ to 9/	1/6 to 15/	1/6 to 6/
Leather-jackets " .....	.....	.....	1/ to 2/	4/	.....	.....	.....	1/	.....	.....	.....	.....
Eels "	9/ to 12/	9/ to 16/	6/ to 18/	5/ to 48/	7/ to 25/	9/ to 26/	6/ to 30/	6/ to 24/	2/ to 24/	9/ to 48/	7/6 to 36/	8/ to 30/
Bream, per basket, 80 to 90 lbs.....	13/ to 44/	7/ to 38/	11/ to 38/	12/ to 64/	10/ to 50/	10/ to 34/	7/ to 33/	2/ to 33/	5/ to 34/	6/ to 30/	4/ to 36/	7/ to 60/
Garfish " "	10/ to 48/	5/ to 48/	9/ to 54/	11/ to 80/	6/ to 56/	8/ to 38/	7/ to 36/	10/ to 36/	2/ to 38/	10/ to 48/	10/ to 42/	8/ to 74/
Blackfish " "	6/ to 20/	4/ to 30/	8/ to 39/	7/ to 31/	6/ to 30/	5/ to 23/	6/ to 28/	2/ to 35/	3/ to 25/	4/ to 22/	3/ to 31/	5/ to 34/
Silverbellies " "	9/ to 18/	6/ to 16/	.....	9/	4/ to 8/	14/ to 18/	6/ to 15/	8/	.....	5/ to 14/	3/ to 11/	3/ to 9/
Salmon Trout " "	10/ to 31/	8/ to 20/	.....	4/ to 12/	3/ to 8/	.....	.....	.....	5/ to 14/	.....	2/ to 17/	8/ to 10/
Mullet (sand) " "	12/ to 42/	6/ to 42/	4/6 to 50/	2/6 to 50/	5/ to 34/	5/ to 26/	5/ to 26/	2/ to 23/	5/ to 23/	2/ to 27/	3/ to 31/	4/ to 42/
Travally " "	8/	4/ to 26/	4/ to 30/	7/ to 15/	4/6 to 18/	7/6 to 16/	4/ to 18/	4/6 to 23/	2/ to 17/	3/ to 19/	5/ to 21/	6/ to 17/
Yellowtail " "	8/ to 23/	4/ to 40/	10/ to 35/	8/ to 30/	9/ to 26/	10/ to 18/	5/ to 17/	9/ to 20/	8/ to 18/	10/ to 16/	9/ to 20/	7/ to 24/
Tailers " "	6/ to 12/	3/ to 24/	3/ to 14/	4/ to 26/	3/ to 16/	6/ to 18/	5/ to 16/	7/ to 14/	2/ to 18/	6/ to 19/	3/ to 25/	1/6 to 34/
Lobsters, per dozen	21/	15/ to 20/	.....	.....	.....	23/ to 26/	8/6 to 28/	15/ to 28/	20/ to 25/	11/6 to 24/	14/ to 27/	13/ to 18/
Crabs "	2/ to 4/	1/ to 9/	1/ to 5/6	2/ to 5/	1/6 to 6/	1/9 to 5/	2/ to 4/6	2/ to 5/	1/6 to 3/	2/ to 5/6	2/ to 4/6	2/ to 5/
Prawns, per basket.....	17/ to 66/	24/ to 60/	11/6 to 50/	9/ to 60/	3/6 to 28/	.....	.....	.....	.....	20/ to 69/	18/ to 60/	16/ to 60/

APPENDIX I.
HOME FISHERIES DIVISION, 1884.
Inspector Quinan's Report.

Sir,

Fisheries Office, Sydney.

I do myself the honor to furnish herewith, for the information of the Commissioner of Fisheries, my report as to the condition of the fisheries, "Home Division," for the year 1884.

Port Jackson and Tributaries.—During the early months of the year fish of all descriptions were very plentiful—all the bays in the rivers were well stocked with young fish—mullet especially were in great abundance. Great care and constant watching, both by night and day, had to be exercised to prevent illegal netting; several breaches of the Act were brought under notice, and fines inflicted by the Magistrates. In a separate return furnished by me will be found the quantity of fish sold at the Fish Market, Woolloomooloo, that arrived from all the fishing stations within the Colony, also the prices obtained, which were very fluctuating. It has been noticed that if more than two hundred baskets of fish are brought to market in any one day the prices obtained are not remunerative, and an excess of this quantity is often difficult to dispose of.

Several sources of pollution to the waters have been specially reported upon; thousands of small fish are destroyed by polluted sewers.

Oyster culture in Port Jackson is a thing of the past; the numerous picnic parties have stripped the rocks of all oysters, the Fisheries Act giving them power to do so. Several applications have been made for oyster culture areas; at the Middle Harbour small oysters are in great abundance, but they never grow to marketable size, nor from inquiries I have made do they increase in size if transplanted to other waters. Messrs. Woodward and Comins obtained small areas for the purpose of reviving oysters which arrived out of condition, principally those from New Zealand, but it has not proved to be a remunerative enterprise—fully one half the oysters are lost. Assistant-Inspector Mulhall has charge of these waters.

Botany and George's River.—These waters are of great value in consequence of the abundance of fish at all times of the year, and the fresh state that they can be placed in the market for sale (often alive even in summer-time); this is also one of the most permanent fishing stations in the Colony, supporting quite a village of fishermen and their families. During the mullet season, about February, tons weight of these fish are captured and sold very cheap, enabling the public to enjoy for a few pence what at other times becomes a luxury.

The George's River is not availed of much by net fishermen; they state that the river is closed at the wrong time of year. During the summer months, when the waters are open, the blubber fish are so numerous that it is impossible to use their nets; tons weight of this blubber gather in the net and injure it, besides killing at once any food fish that may have entered the net. Thousands of young fish are caught by hook and line.

George's River produces some of the finest oysters in the Colony, those obtained from the rocks about 40 feet deep being the largest and best flavoured; these are only obtainable by a diver in full dress, and costs, I am informed, more than £1 per bag to gather. Foreshore, rock, and mangrove oysters are fairly plentiful; the men employed on the railway bridge have, as well as the general public, helped themselves pretty freely, and greatly injure the growth. Several applications for oyster culture leases have been made and reported upon. A special report has been furnished upon the source of pollution to these waters. Assistant-Inspector Grant is in charge of these waters, and pays periodical visits to—

Port Hacking.—These waters are visited by the Botany fishermen, who obtain good hauls of nearly all description of fish; they are easily brought to market, and are always fresh. The upper portion of these waters is closed during the winter months for breeding purposes.

The foreshores are well stocked with oysters, though rather small. Several applications have been made for oyster culture areas, and reported upon.

Shoalhaven and Crookhaven Rivers.—Although fish are very plentiful in these waters, it is only in the winter months that consignments can reach Sydney in good condition; during the summer months fish are preserved, and find a ready sale at all times. A good many of the residents have turned their attention to oyster culture, and have applied for areas for that purpose. The foreshores are well stocked with oysters, which grow on the mangrove flats; these are being gathered and laid down on suitable beds; they grow very rapidly and are generally in good condition, and demand a fair market value. Assistant Inspector Gordon is in charge of this district and visits.—

Jervis Bay.—A number of fishermen from Sydney established a fishing station at the bay, and although they made excellent hauls and a good prospect of doing well, fish being in great abundance and of good quality, they were obliged to abandon it, as no reliance could be placed upon steamers calling regularly for their fish; they tried overland cartage to Greenwell Point, Shoalhaven, but found it not to answer.

Mud oysters were some years ago very plentiful in the bay, but they are nearly all exterminated from natural causes.

Currumbene Creek at the head of the bay is well stocked with mangrove oysters, and some applicants for leases are planting them out; they are not of much value without cultivation.

Hawkesbury River, Broken Bay, and Brisbane Water.—These waters are under the supervision of Assistant Inspectors Smith and Black; the former is stationed at Peat's Ferry, and as fishing operations are almost confined to the Lower Hawkesbury, his principal work lies in looking after the oyster beds; extensive areas have been taken up for oyster culture. Spat is very plentiful; dredge oysters none; the oysters obtained from this river are those growing on the rocks, and alike in character and excellence to those obtained at George's River.

Mr. Smith pays an occasional visit to Brisbane Water; the oysters growing in these waters are very small, and not of much commercial value; areas for cultivation have been applied for and cultivation commenced.

Assistant

Assistant Inspector Black, who is stationed at Barrenjoey, looks after fishing operations and vessels outward-bound conveying oysters; by his vigilance that destructive process known as stalling has been put a stop to, many thousands of small fish were left on the sands to die, by this illegal netting.

Fish were very plentiful in these waters, the returns show a supply equal to Botany, and a steamer leaves Peat's Ferry late at night and conveys fish direct to the Woolloomooloo market, arriving there at 4 a.m., thus assuring a fresh supply each morning.

Tuggerah Beach Lakes.—These lakes are situated about 2 miles inland from Bungaree Norah, where a small steamer calls for consignments of fish, the fish are carted overland to the steamer, and arrive at the markets early in the morning; as a rule the fish are in good condition; at times, however, the weather prevents the steamer from calling, and great loss is occasioned by the fisherman.

These lakes abound with fish of all description, including squire or young schnapper. Fish have a peculiar smoky flavour from these waters; I attribute this to the feed, which on account of the stillness of the water, having little if any rise and fall of tide, the entrance being very narrow, cannot get away to make room for younger growth.

Oysters are not to be found in these waters. These fisheries are not under the supervision of a local Inspector. I paid a visit during the latter part of the year.

Lake Macquarie.—The great drawback to the fishing industry at these lakes is the rough and tedious journey to the shipping port at Newcastle, 12 miles distant; although the greatest care is taken in packing the fish, they very often arrive in such a bruised condition that while consignments have to be condemned as unfit for food to the great loss of the fisherman. Some of the finest fish on the coast are obtained in these waters, the large blue-nosed whiting and black bream are especially prized for their size and delicious flavour; the lakes are so extensive that no fear need be entertained that the fisheries could be exhausted.

The channel leading from the entrance to the lakes, about 4 miles in length, is permanently closed as a breeding ground, is well stocked with fish of all description; the sharks and salmon at certain seasons of the year drive the fish into the lakes; this channel is so tempting to the fishermen that Assistant Inspector Boyd has to keep a watch both by night and day so as to prevent illegal netting; offences of this nature have taken place, and offenders fined.

Port Hunter and Tributaries.—The once famous oyster-beds at this place are, as regards dredge-oysters, completely destroyed by the worm which enters the shell and kills the fish—hardly a live oyster is to be found below low-water-mark; the foreshores are fairly stocked with rock and mangrove oysters. Numerous applications have been made for oyster culture areas. Mr. Gibbins, one of the lessees, laid a quantity of New Zealand oysters down on his beds so as to restock them, but they shared the same fate as those indigenous to the waters. I am of opinion, and have expressed it in my reports some time back, that unless the beds are thoroughly cleaned at flood-time this disease cannot be eradicated.

Fish are plentiful, but strange to say the supply obtained by local fishermen does not equal the demand, the outlying mining townships rely upon their fish supply from Lake Macquarie.

In the upper Hunter, near Raymond Terrace, during the season a good supply of prawns is obtained, where they are cured, and sent to all parts of the Colony; these are not accountable for in the market returns. Assistant Inspector Curan, who has charge of this district, has his time fully occupied, he also attends to shipments of oysters from Port Stephens that reach Newcastle *en route* for Sydney by way of Raymond Terrace and by water.

Port Stephens.—In consequence of the local Assistant Inspector not supplying me with returns, although I have repeatedly brought this neglect of instruction under notice, I am unable to furnish any information in respect to the fisheries at this place; during the early part of the year several consignments of oysters were seized, being under the regulation size; the market report shows a good supply of fish.

Lake Illawarra.—This lake is distant from Wollongong about 6 miles, and is well stocked with fish; Mullet Creek, one of the tributaries, is teeming with the fish it is named after; meshing nets are only used, and large consignments are sent to Sydney in the winter months. This lake, although quite as valuable as Lake Macquarie, is without an Inspector.

In conclusion, I would respectfully recommend that the waters of Port Jackson be closed during the winter months (April to September), from the Heads upwards—this will give the Harbour a rest, without in any way diminishing the market supply; also that an Assistant Inspector be appointed to look after the fisheries at Lake Illawarra.

I have, &c.,
JAMES QUINAN,
Inspector, Home Division of Fisheries.

APPENDIX J.

NORTHERN FISHERIES DIVISION, 1884.

Inspector Temperley's Report.

THE Fisheries Act of 1881 having been amended by the Fisheries Act of 1884, the natural oyster-beds were worked during 1884 under two systems—the licensing boat system in the first half of the year, and the leasing system by means of provisional permits in the latter part of the year.

The large number of licensed dredgers in the Clarence River at the close of 1883 having reduced the beds there by February proceeded to the Richmond and Evans Rivers. They discovered a natural oyster-bed in the latter river, reduced it, together with the natural beds on the Richmond, and then proceeded elsewhere. A number of them settled down on the Manning River, and continued to dredge its already reduced beds—working for as low a quantity as half a bag per day—the high price of the oysters returning sufficient remuneration for even so low a yield.

The evils previously pointed out in connection with the licensing boat system continued while that system lasted. The dredgers rushed from river to river working the beds regardless of their condition, and depositing cullings despite supervision, where they were least liable to give further trouble, and regardless of injury to the natural beds, while the old leases having expired the work of laying immature oysters was entirely discontinued.

In the third quarter most of the dredgers' licenses had expired, and the natural beds were allowed a brief but at the same time much-needed period of rest.

The immediate outcome of the Amended Fisheries Act of the 21st July, 1884, was a large amount of inquiry for suitable cultivation sites and numerous applications for oyster-bearing foreshores. The work of measuring the proposed leases and reporting upon the applications considerably increased the duties and responsibilities of the officers in charge of the respective inlets. Where the applications were for foreshores not previously surveyed and charted the identification of sites was rendered difficult, and on this account was often inevitably delayed.

Concerning oyster deposits there was but one natural oyster-bed in the whole of the Division in good working condition, viz., the House bed on the Clarence River. The remainder were in a more or less reduced condition. Those which had been closed for any length of time and left to improve themselves unassisted showed but little or no improvement whatever. The permits issued in the latter part of the year enabled the lessees to work the areas they had secured, but the House bed was not worked up to the close of the year, the delay being due to the difficulty attending the determination of prior right between contending applicants for the lease. In several instances where permits had been issued the lessees set to work without delay to restock their deep-water areas with immature oysters from the foreshores.

The spawning season of 1884 was not of a hopeful character. That the oysters had spawned was evidenced by the presence of young oysters, but the spawning season had evidently been a moderate one, and was generally unnoticed during its occurrence.

The total quantity of oysters procured in the North Division was 3,186 bags, and the royalty paid thereon £435 15s.

The following return shows the rivers from which the oysters were procured, and the quantities and royalty for each:—

River.	No. of Bags.	Royalty paid in	Royalty collected	Total Royalty.
		Sydney.	locally.	
		£ s. d.	£ s. d.	£ s. d.
Tweed River	105	16 12 0	4 8 0	21 0 0
Richmond River	715	101 2 0	3 3 0	107 5 0
Kyans River	228	27 0 6	2 5 6	29 6 0
Clarence River	664	81 10 6	2 7 6	83 18 0
Port Macquarie.....	80	12 0 0	.....	12 0 0
Manning River.....	1,226	153 8 0	1 17 6	155 5 6
Cape Hawke	168	27 0 6	.....	27 0 6
Total	3,186	421 13 6	14 1 6	435 15 0

With reference to fish, the north coast rivers teem with an abundance of the finest kinds, but the present means of transit are not sufficiently rapid to admit of their conveyance in a fresh condition to Sydney. During the last few years the local fishermen on the rivers possessing good steam communication have shipped fresh fish to Sydney during the winter months—the quantity shipped depending entirely upon the length and severity of the winter. That of 1884 was an exceptionally mild one, and consequently was not favourable to extensive operations. The rivers which contributed to the winter supply were the following:—The Clarence River, Manning River, Macleay River, and Port Macquarie.

On the Clarence River the experiment was tried of boiling down mullet for oil. It was found that on an average it required about forty fish to produce one gallon of oil. The appliances used were meagre and crude, and the oil was injured for the want of sufficient apparatus to reduce the fish in quantity while they were fresh. The men engaged in the work had neither the knowledge nor the means to purify their produce, and the result of boiling down stale fish was the production of a much discoloured and offensively odorous oil that realized in the market the insignificant price of 2s. per gallon. The boiled fish which, after the extraction of the oil, would have been good food for poultry or pigs, was not utilized in any manner, and the work was eventually discontinued.

Detailed Report upon the Oyster-bearing inlets of the Northern Division of Fisheries.

Tweed River.—The Tweed River contains several natural oyster-beds, and a fair quantity of mangrove oysters. The beds were closed since 1882, and were undisturbed until May, 1884, when they were worked for two months only and were then reduced. These beds have not recovered after their rest to the extent that was expected, and they furnish another illustration of the fact that exhausted oyster-beds require something more than mere rest to ensure their recovery.

The river contains a good quantity of foreshore oysters on shallow flats, well adapted for restocking the natural beds.

The Brunswick River.—The Brunswick River has not had any oysters taken from it during the Fisheries Act of 1881. This is due to the difficulties attending their transit. There are both in the north and south arms quantities of foreshore oysters, both of the mangrove and rock oyster class, and there are many suitable sites for laying them down. When the necessities of the large extent of alienated land in the Brunswick River have developed means of transit this river will contribute its quota of oysters to the metropolitan supply.

The Richmond River.—The natural oyster-beds of the Richmond River having been undisturbed for about six months were reworked in February by several licensed dredges. They procured a quantity of good oysters by hand in shallow water and in Shaw's Bay, a portion of the river not previously worked, and since reserved to the residents of Ballina as an oyster recreation reserve. The oysters opened well up to April, and fell off in condition during the winter months.

No spawning season was observed, but it is believed there was a moderate spawn in the early part of the year. The upper bed was considerably worked, first under license, and later under a lessee's permit, and is only in a moderate condition.

The lower bed not being worked during the latter half-year, pending the determination of the right to lease, is in a fair condition, and contains a large quantity of bank oysters well adapted for laying down.

Erans River.—A natural oyster-bed on a rough bottom was discovered and dredged here during the year, and oysters shipped from the river for the first time.

The bed is situated at a narrow rocky part, known as the "Iron Gates," through which the tide flows with considerable rapidity. The oysters at this place spawn freely, and from the Gates downwards to within a quarter of a mile of the river mouth the foreshores are abundantly covered with foreshore oysters.

The principal drawback to oyster cultivation here is the absence of suitable sites for laying down, the bed of nearly the whole of the river being more or less affected with drift sand. Some of the oysters were shipped by the Clarence River, but the greater part of them *via* Woodburn, on the Richmond River.

The Clarence River.—The Clarence River contains several good natural oyster-beds, and but very few foreshore oysters. The House bed is one of the best natural beds in the Colony. At the close of 1884 it was in first-class condition, having a good coating of marketable oysters and an abundance of young oysters. It was not worked, for the reason stated in the Annual Report. The remaining natural oyster-beds in the Lower Channel have been closely dredged by licensed dredgers, and were in a reduced condition. The Upper Channel beds have been undisturbed for two years, and have not recovered to the extent that could have been expected from their period of rest. Portions were smothered by a coating of thick spongy weed; other portions contained at the end of the year a moderate quantity of young oysters.

Some of the oysters in the Lower Channel beds spawned during November.

Bellinger River.—The Bellinger River has not had its natural oyster-beds worked for two years. They are slow in recovering. The lower bed is covered with the thick spongy weed that has proved to be so injurious on the Clarence River. It is thought probably that a good fresh would remove this weed from the beds. There is only a small quantity of foreshore oysters on this river.

Nambucca River.—The Nambucca River contains but a moderate quantity of oysters, and has not had any marketable oysters shipped from it within the Fisheries Act of 1881.

The Macleay River.—The Macleay River is devoid of oysters, and in this respect differs from every river, creek, or inlet on the coast. It is the exception to the rule that the inlets of New South Wales are oyster-bearing. As previously pointed out, there are deposits of old shell on the river banks, showing that oysters formerly existed.

Port Macquarie.—Port Macquarie contains deep-water natural oyster-beds, and a fair quantity of foreshore oysters of the mangrove class. The deep-water natural beds, for some unaccountable reason, almost died out, and although they have had a long period of rest they have not recovered. The oysters shipped from here during 1884 were chiefly procured from the foreshores.

The oyster lessees on this river have restocked portions of the natural oyster with quantities of foreshore oysters.

Camden Haven.—The oyster deposits in this inlet consist of good natural beds, and a fair quantity of foreshore oysters of the rock and mangrove class. The beds had been closely worked under an expiring lease in 1883, and by licensed dredgers later on in the same year. They were then in a low condition. They have not been worked during any part of 1884.

Manning River.—This river contains several good natural oyster-beds, and a fair quantity of mangrove oysters.

It will be seen from the returns for the whole of the rivers that the Manning produced in 1884 more oysters than any other of the northern rivers.

The price which the oysters realized was sufficient remuneration for the dredgers to work when they could procure but two bags per week.

The result is that the beds have been much dredged and overworked, and are in a low condition.

Some of the lessees have restocked their leases with foreshore oysters.

Cape Hawke (Wallis Lake).—The oyster deposits at Cape Hawke lie in shallow water, and consist chiefly of a large extent of good bank oysters.

Licensed dredgers worked this inlet in January; it was then provisionally closed, and was reworked after a rest of eight months by lessees under permits. The old exhausted natural beds, being in shallow water, are well adapted for developing the immature bank oysters, the work of lifting them up after they have been laid down being effected by hand without the use of a dredge. The principal lessee, on obtaining his permit, at once entered extensively into the work of laying down.

THOS. TEMPERLEY,
Inspector, Northern Fisheries.

29 August, 1885.

APPENDIX K.

SOUTHERN FISHERIES DIVISION, 1884.

Inspector Benson's Report, Southern Division of Fisheries, Narrawilla Creek to Wagonga.

Sir,

Bateman's Bay.

I have the honor to forward my report on the Southern Fisheries for the year 1884.

Clyde River.—This river is the most prolific oyster-bearing water in the Southern Division. For full particulars of its natural oyster-beds and capabilities for oyster culture I would respectfully refer you to the Chief Inspector's and my own reports for the year 1883.

On the 1st September, 1883, the lease held by Mr. F. J. Gibbins, of the Clyde River, expired, and in January, 1884, four of the principal deep-water beds, *viz.*, Schnapper Point, Rocky Point, Bold Shore, and Big Island beds, were, in accordance with my recommendation, opened to licensed dredgers, who worked them till the 5th of October, during which time sixteen hundred and forty (1,640) bags of oysters were obtained. Permits were also granted in the beginning of September to several applicants who had applied, under the provisions of the 4th section Oyster Fisheries Act, 1884, for leases for oyster culture, and had paid

paid the first year's rent to ship oysters, resulting in the transmission to market of an additional 337 bags, making a total of 1,977 bags of oysters shipped to Sydney from the Clyde River during the year 1884.

When it is taken into consideration that during the ten years prior to 1884 no less than 13,436 bags of oysters were shipped from this river, there can be no doubt of its oyster-bearing capabilities.

During the year sixty-seven applications for leases, representing an area of 41,700 lineal yards, on the Clyde River, were received by me to report on; several of the applicants having conformed to the 2nd Regulation under the Act entered upon sufferance into occupation, laid down young oysters, and otherwise improved the areas for which they had applied. There seems, however, a disinclination among many to incur expense until there is a certainty of the leases being granted.

Most of the applicants are practical men, and have applied in good faith. The foreshores generally are naturally suitable for growing and fattening. Large quantities of spat and brood are available for laying down, and nothing now remains but the granting of the leases to make oyster culture on the Clyde River an extensive and profitable industry.

Turoos River.—This river was held by Mr. Robert Martin, under a lease which expired on the 28th February, 1884, but on the application of the lessee for permission to remove, after the expiry of his validated lease, oysters which had been laid down by him, the Commissioners of Fisheries were pleased to grant him an extension of time, viz., to the 31st of March, up to which date 368 bags of oysters were shipped for the year 1884. At the expiration of the lease I visited the river and examined the foreshores, finding them well stocked with spat and brood suitable for laying down. During the year, 14,550 lineal yards were applied for, the oyster-bearing capabilities of which could be greatly improved by judicious management. Permission was granted in October to three of the applicants to ship oysters, of which privilege only one availed himself, and shipped thirty-four bags of oysters for the year.

(?) 368 bags were shipped up to the 1st of March, which is the date of the last return forwarded by the late Acting Assistant Inspector Trauent, of Moruya, who had the supervision of these shipments.

Narracilla Creek, situated about 35 miles north of the Clyde River, was gazetted as closed for a period of three years dating from the 31st day of March, 1884. Both sides of the creek, extending from the mouth upwards for a distance of about 1 mile, are lined with mangroves well covered with oysters in all stages of development; the bottom consists of hard mud and rock. I consider it one of the best waters in the Southern Division for oyster culture. Two applications for leases have been received, the areas applied for being respectively 200 and 300 yards; permission was granted to one of the applicants on the 17th September to ship oysters. I am not aware of the number shipped, as in cases where there is no local Inspector particulars of shipment would be wired direct by the consignor to the Collector of Customs at Sydney.

Oullendulla Creek is situated about 2 miles north of the Clyde River. It was gazetted as closed for a period of three years dating from the 30th June, 1883. Its oyster-bearing limits extend from the mouth of the creek upwards for 1 mile. The banks are composed of soft mud lined with mangroves, which at present are almost destitute of oysters; patches of hard ground suitable for oyster culture occur at intervals. Much labour and capital will be required to make the areas applied for remunerative. Applications for 3,900 lineal yards have been received, and one of the applicants, who received a permit on the 7th of October, 1884, has shipped twenty bags of oysters.

Tomago Creek is 10 miles south of the Clyde River. It was gazetted as closed on the 30th of June, 1883, for three years. The banks of the creek, with the exception of a few rocky points, are composed of soft mud; the foreshores generally are unsuitable for oyster culture. Mangroves fairly stocked with spat and brood occur at intervals. 2,200 yards have been applied for, and thirty bags of oysters have been shipped during the year.

Durras Lake, about 10 miles north of the Clyde River, was closed against dredging till 30th August, 1885. The banks and beds are composed chiefly of mud suitable for oyster culture. Oysters grow and fatten in a remarkably short space of time, and are considered of perfect shape in the shell. There is no spat or brood available for laying down; the oysters on the natural beds, owing to the lake having been closed for a lengthened period, have been destroyed by the weeds and slime. Mud oysters are found in large quantity on several parts of lake. Applications have been received for 3,600 yards, and no oysters have been shipped during the year.

Wagonga River.—This river is about 55 miles south of Bateman's Bay. The banks are principally rock, and are fairly stocked with spat and brood. The foreshore on most parts of the river does not extend for more than 10 or 12 yards; the bottom, outside of low-water-mark, is soft mud. 17,860 yards have been applied for. Oysters were shipped during the year by applicants who had received permits; particulars of such shipments would be wired direct to the Collector of Customs, Sydney, by the consignors.

Moruya River is 20 miles south from Bateman's Bay. The oysters are found on the reefs and mangroves. Acting Assistant Inspector Sutherland states that the principal bed has been destroyed by an accumulation of mud; the foreshores are narrow and unsuitable for oyster culture. 1,250 yards have been applied for, and sixteen bags were shipped during the year under the old Act.

I have, &c.,

GEORGE G. BENSON,
Inspector of Southern Fisheries.

RETURN showing the number of Bags of Oysters taken from the Clyde River during the year 1884, and the amount of Royalty thereon.

Year.	No. of bags of Oysters shipped under old Act.	No. of bags of Oysters shipped under new Act.	No. on which Royalty was paid.	No. on which Royalty was to be collected in Sydney.	Amount collected.	Amount to be collected, Sydney.	Total.
1884.					£ s. d.	£ s. d.	£ s. d.
January	5	.....	5	.....	0 12 6	.....	0 12 6
February	317	.....	.....	317	.....	39 12 6	39 12 6
March	320	.....	.....	320	.....	40 0 0	40 0 0
April	157	.....	4	153	0 10 0	19 2 6	19 12 6
May	164	.....	44	120	5 10 0	15 0 0	20 10 0
June	226	.....	48	178	6 0 0	22 5 0	28 5 0
July	156	.....	45	111	5 12 6	13 17 6	19 10 0
August	128	.....	42	86	5 5 0	10 15 0	16 0 0
September	155	42	87	110	10 17 6	14 16 0	25 13 6
October	12	49	.....	61	.....	8 17 0	8 17 0
November .....	.....	63	.....	63	.....	9 9 0	9 9 0
December .....	.....	183	1	182	0 3 0	27 6 0	27 9 0
	1,640	337	276	1,701	34 10 6	221 0 6	255 11 0

There were twenty bags of oysters shipped at the Clyde, but taken from Cullendulla Creek, which are not included in this list; they were shipped under the new Act, royalty to be paid in Sydney; also ninety bags of oysters from Tuross leased beds—no royalty.

LIST giving the Number of Bags of Oysters which I have been advised were shipped for the year 1884 from the undermentioned Rivers, and the Royalty to be collected in Sydney.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Royalty to be collected in Sydney.
													£ s. d.
Moruya River	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 0 0
Tuross River	173	131	64	.....	.....	.....	.....	.....	.....	17	17	.....	4 5 0
Tomago River .....	.....	.....	.....	.....	.....	.....	.....	.....	7	10	7	6	3 15 0
Cullendulla Creek .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	7	7	2 10 0

COLLECTIONS under Fisheries Act paid into the Treasury by Inspector Benson for the year 1884.

1884.	Royalty.	Oyster-dredging Licenses.	Fishing-boat Licenses.	Fishermen's Licenses.	Brand Certificates.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January	0 12 6	.....	.....	.....	.....	0 12 6
February .....	.....	3 0 0	1 0 0	0 10 0	0 15 0	5 5 0
March .....	.....	3 0 0	.....	.....	0 2 6	3 2 6
April	0 10 0	.....	.....	.....	0 2 6	0 12 6
May	5 10 0	.....	.....	.....	0 2 6	5 12 6
June	6 0 0	.....	.....	.....	.....	6 0 0
July	5 12 6	.....	.....	.....	.....	5 12 6
August	5 5 0	.....	.....	.....	.....	5 5 0
September	10 17 6	.....	.....	.....	.....	10 17 6
October .....	.....	.....	.....	.....	.....	.....
November .....	.....	.....	.....	.....	.....	.....
December	0 3 0	.....	.....	.....	.....	0 3 0
Total	34 10 6	6 0 0	1 0 0	0 10 0	1 2 6	43 3 0

APPENDIX L.

Report of Mr. Assistant-Inspector Smithers for 1884, of the waters under his supervision.

Eden, 5 April, 1886.

I HAVE the honor to forward for the information of the Commissioners of Fisheries, the following report on the waters under my supervision:—

The district is an extensive one, reaching from Cape Howe to Tuross River, including the rivers, lakes, and creeks, as per schedule marked A. The whole of the places mentioned in the schedule were well stocked with fish till about the middle of the year, when a very noticeable falling off in the quantity of fish took place, more particularly along the coast in the vicinity of Twofold Bay, on the well known schnapper grounds. Up to about August the fish above-mentioned were plentiful, but after that there was a change, for leather jackets had now appeared, not however, in considerable numbers, and schnapper were almost gone. In the bay the fish, which had been so plentiful, began to disappear in the same way as the schnapper had done by gradually falling off in numbers, although no leather jackets to speak of had come. At the Womboyne River, 20 miles south of Eden, there was a large supply of fish throughout the year, more particularly towards the end. The same may be said of the Merrica Creek and Lagha River. The Kiah River at Twofold Bay gave a large supply of fish throughout the year, principally mullet, bream, and black fish. Nellica Creek has always appeared to me to be well filled with young fish, mostly mullet. Urallo Lake, the greater portion of which is closed, has been well stocked with full-grown fish, as well as some thousands of young fish which will go out when the mouth opens. Panbula River kept up its name for fish throughout year; Merimbula Lake supplied great quantities of fish at the commencement of the year, but towards the last part a great falling off took place. Bournda Lake and Wallagoot Lake have very large quantities of fish in them; Bega River produced great quantities of fish throughout the year; mostly mullet, bream, perch, and whiting. I might mention that great quantities of prawns are in this river, but persons never endeavour to catch them. Nelson Lake always appeared to me to have a plentiful supply of fish, but from inquiries I find that it fell off at the latter part of the year. Middle Lake is fairly alive with fish, and there is one thing worthy of notice, viz., that this place has the largest quantity of garfish I ever saw; the mouth of this lake is also closed. Wapengo Lake I have not observed much, but am advised of its being a splendid place for mullet, &c. The Murrah River has towards its mouth a number of full grown fish, and further up it produces thousands of young fish; I have not heard of the supply falling off. Burragate Lake and Cuttagee Lake have a good supply of fish, more especially the latter, which is full of large fish, and also thousands of young fish, besides great quantities of whiting; the mouths of both these places are closed. The cormorants are at times very plentiful; while at Burragate the place is always full of shags. Bermague River has, as far as I can gather, been only moderately supplied with fish, but off the Port the schnapper have been very plentiful; the same may be said with regard to Montague Island, there being a very large supply of schnapper there. Wallagha Lake, the mouth of which is closed, is, I understand, well supplied with fish, and the supply never diminished throughout the year. This lake is 30 miles round with plenty of deep water throughout; no person ever attempts to catch fish there. I might mention that this lake also produces thousands of young fish. With regard to Tilba Tilba and Corunna Lakes I cannot give any information as I have never been on them with a boat, and am only informed that such places contain a few mullet.

In conclusion, I wish to draw attention to all the lakes which have the mouths closed. When the mouths open then all the fish go out, and when the mouths become closed again scarcely a fish is to be seen, yet in a short time the place is full of young fish, which are protected till a good size in their nursery, thus making these lakes most valuable as nurseries for fish. I am unable to give any reason for the falling off in the supply of fish towards the end of the year.

FREDK. SMITHERS,
Assistant Inspector of Fisheries, Twofold Bay.

SCHEDULE A.

Tagha Lake.	Curallo Lake,	Munah River.
Nagha River.	Panbula River.	Cuttagee Lake.
Rocky Creek.	Merimbula Lake.	Burragate Lake.
Merrica Creek.	Bournda Lake.	Bermagui River.
Wonboyn River.	Wallagoot Lake.	Wallagha Lake.
Bittangatu Creek	Bega River.	Tilba Tilba Lake.
Twofold Bay.	Nelson Lake.	Corunna Lake.
Kiah River.	Middle Lake.	Wogonga River.
Nellica River.	Wopingu Lake.	Brow Lake.

APPENDIX A.

CATALOGUE of the Fishes of New South Wales, with their principal synonyms; by J. Douglas-Ogilby, Assistant Zoologist, Australian Museum, Sydney, N.S.W.

PALÆICHTHYES.

CHONDROPTERYGII.

PLAGIOSTOMATA.

Selachoidei.

CARCHARIIDÆ.

CARCHARIAS MACLOTI.

Carcharias (Hypoprion) macloiti, Müll. & Henle, Plagiost., p. 34, pl. 10; Duméril, Elasmobr., p. 350.
 ——— *macloiti*, Günth., Cat. viii, p. 362; Day, Fishes of India, p. 713, pl. 188, f. 2; Macleay, Aust. Cat. ii, p. 287.

Hab.—Indian Ocean; New Guinea; Australian Coasts; Port Jackson.

CARCHARIAS GANGETICUS.

Carcharias (Prionodon) gangeticus, Müll. & Henle, Plagiost., p. 39, pl. 13; Duméril, Elasmobr., p. 359.
 ——— (——) *japonicus*, Schleg., Faun. Japon. Poiss., p. 302, pl. 133.
 ——— *gangeticus*, Günth., Cat. viii, p. 367; Day, Fishes of India, p. 715, pl. 187, f. 1; Macleay, Aust. Cat. ii, p. 288; Tenison-Woods, Fisheries of N. S. Wales, p. 93.

Hab.—Indian Seas; Japan; Fiji Islands, in fresh waters; Port Jackson. *Sea Shark* (Tenison-Woods.) Grows to the length of 7 feet.

CARCHARIAS BRACHYURUS.

Günth., Cat. viii, p. 369; Macleay, Aust. Cat. ii, p. 288.

Hab.—New Zealand; Port Jackson. *Whaler*, at Sydney, where it is the most common *Carcharias*. Grows to the length of 12 feet.

Carcharias glaucus is included by Tenison-Woods in his list of New South Wales fishes (Fisheries of N. S. Wales p. 25), but I am unable to find any authority for the statement.

GALEOCERDO RAYNERI.

M'Don. & Barr., Proc. Zool. Soc. 1868, p. 368, pl. 32; Günth., Cat. viii, p. 377; Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 95, pl. 4; Macleay, Aust. Cat. ii, p. 289; Haswell, Proc. Linn. Soc. N. S. Wales vii, p. 210.

Hab.—Indian Seas to Port Jackson; Solomon Islands. *Tiger Shark* of the N. S. Wales coast. Attains to 12 feet in our waters.

GALEUS AUSTRALIS.

Galeus australis, Macleay, Aust. Cat. ii, p. 270; M'Coy, Prodr. Zool. Viet. dec. vii, pl. 64, f. 2; Tenison-Woods, Fisheries of N. S. Wales, p. 92.

Hab.—Coasts of S.E. Australia and Tasmania; Port Jackson; *School Shark* of Sydney. Grows to the length of 6 feet at least.

ZYGÆNA LEEUWINI.

Zygæna lewini, Griff., Anim. Kingd. x, p. 640, pl. 50; Rochebrune, Act. Soc. L. Bord. vi, p. 56.

Cestracion leeuwenii, Duméril, Elasmobr., p. 383.

? *Zygæna malleus*, Macleay, Aust. Cat. ii, p. 291; M'Coy, Prodr. Zool. Viet. dec. vi, pl. 50, f. 1.

Hab.—Australian Seas; Richmond River; Port Jackson. *Hammer-head* of our coasts. The Australian Museum possesses a mounted specimen of a female which measures over 15 feet; it was killed at the mouth of the Richmond River during the spring of 1884, and no less than thirty-nine living young were taken from it; twelve of these, forwarded to the Museum, averaged 20 inches each.

MUSTELUS ANTARCTICUS.

Günth., Cat. viii, p. 387; Macleay, Aust. Cat. ii, p. 292; Parker, Trans. N. Z. Inst. xv, p. 219, pl. 30; Casteln., Proc. Zool. Soc. Viet. i, p. 216.

Hab.—S. Pacific; Port Jackson; Port Phillip; Tasmania; New Zealand. *Hound* of our coasts, where it is common. Attains the length of 5 feet.

LAMNIDÆ.

LAMNA GLAUCA.

Oxyrhina glauca, Müll. & Henle, Plagiost., p. 69, pl. 29; Schleg., Faun. Japon. Poiss., p. 302; Duméril, Elasmobr., p. 409.

Lamna glauca, Günth., Cat. viii, p. 391; Macleay, Aust. Cat. ii, p. 292; Tenison-Woods, Fisheries of N. S. Wales, p. 95.

Hab.—Japan; Cape seas; Australian coasts. *Blue Pointer* of Port Jackson. Grows to the length of 12 feet.

CARCHARODON RONDELETII.

- Müll. & Henle, Plagiost., p. 70; Duméril, Elasmobr., p. 411; Günth., Cat. viii, p. 392; Macleay, Aust. Cat. ii, p. 294; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 83, pl. 1, ff. 1-4; Günth., Study of Fishes, p. 320, f. 114 (*tooth*).
Carcharodon capensis, Smith, Ill. Zool. S. Afr. Pisc., pl. 4.
Hab.—Mediterranean; Cape seas; Australian seas. *White Pointer* of Port Jackson. A fierce and destructive species, which attains the length of 40 feet.

ODONTASPIS AMERICANUS.

- Squalus americanus*, Mitch., Phil. et Lit. Trans. New York i, p. 483.
Odontaspis taurus (Rafin.), Müll. & Henle, Plagiost., p. 73, pl. 30; Duméril, Elasmobr., p. 417; M'Coy, Prodr. Zool. Vict. dec. vii, pl. 64, f. 1.
 ——— *americanus*, Abbott, Proc. Ac. Nat. Sc. Philad. 1861, p. 399; Duméril, l.c., p. 419; Günth, Cat. viii, p. 392; Macleay, Aust. Cat. ii, p. 294; Tenison-Woods, Fisheries of N. S. Wales, p. 95.
Hab.—Atlantic; Cape seas; S. Pacific; Tasmania: Port Jackson. *Grey Nurse* of the Sydney fishermen. Attains the length of 15 feet.

ALOPIAS VULPES.

- Squalus vulpes*, Gmel. Linn., p. 1496; et auctt.
Carcharias vulpes, Cuv., Règne Anim.; De Kay, New York Fauna Fish, p. 348, pl. 61, f. 199; Gay, Hist. Chile Zool. ii, p. 363.
Alopias vulpes, Bonap., Faun. Ital. Pesc. iii, p. 66; Müll. & Henle, Plagiost., p. 74, pl. 35, f. 1 (*dentition*); Day, Brit. Fishes ii, p. 300, pl. 157.
Alopias vulpes, Yarrell, Brit. Fishes (ed. 3) ii, p. 512; Günth., Cat. viii, p. 393; Macleay, Aust. Cat. ii, p. 295; Günth., Study of Fishes, p. 322.
Hab.—Temperate and tropical seas of both hemispheres. *Thresher* of Port Jackson. Grows to at least 15 feet.

NOTIDANIDÆ.

NOTIDANUS INDICUS.

- Cuv., Règne Anim.; Günth., Cat. viii, p. 398; Day, Fishes of India, p. 723, pl. 189, f. 4; Macleay, Aust. Cat. ii, p. 296; M'Coy, Prodr. Zool. Vict. dec. v, pl. 43, f. 2; Günth., Study of Fishes, p. 324, pl. 115 (*dentition*).
Heptanchus indicus, Müll. & Henle, Plagiost., p. 82, pl. 32; Schleg., Faun. Japon. Poiss., p. 303; M'Don. & Barr., Proc. Zool. Soc. 1868, p. 371, pl. 33; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 88, pl. 1, f. 5.
Hab.—Indian seas; Japan; California; Cape seas; Australian seas; Jervis Bay; Port Jackson. *One-finned Shark* of Sydney. Attains a length of 8 feet.

SCYLLIIDÆ.

SCYLLIUM ANALE.

- Ogilby, Proc. Linn. Soc. N. S. Wales x, pp. 445, 464.
Hab.—Port Jackson. *Spotted Dog-fish*. Grows to the length of 2 feet.

SCYLLIUM MACULATUM.

- Squalus maculatus*, Bl. Schn., p. 130 (*not auctt.*).
Scyllium maculatum, Günth., Cat. viii, p. 401; Macleay, Aust. Cat. ii, p. 297; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 464.
Hab.—Australian seas (Günther.) Port Darwin and Port Jackson (Macleay). Grows to the length of 2 feet (Macleay).

CHILOSCYLLIUM OCELLATUM.

- Squalus ocellatus*, Gmel. Linn. i, p. 1494; Bl. Schn., p. 129.
Hemiscyllium ocellatum, Müll. & Henle, Plagiost., p. 16; Duméril, Elasmobr., p. 326.
Chiloscyllium ocellatum, Günth., Cat. viii, p. 410; Macleay, Aust. Cat. ii, p. 299; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 464.
Hab.—N. Australia; Port Jackson (Ogilby). Grows to the length of 3 feet.

CHILOSCYLLIUM MODESTUM.

- Günth., Proc. Zool. Soc. 1871, p. 654, pl. 54; Macleay, Aust. Cat. ii, p. 299.
Chiloscyllium furvum, Macleay, Aust. Cat. ii, p. 300.
Hab.—East coast of Australia; Port Jackson. *Dusky Dog-fish*. Grows to 3 feet in length.

CROSSORHINUS BARBATUS.

- Squalus barbatus*, Gmel. Linn., p. 1493.
Crossorhinus barbatus, Müll. & Henle, Plagiost., p. 21, pl. 5; Schleg., Faun. Japon. Poiss., p. 301; Duméril, Elasmobr., p. 338; Günth., Cat. viii, p. 414; Macleay, Aust. Cat. ii, p. 301; M'Coy, Prodr. Zool. Vict. dec. v, p. 43, f. 1; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 92, pl. 1, ff. 6-8; Tenison-Woods, Fisheries of N. S. Wales, p. 94.
 ——— *ornatus*, De Vis, Proc. Linn. Soc. N. S. Wales viii, p. 289.
Hab.—Japanese and Australian seas; Tasmania; Port Jackson. *Wobbegong* at Sydney. Attains to 8 feet long.

The Australian Museum possesses a specimen of the *Crossorhinus ornatus* of De Vis, taken at Port Stephens, but I can only consider it to be a well-marked variety of the ordinary form. A second specimen brought in from Port Jackson to-day (28th Sept., 1885) confirms this opinion; it measures 4½ feet.

HETERODONTIDÆ.

HETERODONTIDÆ.

HETERODONTUS PHILLIPI.

Squalus philippi, Bl. Schn., p. 134.

Heterodontus philippi, Blainv., Nouv. Bull. Sc. 1816, p. 121; Duméril, Elasmobr., p. 424; Miklouho-Maclay and Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 309, pls. 22-24.

Oestracion philippi, Cuv., Règne Anim.; Müll. & Henle, Plagiost., p. 76, pl. 31; Schleg., Faun. Japon. Poiss., p. 304; Strüver, Nov. Act. Acad. Carol. Leopold. Nat. cur. xxiii, 1864; Zaddach, Schr. Ges. Königsb. 1872, p. 6; Günth., Cat. viii, p. 415 and Study of Fishes, p. 329, ff. 119, 120 (jaws).

Hab.—Australian and New Zealand seas; Port Jackson, common. *Port Jackson Shark* of the fishermen; *Tabbigaw* of the aborigines. Attains a length of 4½ feet.

HETERODONTUS GALEATUS.

Oestracion galeatus, Günth., Cat. viii, p. 416 and Study of Fishes, p. 330, pl. 122.

Heterodontus galeatus, Miklouho-Maclay and Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 313, pl. 25.

Hab.—Coast of New South Wales. Grows to 3½ feet in length, and is common, but generally confounded with its congener.

SPINACIDÆ.

ACANTHIAS MEGALOPS.

Macleay, Aust. Cat. ii, p. 303; ? Richardson, Voy. Erebus and Terror Fishes, p. 44, pl. 28, ff. 1, 2.

Hab.—Port Jackson. Grows to 3 feet in length.

RHINIDÆ.

RHINA SQUATINA.

Squalus squatina, Linn., Syst. Nat. i, p. 308.

Squatina vulgaris, Müll. & Henle, Plagiost., p. 99, pl. 35, f. 4 (snout.); Schleg., Faun. Japon. Poiss., p. 305, pl. 86.

Rhina squatina, Raf. Ind., p. 45; Duméril, Elasmobr., p. 464; Günth., Cat. viii, p. 430, and Study of Fishes, p. 334; Macleay, Aust. Cat. ii, p. 304; M'Coy, Prodr. Zool. Vict. dec. iv, pl. 34; Day, Brit. Fishes ii, p. 326, pl. 163.

Hab.—Temperate and tropical seas; Port Jackson, common. *Angel Shark* of Sydney. Grows to 6 feet.

PRISTIOPHORIDÆ.

PRISTIOPHORUS CIRRATUS.

Pristis cirratus, Lath., Trans. Linn. Soc. ii, p. 281, pl. 26, ff. 5 & 27.

Pristiophorus cirratus, Müll. & Henle, Plagiost., p. 98; Günth., Cat. viii, p. 432; Macleay, Aust. Cat. ii, p. 305; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 98, pl. 1, ff. 9-12.

Hab.—South and east coasts of Australia; Tasmania; Port Jackson. *Saw Shark* of the fishermen. Attains to 4 feet in length.

Batoidei.

RHINOBATIDÆ.

RHYNCHOBATUS DJEDDENSIS.

Raja djiddensis, Forsk., Descr. Anim., p. 18.

Rhinobatus laevis, Bl. Schn. p. 354, pl. 71; Schleg., Faun. Japon. Poiss., p. 306, pl. 139.

Rhynchobatus laevis, Müll. & Henle, Plagiost., p. 111; Duméril, Elasmobr., p. 483.

Rhynchobatus djeddensis, Cant., Mal. Fish., p. 412; Günth., Cat. viii, p. 441; Klunz., Fisch. Roth. Meer. 1871, p. 674; Day, Fishes of India, p. 730, pl. 192, f. 1; Günther, Study of Fishes, p. 338, f. 125 (dentition); Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 465.

Hab.—East African, Indian, Japanese, and Australian seas; Port Jackson. Grows to the length of 7 feet.

RHINOBATUS GRANULATUS.

Rhinobatus rhinobatus, Bl. Schn., p. 353.

——— *granulatus*, Cuv., Règne Anim., Müll. & Henle, Plagiost., p. 117, pl. 38; Duméril, Elasmobr., p. 493; Günth., Cat. viii, p. 443; Day, Fishes of India, p. 732, pl. 192, f. 2; Macleay, Aust. Cat. ii, p. 307; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 465.

Hab.—East Indian and Australian seas; Port Jackson (Macleay). I have not seen a New South Wales example of this fish, which appears to have been confounded with the following by writers on the Australian fauna. Attains to 7 feet in length.

RHINOBATUS BOUGAINVILLEI.

Rhinobatus (Syrhina) bougainvillii, Müll. & Henle, Plagiost., p. 117; Duméril, Elasmobr., p. 491, pl. 10, f. 1 (mouth).

——— *bougainvillii*, Günth., Cat. viii, p. 445; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 464.

Hab.—Port Jackson. *Shovel-nosed Ray* of Sydney fishermen. Grows to the length of 4 feet.

TRYGONORHINA FASCIATA.

Müll. & Henle, Plagiost. p. 124, pl. 43; Duméril, Elasmobr., p. 502; Günth., Cat. viii, p. 448; Macleay, Aust. Cat. ii, p. 309; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 107, pl. 2, ff. 1-8.

Hab.—South and east coasts of Australia; Port Jackson, common. *Fiddler* of the Sydney fishermen. Attains a length of 4 feet.

TORPEDINIDÆ.

HYPNOS SUBNIORUM.

Duméril, Rev. Zool. 1852, p. 279, pl. 12, and Elasmobr., p. 520; Günth., Cat. viii, p. 453; Macleay, Aust. Cat. ii, p. 310; Tenison-Woods, Fisheries of N. S. Wales, p. 100; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 104, pl. 2, ff. 6 & 7.

Hab.—Australian seas: Port Jackson, common. *Numb-fish*, *Cramp-fish*, and *Torpedo*, of the fishermen. Attains 2 feet in length, and over.

RAIIDÆ.

RAIIDÆ.

RAIA AUSTRALIS.

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 461.

Hab.—Outside Port Jackson, in 50 fathoms. Largest specimen measures fifteen inches.

RAIA NITIDA.

Günth., Voy. Challenger Shore Fishes, p. 27, pl. 14, f. A.; Macleay, Aust. Cat. App., p. 63.

Hab.—Twofold Bay, in 120 fathoms. Specimen measures 8 inches in total length.

Raia temprieri is included by Tenison-Woods (Fisheries of N. S. Wales, p. 26); I know of no authentic record of its occurrence on our coast.

TRYGONIDÆ.

TRYGON PASTINACA.

Raia pastinaca, Linn., Syst. Nat., p. 396; Bl. Schn., p. 460.

Trygon pastinaca, Cuv., Règne Anim.; Müll. & Henle, Plagiost., p. 161; Duméril, Elasmobr., p. 603, Günth., Cat., viii, p. 478; Day, Brit. Fishes ii, p. 350, pl. 175; Macleay, Aust. Cat. ii, p. 313; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 100, pl. 2, ff. 10 & 11.

———— *akajei*, Müll. & Henle, l.c., p. 165, pl. 53; Schleg., Faun. Japon. Poiss., p. 308; Duméril, l.c., p. 604.

Trygon sayi, Müll. & Henle, l.c., p. 166; Duméril, l.c., p. 603.

Hab.—Atlantic Ocean; Mediterranean; Japanese, Chinese, and Australian seas; Port Jackson, (Günther).

TRYGON TUBERCOLATA.

Trygon tuberculatus, Lacép., Hist. Nat. des Poiss. ii, p. 106, pl. 4, f. 1; Duméril, Elasmobr., p. 605.

———— *sabina*, Müll. & Henle, Plagiost., p. 163; Duméril, l.c., p. 607.

———— *tuberculata*, Günth., Cat. viii, p. 480; Macleay, Aust. Cat. ii, p. 314.

Hab.—American region of the Tropical Atlantic; Port Jackson, (Günther).

UROLOPHUS TESTACEUS.

Trygonoptera testacea, Müll. & Henle, Plagiost., p. 174, pl. 56.

———— *muelleri*, Steind., Sitzgsber. Ak. Wiss. Wien liii, 1866, p. 479, pl. 6, f. 5 (young.)

———— *henlei*, Steind., l.c., f. 4 (half-grown).

———— *australis*, Steind., l.c., p. 480, pl. 7.

Urolophus testaceus, Günth., Cat. viii, p. 486; Macleay, Aust. Cat. ii, p. 315.

Hab.—Australian seas; Port Jackson, abundant. *Sting Ray* of the fishermen. Grows to the length of 30 inches.

UROLOPHUS BUCCULENTUS.

Macleay, Proc. Linn. Soc. N. S. Wales ix, p. 172.

Hab.—Outside Port Jackson, 40 to 60 fathoms.

PTEROPLATEA AUSTRALIS.

Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (in press).

Hab.—Capo Hawke. Breadth of disk 23 inches in the single specimen forwarded by Mr. J. Brown to the Australian Museum.

MYLIOBATIDÆ.

MYLIOBATIS AQUILA.

Raia aquila, Linn., Syst. Nat., p. 396; Bl. Schn., p. 360.

Myliobatis aquila, Cuv., Règne Anim.; Müll. & Henle, Plagiost., p. 176; Duméril, Elasmobr., p. 634;

Günth., Cat. viii, p. 489, and Study of Fishes, p. 344, f. 129 (*juvs*); Macleay, Aust. Cat. ii, p. 316; Day, Brit. Fishes ii, p. 352, pl. 176.

Hab.—Mediterranean and Atlantic; Port Jackson, (Günther).

MYLIOBATIS AUSTRALIS.

Macleay, Aust. Cat. ii, p. 316; McCoy, Prodr. Zool. Vict. dec. vii, pl. 63.

Hab.—Port Jackson.

AETOBATIS NARINARI.

Raja narinari, Euph., Vet. Ak. nya. Handl. 1790, xi, p. 217; Bl. Schn. p. 361.

Aetobatis narinari, Müll. & Henle, Plagiost., p. 179; Duméril, Elasmobr., p. 641; Günth., Cat. viii, p. 492; Day, Fishes of India, p. 743, pl. 194, f. 4; Macleay, Aust. Cat. ii, p. 317; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 466.

Hab.—Tropical seas; North Australia; Cape Hawke, N. S. Wales; two specimens presented to the Australian Museum by Mr. J. Brown. Attains to 6 feet in breadth of disk.

CERATOPTERA ALFREDI.

Kreffft, Macleay, Aust. Cat. ii, p. 317.

Hab.—Manly Beach. Specimen now measures about 11 feet in breadth of disk. It is impossible now to differentiate this species, so much has it been destroyed in the process of stuffing. A smaller example, 4½ feet in breadth of disk, taken in Middle Harbour, Port Jackson, is also irrecognizable from the same cause; there is however a short spine on the tail, (? *Cephaloptera*).

TELEOSTEI.

TELEOSTEI.

ACANTHOPTERYGII.

PERCIFORMES.

PERCIDÆ.

PERCA FLUVIATILIS.

Linn., Syst. Nat. 1766, p. 481; Cuv. & Val., Hist. Nat. des Poiss. ii, p. 20; Günth, Cat. i, p. 58; Steind., Ak. Wiss. Wien, SB, lxxviii, Abth. i, p. 399; Houghton, Brit. Fresh-water Fishes i, p. 1, pl. 1; Day, Brit. Fishes i, p. 2, pl. 1; Günth., Study of Fishes, chap. iii, & p. 375, pl. 151.

Hab.—Fresh waters of Europe, Siberia, and North America; introduced in many waters of New South Wales. *English Perch* of the colonists. Grows to the weight of eight lbs., but is commonly obtained of less than three.

LATES COLONORUM.

Günth., Ann. & Mag. Nat. Hist. 1863, p. 114; Macleay, Aust. Cat. i, p. 4; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 305; McCoy, Prodr. Zool. Vict. dec. ii, pl. 14; Tenison-Woods, Fisheries of N. S. Wales, p. 31, pl. 1.

Dules novem-aculeatus, Steind., Sitzgeber. Ak. Wiss. Wien 1866, liii, p. 428, t. 2, f. 1.

Lates curtus, Casteln., Res. on the Fishes of Australia, p. 5.

?——— *similis*, Casteln., Proc. Zool. Soc. Vict. i, p. 44.

?——— *antarcticus*, Casteln., l.c., p. 44.

?——— *victoria*, Casteln., l.c., p. 45.

Hab.—Eastern river system of New South Wales; Gippsland. The *Perch* of the colonists. Attains a weight of 5 lbs.

LATES RAMSAYI.

Macleay, Aust. Cat. i, p. 6.

Hab.—Fresh water pools above Parramatta. I hold the opinion, which is shared by Mr. E. P. Ramsay, that this is only a land-locked form of the preceding species.

ETELIS *sp.*

Günth., Voy. Challenger Shore Fishes, p. 27.

Hab.—Twofold Bay, 120 fathoms (?). Specimens 2½ inches long; supposed to be the young of *Etelis carbunculus*, Cuv. & Val.

ENOPLOSUS ARMATUS.

Chaetodon armatus, White, Voy. N. S. Wales, pl. 39, f. 1.

Enoplosus whitii, Lacép., Hist. Nat. des Poiss. iv, p. 541.

——— *armatus*, Cuv. & Val. ii, p. 133, pl. 20; Günth., Cat. i, p. 81; Macleay, Aust. Cat. i, p. 9; Tenison-Woods, Fisheries of N. S. Wales, p. 32, pl. 2.

Hab.—East and south coasts of Australia; Port Jackson, abundant. *Old wife*, at Sydney. Grows to the length of 9 inches.

ANTHIAS LEPIDOPTERUS.

Perca lepidoptera, Forst., Descr. Anim, p. 138.

Epinephelus lepidopterus, Bl. Schn., p. 302.

Serranus lepidopterus, Rich., Ann. Nat. Hist. 1842, ix, p. 18.

Anthias richardsonii, Günth., Proc. Zool. Soc. 1869, p. 429, and Ann. Nat. Hist. 1876, xvii (4), p. 39; Macleay, Aust. Cat. i, p. 12.

Scorpiæ hectori, Hutt., Fishes of N. Zeal., p. 4, f. 4, and Trans. N. Zeal. Inst. v, p. 259, pl. 7, and op. cit. ix, p. 353.

Hab.—New Zealand, Tasmania, Port Jackson, one specimen in the Macleay Museum, taken in April, 1885. Attains a length of 12 inches.

CAPRODON SCHLEGELII.

Caprodon, Schleg. Faun. Japon Poiss., p. 64, pl. 30; Rich., Ichthyol. China, p. 235 (*male*).

Anthias schlegelii, Günth., Cat. i, p. 93 (*male*).

——— *longimanus*, Günth., Cat. i, p. 94; Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 294; Macleay, Aust. Cat. i, p. 12; Tenison-Woods, Fisheries of N. S. Wales, p. 33, pl. 3 (*female*).

Neoanthias guentheri, Casteln., Proc. Linn. Soc. N. S. W. iii, p. 367 (*male*).

Caprodon schlegeli, Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 231.

Hab.—Japan; Port Jackson, scarce, in summer only. *Longfin*, (Tenison-Woods). Attains a length of 15 inches.

SERRANUS DEMELI.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 391; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 365; Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 254; Tenison-Woods, Fisheries of N. S. Wales, p. 33.

Hab.—N. S. Wales coast; Normanby Island, D'Entrecasteaux Group, in fresh water. *Black rock-cod*, of Port Jackson. Grows to the length of 2 feet, and is an excellent fish for the table.

SERRANUS GUTTULATUS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 33, pl. 2.

Hab.—Port Jackson. Grows to 14 inches in length.

SERRANUS UNULATO-STRIATUS.

Peters, Monatsber. Ak. Wiss. Berlin 1866, p. 519; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 366.

Hab.—Port Jackson. Specimen measured 11 inches.

SERRANUS

SERRANUS MERRA.

Epinephelus merra, Bl., t. 329 (not Bleeker).

Serranus gilberti, Rich., Ann. Nat. Hist. 1842, p. 19, & Ichthyol. China, p. 230; Günth., Cat. i, p. 148, & i, p. 141 (part); Macleay, Aust. Cat. i, p. 19; Day, Fishes of India, pp. 13 & 746, pl. 2, f. 2.

————— *megachir*, Rich., Ichthyol. China, p. 230.

————— *ardalis*, Bleek., Atl. Ichthyol. Perc. p. 37, t. 44, f. 3.

Hab.—Red Sea; Indian, Chinese and Malayan seas; north and east coast of Australia; Port Jackson, rare. 9 inches in length.

SERRANUS FUSCO-GUTTATUS.

Rüpp., Atl. Fische, p. 108, t. 27, f. 2; Günth., Cat. i, p. 127; Kner, Voy. Novara Fische, p. 22; Macleay, Aust. Cat. i, p. 16; Day, Fishes of India, p. 22, pl. 5, f. 3.

Serranus horridus, Cuv. & Val. ii, p. 321; Günth., Cat. i, p. 136.

————— *geographicus*, Cuv. & Val. ii, p. 322; Günth., Cat. i, p. 150.

————— *dispar*, Playf., Fishes of Zanzibar, p. 6, pl. i, ff. 2, 3.

Epinephelus horridus, Bleek., Atl. Ichthyol. Perc., t. 29, f. 3.

Hab.—East African, Indian, and Malayan seas; north and east coasts of Australia; Port Jackson, rare. Ten inches long.

Count Castelnau, in a list of Port Jackson fishes (Proc. Linn. Soc. N. S. Wales iii, p. 349), includes *Serranus guttatus*, C. & V. In the absence of the specimen or of a description I am unable to determine whether *S. miniatus* (Forsk.) Rüpp., or *S. guttatus*, (Bl.) Peters is intended.

PLECTROPOMA NIGRO-RUBRUM.

Cuv. & Val. ii, p. 402; Quoy & Gaim., Voy. Astrolabe Poiss., p. 659, pl. 4, f. 1; Günth., Cat. i, p. 158; Macleay, Aust. Cat. i, p. 22; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 119.

Hab.—Southern and eastern coasts of Australia; Port Jackson, scarce. Attains a length of 10 inches.

PLECTROPOMA ANNULATUM.

Günth., Cat. i, p. 158, & Brenc., Cruise of the Curaçoa, p. 415, pl. 28, f. B; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 369.

Hab.—Port Jackson. Grows to 8 inches in length.

PLECTROPOMA SEMICINCTUM.

Cuv. & Val. ix, p. 442; Gay, Hist. Chile Zool., p. 153, Ictiol. pl. 2, f. 1; Günth., Cat. i, p. 160; Macleay, Aust. Cat. i, p. 22.

Hab.—Chili; Juan Fernandez; West Australia; Port Jackson. Eight inches long.

PLECTROPOMA OCELLATUM.

Günth., Cat. i, p. 504, and Brenc., Cruise of the Curaçoa, p. 416, pl. 29; Macleay, Aust. Cat. i, p. 23; Temison-Woods, Fisheries of N. S. Wales, p. 34, pl. 4.

Plectropoma cyanostigma, Günth., Cat. i, p. 161, (not Bleeker).

————— *myriaster*, Steind., Sitzgaber. Ak. Wiss. Wien 1866, liii, p. 426, t. 1, f. 3.

Hab.—Australian seas; Port Jackson, common. *Wirrah* of the Aborigines. Grows to 12 inches in length. A very inferior fish for the table.

PLECTROPOMA SUSUKI.

Cuv. & Val. ii, p. 404; Schleg., Faun. Japon. Poiss., p. 11, pl. 4, f. 1; Rich., Ichthyol. China, p. 230; Günth., Cat. i, p. 160, and Proc. Zool. Soc. 1867, p. 100; Macleay, Aust. Cat. i, p. 23; Day, Fishes of India, p. 20.

? *Perca septem-fasciata*, Thunb., Nov. Ac. Stock. 1793, pl. 1, f. 1.

Hab.—Chinese and Japanese seas; Port Jackson (Günther). Attains a length of 12 inches.

Count Castelnau claims to have obtained a specimen of *Plectropoma serratum* (C. & V.) from Port Jackson, but his description (Proc. Linn. Soc. N. S. Wales iii, p. 368) applies more closely to *P. ocellatum*.

LUTIANUS BENGALENSIS.

Holocentrus bengalensis, Bl., t. 246, f. 2.

Diacope octolineata, Cuv. & Val. ii, p. 418, & vi, p. 526 (part); Schleg., Faun. Japon. Poiss., p. 12, pl. 6, f. 2; Rich., Ichthyol. China, p. 229.

Genyoroge bengalensis, Günth., Cat. i, p. 178; Macleay, Aust. Cat. i, p. 28.

Mesoprion bengalensis, Kner, Voy. Novara Fische, p. 31; Günth., Fische d. Sudsee, p. 12.

Diacopus bengalensis, Casteln. Proc. Linn. Soc. N. S. Wales iii, p. 349.

Lutianus bengalensis, Bleek., Atl. Ichthyol. Perc., t. 24, f. 3; Day, Fishes of India, p. 33, pl. 10, f. 4.

Hab.—From the east African coast to Polynesia; Port Jackson. Grows to a length of 10 inches.

LUTIANUS JOHNNI.

Anthias johnii, Bl., t. 318.

Mesoprion johnii, Cuv. & Val. ii, p. 443; Günth., Cat. i, p. 200; Kner, Voy. Novara Fische, p. 35; Günth., Fische d. Sudsee, p. 15; Macleay, Aust. Cat. i, p. 29.

Lutianus johnii, Day, Fishes of India, p. 42, pl. 13, f. 1.

Hab.—East African, Indian, and Malayan seas; North Australia; Richmond River, one specimen from Mr. T. Temperley (Ogilby). Grows to a length of at least 12 inches.

LUTIANUS FULVIFLAMMA.

Sciæna fulviflamma, Forsk., Descr. Anim., p. 45.

Diacope fulviflamma, Rüpp., Atl. Fische, p. 72, t. 19, f. 2; Cuv. & Val. ii, p. 423.

Hab.—From the east coast of Africa to Australia; Bellinger River, N.S. Wales.

LUTIANUS MACLEAYANUS.

Ramsay, Proc. Linn. Soc. N. S. Wales viii, p. 178.

Hab.—Port Jackson. Specimen measures 30 inches.

LUTIANUS

LUTIANUS MARGINATUS.

Diacope marginata, Cuv. & Val. ii, p. 425.

Mesoprion marginatus, Kner, Voy. Novara Fische, p. 31; Günth., Fische d. Sudsee, p. 13, t. 14.

Genyoroge marginata, Günth., Cat. i, p. 181.

Lutianus marginatus, Bleek., Lutian., p. 72; Day, Fishes of India, p. 44, pl. 13, f. 5.

Hab.—From the east African seas to Polynesia; Port Jackson (Kner). Attains at least 16 inches in length.

GLAUCOSOMA SCAPULARE.

Ramsay, (M. SS.), Macleay, Aust. Cat. i, p. 34, pl. 13; Tenison-Woods, Fisheries of N. S. Wales, p. 34.

? *Glaucosoma bürgeri*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 350.

Hab.—Port Jackson. Grows to a length of 20 inches at least. An excellent food fish.

MURRAYIA GUENTHERI.

Casteln., Proc. Zool. Soc. Vict. i, p. 61; Macleay, Aust. Cat. i, p. 56.

Hab.—Murray River. Average length, 14 inches. Klunzinger considers this fish identical with *Macquaria australasica*.

MURRAYIA CYPRINOIDES.

Casteln., Proc. Zool. Soc. Vict. i, p. 62; Macleay, Aust. Cat. i, p. 57.

Hab.—Murray River. Attains a length of 12 inches.

MURRAYIA BRAMOIDES.

Casteln., Proc. Zool. Soc. Vict. i, p. 63; Macleay, Aust. Cat. i, p. 57.

Hab.—Murray River, rare. Length, 12 inches.

MURRAYIA RIVERINA.

Dules riverinus, Krefft, Proc. Zool. Soc. 1867, p. 943.

Murrayia riverina, Macleay, Aust. Cat. i, p. 58.

Hab.—Murray River and its tributaries.

MURRAYIA JENKINSI.

Macleay, Proc. Linn. Soc. N. S. Wales x, p. 268.

Hab.—Yass district of the Murrumbidgee. Specimen measured 5 inches.

RIVERINA FLUVIATILIS.

Casteln., Proc. Zool. Soc. Vict. i, p. 64; Macleay, Aust. Cat. i, p. 58.

Hab.—Murray River.

MACQUARIA AUSTRALASICA.

Cuv. & Val. v, p. 377, pl. 131; Less., Voy. Coquille Zool. ii, p. 194, pl. 14, f. 1; Günth., Cat. i, p. 286;

Macleay, Aust. Cat. i, p. 59.

Hab.—Macquarie River.

CTENOLATES AMBIGUUS.

Dania ambigua, Rich., Voy. Erebus & Terror Fishes, p. 25, pl. 19.

Dules ambiguus, Günth., Cat. i, p. 270; Klunz., S.B. Ak. Wien lxxx, Abth. i, p. 337, pl. 1, f. 1.

——— *auratus*, Casteln., Proc. Zool. Soc. Vict. i, p. 55.

Ctenolates macquariensis, Günth., Proc. Zool. Soc. 1871, p. 390, pl. 33.

——— *ambiguus*, Macleay, Aust. Cat. i, p. 54; Tenison-Woods, Fisheries of N.S. Wales, p. 103.

Hab.—All the rivers of the Murray system. *Golden Perch* and *Yellow-belly* of the colonists; *Kaakaalain* of the Murrumbidgee aboriginals. Attains a length of at least 16 inches.

CTENOLATES CHRISTYI.

Dules christyi, Casteln., Proc. Zool. Soc. Vict. i, p. 57.

Ctenolates christyi, Macleay, Aust. Cat. i, p. 55.

Hab.—Edwards River, near Deniliquin.

CTENOLATES FLAVESCENS.

Dules flavescens, Casteln., Res. on the Fishes of Australia, p. 10.

Ctenolates flavescens, Macleay, Aust. Cat. i, p. 55.

Hab.—Murray River. Specimen measured 19 inches.

Steindachner (Sitzber. Ak. Wiss. Wien lvi, p. 320) describes a *Dules reinhardtii*. I have not had an opportunity of seeing the description of this species, and am therefore unable to include it in my list. The example is said to be from Port Jackson.

THERAPON CUVIERI.

Pristipoma sex-lineatum, Quoy & Gaim., Voy. Freyc. Poiss., p. 320.

Pelates sex-lineatus, quadri-lineatus, et quinque-lineatus, Cuv. & Val. ii, p. 146, et seq., pl. 55; Less., Voy. Coquille Zool. ii, p. 223.

Therapon cuvieri, Bloek., Nat. Tydschr. Nederl. Indie vi, p. 211, and Atl. Ichthyol. Perc., pl. 37, f. 2; Günth., Cat. i, p. 282; Macleay, Aust. Cat. i, p. 62.

Hab.—Sea of Timor; South coast of New Guinea; North and east coasts of Australia; Port Jackson, abundant. *Mado* and *Trumpeter Perch* at Sydney. Grows but rarely to a length of 12 inches. Of no commercial value.

Our fish is certainly distinct from that described as *Therapon quadri-lineatus*, Bl., by Day (Fishes of India, p. 70, pl. 18, f. 5), below which he places *T. cuvieri*, Bleek., as a synonym.

THERAPON RICHARDSONII.

Casteln., Proc. Zool. Soc. Vict. i, p. 60; Macleay, Aust. Cat. i, p. 64; Tenison-Woods, Fisheries of N. S. Wales, p. 104.

Hab.—Rivers of the Murray system. *Silver Perch* or *Bream* of the colonists; *Kooberry* of the Murrumbidgee aboriginals.

THERAPON

THERAPON NIGER.

Casteln., Proc. Zool. Soc. Viet. i. p. 59; Macleay, Aust. Cat. i, p. 65.

? *Datnia elliptica*, Rich., Voy. Erebus and Terror Fishes, p. 118, pl. 52, ff. 4-8; Günth., Cat. i, p. 276; Macleay, Aust. Cat. i, p. 63.

Hab.—? Rivers of Western Australia; Murray River, rare. Specimen 16 inches in length.

THERAPON UNICOLOR.

Günth., Cat. i, p. 277; Kner, Sitzgsber. Ak. Wiss. Wien lviii, p. 299, t. 2, f. 4, var.; Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 16, and Aust. Cat. i, p. 65.

Hab.—Northern rivers of N. S. Wales; Warialda. Attains at least 7 inches in length.

THERAPON MACLEAYANUS.

Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 831.

Hab.—Macquarie River. Spawning in November.

Count Castelnau records (Proc. Linn. Soc. N. S. Wales iii, p. 350) *Therapon serrus*, Bl. from Port Jackson; it is very doubtful whether his identification was correct.

HELOTES SEXLINEATUS.

Therapon sexlineatus, Quoy & Gaim., Voy. Freyc. Poiss., pl. 60, f. 1.

Helotes sexlineatus, Cuv. & Val. iii, p. 149, pl. 56; Günth., Cat. i, p. 285; Kner, Voy. Novara Fische, p. 46, t. 3, f. 1; Bleek., Atl. Ichthyol. Perc., pl. 64, f. 5; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 348, and Aust. Cat. i, p. 68.

Hab.—Australian coasts; Port Jackson. Attains a length of 7 inches.

AGENOR MODESTUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 371.

Hab.—Port Jackson. Length of specimen 4 inches.

HYPEROGLYPHE POROSA.

Diagramma porosa, Rich., Voy. Erebus and Terror Fishes, p. 26, pl. 16, ff. 5, 6.

Hyperoglyphe porosa, Günth., Cat. i, p. 337; Macleay, Aust. Cat. i, p. 72.

Hab.—Coasts of Australia; Port Jackson, (Kreff). Typical specimen 5½ inches long.

LOBOTES SURINAMENSIS.

Holocentrus surinamensis, Bl., t. 243.

Lobotes surinamensis, Cuv. & Val. v, p. 319; Day, Fishes of India, p. 84, pl. 21, f. 5.

—— *somnolentus*, Cuv. & Val. v, p. 32.

—— *auctorum*, Günth., Cat. i, p. 338; Macleay, Aust. Cat. i, p. 75.

Hab.—East African, Indian, and Malayan seas; Port Jackson; Endeavour River, var. *somnolentus* (Macleay). Grows to the length of 2 feet. An excellent food fish.

HISTIOPTERUS LABIOSUS.

Günth., Proc. Zool. Soc. 1871, p. 658, pl. 59; Macleay, Aust. Cat. i, p. 74.

Richardsonia insignis, Casteln., Proc. Zool. Soc. Viet. i, p. 112.

Hab.—South coast of Australia; Botany Bay; Port Jackson; scarce. Attains a length of 30 inches at least.

GERRES OVATUS.

Günth., Cat. i, p. 343; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 391; Macleay, Aust. Cat. i, p. 76; Tenison-Woods, Fisheries of N. S. Wales, p. 43.

Hab.—South-east coast of Australia; Port Jackson, common. *Silver Bream* and *Silver Belly* of the Sydney fishermen. Grows to 8 inches in length.

GERRES SUBFASCIATUS.

Cuv. & Val. vi, p. 477; Günth., Cat. i, p. 343; Macleay, Aust. Cat. i, p. 77.

Hab.—Port Jackson. Grows to a length of 6 inches.

GERRES ARGYREUS.

Sciæna argyrea, Forst.

Cichla argyrea, Bl. Schn., p. 344.

Gerres waigiensis, Quoy & Gaim., Voy. Freyc. Zool., p. 292.

Gerres argyreus, Cuv. & Val. vi, p. 478; Günth., Cat. i, p. 352; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 62, & Aust. Cat. i, p. 78.

Hab.—From the Red Sea through the Malay Archipelago to the Solomon Islands; Port Jackson (Günther); Richmond River (Ogilby). Attains a length of at least 5 inches.

PENTAPUS SETOSUS.

Cuv. & Val. vi, p. 270; Günth., Cat. i, p. 382; Bleek., Atl. Ichthyol. Perc., pl. 46, f. 1; Kner, Voy. Novara Fische, p. 60; Macleay, Aust. Cat. i, p. 85.

Hab.—Madras & Singapore (Kner); Batavia (Günther); North coast of Australia; Port Jackson (Macleay). Grows to a length of 10 inches.

APHAREUS ROSEUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 373.

Hab.—Port Jackson (Castelnau). Specimen measured nearly 24 inches.

OLIGORUS MACQUARIENSIS.

Grystes macquariensis, Cuv. & Val. iii, p. 58; Rich., Voy. Erebus & Terror Fishes, p. 118, pl. 53, ff. 8, 9.

—— *peclii*, Mitch., Exped. Austr., pl. 5, f. 1.

Oligorus

Oligorus macquariensis, Günth., Cat. i, p. 251, and Study of Fishes, p. 392, f. 164; Macleay, Aust. Cat. i, p. 52; and Proc. Linn. Soc. N. S. Wales viii, p. 200; Tenison-Woods, Fisheries of N. S. Wales, p. 102, pl. 41.

Hab.—Murray River and its tributaries; northern rivers of the eastern watershed of N. S. Wales. *Murray Cod* of the colonists; *Kookoobul* of the Murrumbidgee aboriginals; *Pundy* on the Lower Murray. Attains a weight of 120 lbs. An excellent food fish. Spawns from November to January.

OLIGORUS MITCHELLI.

Casteln., Proc. Zool. Soc. Viet. ii, p. 150; Macleay, Aust. Cat. i, p. 53; Tenison-Woods, Fisheries of N. S. Wales, p. 103.

Hab.—Rivers of the western watershed of N. S. Wales and Victoria. *Murray Perch* of the fishermen. Grows to a large size. An excellent table fish. I think it probable that this will prove to be identical with the preceding; the differences which have been pointed out are easily attributable to sexual and seasonal causes, insufficiency of food, disease, &c.

OLIGORUS GIBBICEPS.

Macleay, Proc. Linn. Soc. N. S. Wales x, p. 265.

Hab.—Murrumbidgee River, near Yass. Specimen measures 8 inches. An Alpine form.

ARRIPIS SALAR.

Centropristes salar, Rich., Trans. Zool. Soc. iii, p. 78, and Voy. Erebus and Terror Fishes, p. 29, pl. 20, ff. 4-6.

——— *tasmanicus*, Hombr. & Jacq., Voy. au Pôle Sud Poiss., p. 40, pl. 4, f. 1.

? ——— *truttaceus*, Cuv. & Val. iii, p. 50.

Arripis salar, Günth., Cat. i, p. 253, and Study of Fishes, p. 393, f. 165; M'Coy, Prodr. Zool. Viet. dec. ii, pls. 16, 17; Macleay, Aust. Cat. i, p. 51; Tenison-Woods, Fisheries of N. S. Wales, p. 35, pl. 5.

Hab.—New Zealand; Norfolk Island; South and east coasts of Australia; Port Jackson, common. *Salmon* of the fishermen when full grown; *Salmon Trout* when of medium size. Attains a length of 2 feet. A poor fish for the table, but of considerable commercial value on account of its size and abundance.

ARRIPIS GEORGIANUS.

Centropristes georgianus, Cuv. & Val. vii, p. 451; Rich., Voy. Erebus and Terror Fishes, p. 117, pl. 54, ff. 3-6.

Arripis georgianus, Jenyns, Voy. Beagle, p. 14; Günth., Cat. i, p. 253; Macleay, Aust. Cat. i, p. 50.

Hab.—South and west coast of Australia; Norfolk Island; Port Jackson, (Günther). *Ruffy* of Victorian fishermen, (M'Coy). Grows to a length of 12 inches.

AMBASSIS COMMERSONII.

Centropomus ambassis, Lacép. iv, p. 273.

Ambassis commersonii, Cuv. & Val. ii, p. 176, pl. 25; Günth., Cat. i, p. 223; Bleek., Atl. Ichthyol. Perc., t. 74, f. 1; Day, Fishes of India, p. 52, pl. 15, f. 3; Macleay, Aust. Cat. i, p. 37, and Proc. Linn. Soc. N. S. Wales viii, p. 255; Kner, Voy. Novara Fische, p. 41.

Hab.—From the Red Sea through those of India to North-east Australia; Richmond River; specimens obtained by Mr. T. Temperley (Ogilby). Enters fresh water. Attains a length of 6 inches.

AMBASSIS AGASSIZII.

Steind., Sitzsber. Ak. Wiss. Wien lv, 1867, p. 9; Günth., Ann. Nat. Hist. 1867, xx, p. 57; Macleay, Aust. Cat. i, p. 38.

Hab.—Queensland, (Steindachner); Clarence River, (Kreffl).

AMBASSIS CASTELNAUI.

Pseudoambassis castelnaui, Macleay, Aust. Cat. i, p. 30.

Hab.—Murrumbidgee River.

AMBASSIS RAMSAYI.

Pseudoambassis ramsayi, Macleay, Aust. Cat. i, p. 40.

Hab.—Port Jackson. Specimen measures 3 inches.

AMBASSIS JACKSONIENSIS.

Pseudoambassis jacksoniensis, Macleay, Aust. Cat. i, p. 40.

Hab.—Port Jackson. Average length 2 inches.

NANNOPERCA AUSTRALIS.

Günth., Proc. Zool. Soc. 1861, p. 116, pl. 19, f. 2; Macleay, Aust. Cat. i, p. 42.

Paradules latus, Klunz.

Hab.—Murray River. Grows to the length of 3 inches.

NANNOPERCA RIVERINE.

Macleay, Aust. Cat. i, p. 42.

Hab.—Murrumbidgee River. Length of specimen 2 inches.

APOGON FASCIATUS.

Mullus fasciatus, White, Voy. N. S. Wales, p. 268, f. 1.

Apogon novem-fasciatus, Cuv. & Val. ii, p. 154; Kner, Voy. Novara Fische, p. 43.

——— *fasciatus*, Quoy & Gaim., Voy. Freyc. Zool. p. 344; Günth., Cat. i, p. 241, and Fische d. Sulsee, p. 19, pl. 20, ff. A, B; Kner, Voy. Novara Fische, p. 43; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 267; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 370; Macleay, Aust. Cat. i, p. 43.

——— *aroubiensis*, Hombr. & Jacq., Voy. au Pôle Sud. Poiss., p. 31, pl. 1, f. 1.

——— *balinensis*, Bleek., Perc. p. 28.

Apogon endeka-tania, Bleek., Banka, p. 449.

Amia fasciata, Gill, Proc. Nat. Soc. Phil. 1863; Bleek, Atl. Ichthyol. Perc. t. 48, f. 4.

— *endeka-tania*, Bleek., Atl. Ichthyol. Perc. t. 32, f. 2.

Hab.—East African, Indian, Malayan, and Australian seas; Fiji Islands; Port Jackson, common. Attains a length of 5 inches. A very variable species.

APOGON GUENTHERI.

Apogon guntheri, Casteln., Proc. Zool. Soc. Vict. i, p. 45; Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 110; Macleay, Aust. Cat. i, p. 45.

? — *novæ-hollandiæ*, Val., Nouv. Ann. Mus. Hist. Nat. 1832, p. 55, pl. 4, f. 2; Günth., Ann. Nat. Hist. xx, 1867, p. 58; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 350.

Hab.—Coasts of Tasmania, Victoria, and New South Wales. Grows to the length of 4 inches.

APOGON QUADRIFASCIATUS.

Cuv. & Val. ii, p. 153; Günth., Cat. i, p. 239; Kner, Voy. Novara Fische, p. 43; Macleay, Aust. Cat. i, p. 44.

Amia quadrifasciata, Bleek., Atl. Ichthyol. Perc. t. 57, f. 1.

Hab.—Indian, Japanese, and Malayan seas; North Australia; Sydney, (Kner).

APOGON GILLII.

Apogonichthys gillii, Steind., Sitzgsber. Ak. Wiss. Wien lv, 1867, p. 11, t. 1, f. 1; Macleay, Aust. Cat. i, p. 47, and Proc. Linn. Soc. N. S. Wales viii, p. 200.

Apogon gillii, Günth., Ann. Nat. Hist. (4) xvii, p. 392.

Mionurus lunatus, Krefft, Proc. Zool. Soc. 1867, p. 912 (*type specimen in the Australian Museum*).

Hab.—Rockhampton (Dämel); Cox's River (Krefft). Specimen measures nearly 6 inches.

PRIACANTHUS MACRACANTHUS.

Cuv. & Val. iii, p. 108; Less., Voy. Coquille Zool. Poiss., p. 225; Günth., Cat. i, p. 220; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 369; Tenison-Woods, Fisheries of N. S. Wales, p. 35.

Priacanthus bleekeri, Casteln., Proc. Zool. Soc. Vict. ii, p. 100.

Hab.—Japan; Batavia; Port Jackson, in May (Casteln.). Attains a length of 12 inches.

PRIACANTHUS BENMEBARI.

Schleg., Faun. Japon. Poiss., p. 19, pl. 7, f. 1; Rich., Ichthyol. China, p. 237; Günth., Cat. i, p. 218, and Ann. Nat. Hist. 1867, xx, p. 57; Macleay, Aust. Cat. i, p. 37.

Hab.—Japanese seas; Port Jackson (Günther). Attains a length of one foot.

DINOLESTES MUELLERI.

Klunz., Arch. f. Nat. 1872, p. 29, t. 3.

Neosphyraena multiradiata, Casteln., Proc. Zool. Soc. Vict. i, p. 96.

Lanioperca mordax, Günth., Ann. Nat. Hist. 1872, x, p. 183; Macleay, Aust. Cat. ii, p. 36; Tenison-Woods, Fisheries of N. S. Wales, pl. 29.

? *Esox lewini*, Griff. Cuv. An. Kingd., ed. x, p. 465, pl. 60, 1834; Gill, Ann. Nat. Hist. (4) xiv, p. 159.

Hab.—Tasmanian, Victorian, and New South Wales coasts. *Sea-pike* of the Sydney market.

SQUAMIPINNES.

CHETODON AURIGA.

Forsk., p. 60; Bl. Schn., p. 226; Cuv. & Val. vii, p. 79; Günth., Cat. ii, p. 7; Day, Fishes of India, p. 106, pl. 27, f. 3.

Chætodon setifer, Bl., t. 425, f. 1; Cuv. & Val. vii, p. 76; Günth., Cat. ii, p. 6, and Fische d. Sudsee, p. 36, t. 26, f. B; Kner, Voy. Novara Fische, p. 97; Macleay, Aust. Cat. i, p. 89.

Hab.—From the Red Sea to Polynesia; Cape York (Castelnau); Sydney (Kner).

CHETODON NESOGALLICUS.

Cuv. & Val. vii, p. 63; Günth., Cat. ii, p. 10, and Voy. Challenger Shore Fishes, p. 27.

Hab.—Indian Ocean and Archipelago; Botany Bay (Günther).

CHETODON OLIGACANTHUS.

Platax ocellatus, Cuv. & Val. vii, p. 299; Cantor, Cat. p. 170.

Chætodon oligacanthus, Bleek., Verh. Bat. Gen. xxiii, Chætod., p. 16; Günth., Cat. ii, pp. 34 and 516; Kner, Voy. Novara Fische, p. 102; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 351, and Aust. Cat. i, p. 88; Day, Fishes of India, p. 109.

Hab.—Indian and Malayan seas; Philippine Islands; Port Darwin and Port Jackson (Macleay).

CHETODON STRIGATUS.

Cuv. & Val. vii, p. 25, pl. 120; Schleg., Faun. Japon. Poiss., p. 80, pl. 41, f. 1; Günth., Cat. ii, p. 34, and Fische d. Sudsee, p. 47; Macleay, Aust. Cat. i, p. 87.

? *Neochætodon vittatum*, Casteln., Proc. Zool. Soc. Vict. ii, p. 130, and Proc. Linn. Soc. N. S. Wales iii, p. 375; Macleay, Aust. Cat. i, p. 90.

Hab.—Chinese and Japanese seas; Port Jackson (Castelnau); ? W. Australia (Castelnau); Clarence River (Ogilby). Length 5 inches, sent by Mr. T. Temperley.

CHETODON SEXFASCIATUS.

Rich., Ann. Nat. Hist. x, 1842, p. 26; Günth., Cat. ii, p. 35; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 3; Macleay, Aust. Cat. i, p. 88.

Hab.—West Coast of Australia; Port Jackson (Krefft).

CHELMO TRUNCATUS.

Kner, Sitzgsber. Ak. Wiss. Wien xxxiv, p. 442, t. 2; Günth., Cat. ii, p. 516; Macleay, Aust. Cat. i, p. 92.
Hab.—King George's Sound; Port Hacking; Port Jackson. Attains a length of 8 inches.

SCATOPHAGUS ARGUS.

Chatodon argus, Linn. Gmel., p. 1248; Bl., t. 204, f. 1.
Scatophagus argus, Cuv. & Val. vii, p. 136; Günth., Cat. ii, p. 58, and Ann. Nat. Hist. 1867, p. 58; Kner, Voy. Novara Fische, p. 106; Day, Fishes of India, p. 114, pl. 29, f. 3, and Journ. Linn. Soc. xi, p. 524; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 234; Macleay, Aust. Cat. i, p. 95.

——— *ornatus*, Cuv. & Val. vii, p. 143, pl. 180; Günth., Cat. ii, p. 59 (*young*).
Hab.—Indian, Chinese, and Australian seas, entering rivers; Port Jackson. Grows to the length of 14 inches. Said to be a well flavored fish, but seldom eaten on account of its reputation for foul feeding.

SCATOPHAGUS MULTIFASCIATUS.

Rich., Voy. Erebus and Terror Fishes, p. 57, pl. 35, ff. 4-6; Günth., Cat. ii, p. 60; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 277; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 235, and iii, p. 376; Macleay, Aust. Cat. ii, p. 96.

Hab.—Coasts of Australia; Port Jackson. Attains a length of 16 inches.

SCORPIS EQUIPINNIS.

Rich., Voy. Erebus and Terror Fishes, p. 121; Günth., Cat. ii, p. 64; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 376; Macleay, Aust. Cat. i, p. 97; Tenison-Woods, Fisheries of N. S. Wales, p. 37, pl. 6.

Scorpius boops, Peters, Monatsber. Ak. Wiss. Berlin 1866, p. 519.

——— *lineolata*, Kner, Voy. Novara Fische, p. 108, pl. 5, f. 3.

Hab.—Australian coasts; Port Jackson, abundant. The *Swoep* of the Sydney market. Grows to a foot in length.

ATYPUS STRIGATUS.

Günth., Cat. ii, p. 64; Macleay, Aust. Cat. i, p. 98.

Atypichthys strigatus, Günth., Cat. iv, p. 510 (*note*); Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 375; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 435, pl. 4, f. 2.

Hab.—Swan River; coast of New South Wales. *Mado* of the Sydney fishermen, by whom it is confounded with *Therapon cuvieri*. Grows to a length of 6 inches.

MULLIDÆ.

HYPNEOIDES TRAGULA.

Upeneus tragula, Rich., Ichthyol. China, p. 220.

Upeneoides tragula, Günth., Cat. i, p. 398; Kner, Voy. Novara Fische, p. 66; Day, Fishes of India, p. 121, pl. 30, f. 4; Bleek, Atl. Ichthyol. Mull. pl. 2, f. 2; Macleay, Aust. Cat. i, p. 102.

Hab.—From the east coast of Africa to the Malay Archipelago; north coast of Australia; Port Jackson. Attains at least 4½ inches in length (Day).

HYPNEUS VLAMINGII.

Upeneus Vlamingii, Cuv. & Val. iii, p. 452, pl. 71; Rich., Ann. Nat. Hist. 1842, ix, p. 211.

Upeneoides vlamingii, Günth., Cat. i, p. 400; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 372; Macleay, Aust. Cat. i, p. 103.

Upeneichthys vlamingii, Hector, Trans. N. Zeal. Inst. ix, p. 465, pl. 9, f. 5, & Ann. Nat. Hist. (4) xix, p. 340.

Hab.—Queen Charlotte's Sound (Richardson); Port Phillip; Port Jackson, common. Attains to a foot in length. An excellent table fish.

Dr. Hector is undoubtedly correct in removing this species from the genus *Hypeneoides*; it has no palatine teeth.

HYPNEUS POROSUS.

Upeneus porosus, Cuv. & Val. iii, p. 455; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 371; Macleay, Aust. Cat. i, p. 105.

Upeneichthys porosus, Günth., Cat. i, p. 400.

Hab.—New Zealand; Tasmania; Australia; Port Jackson; not common, February to May. (Castelnau). *Pink-check* at Sydney (Castelnau).

HYPNEUS SIGNATUS.

Upeneus signatus, Günth., Ann. Nat. Hist. 1867, xx, p. 59; Macleay, Aust. Cat. i, p. 106.

Hab.—Port Jackson. Grows to 6 inches long.

SPARIDÆ.

PACHYMETOPON GRANDE.

Günth., Cat. i, p. 424; Macleay, Aust. Cat. i, p. 106.

Hab.—Port Jackson. Attains a length of 18 inches.

GIRELLA TRICUSPIDATA.

Box tricuspidatus, Quoy & Gaim., Voy. Freyc. Zool., p. 296.

Oblata tricuspidata, Cuv. & Val. vi, p. 372.

Orenidens triglyphus, Rich., Voy. Erebus & Terror Fishes, p. 36, pl. 25, f. 2.

Girella tricuspidata, Günth., Cat. i, p. 428; Macleay, Aust. Cat. i, p. 107; Johnston, Rep. Roy. Soc. Tasm. 1881, p. 49; Tenison-Woods, Fisheries of N. S. Wales, p. 39, pl. 7.

Hab.—Coasts of Victoria, Tasmania, and New South Wales. *Blackfish* of the Sydney Market. Grows to a length of 16 inches. A moderate food fish.

GIRELLA

GIRELLA SIMPLEX.

Crenidens simplex, Rich., Voy. Erebus & Terror Fishes, p. 120.
Girella simplex, Günth., Cat. i, p. 429; Kner, Voy. Novara Fische, p. 75; Macleay, Aust. Cat. i, p. 107.
 ——— *percoides*, Hector, Trans. N. Zeal. Inst. vii, p. 243, pl. 10, f. 6 D., & op. cit. ix, p. 468, pl. 8, f. 6 C.
Hab.—Coasts of New Zealand, Victoria, and New South Wales. *Blackfish*; confounded with the preceding species by the fishermen. Attains a length of 12 inches.

GIRELLA ELEVATA.

Macleay, Aust. Cat. i, p. 108.
Hab.—Port Jackson. *Drummer* of the Sydney fishermen. Attains a length of 21 inches at least. A poor table fish.

GIRELLA CYANEA.

Macleay, Aust. Cat. i, p. 109.
Hab.—Port Jackson. *Bluefish* of the fishermen.

GIRELLA RAMSAYI.

Macleay, Aust. Cat. i, p. 109.
Hab.—Port Jackson. Length of type specimen 18 inches.
Girella (Melanichthys) zonata, Günth., Cat. i, p. 429, is included by Castelnau in his list of Port Jackson fishes, (Proc. Linn. Soc. N. S. Wales iii, p. 350); it is most probably the young of *G. trienspilata*, which is banded in its immature state.

TEPHRAEOPS ZEBRA.

Crenidens zebra, Rich., Voy. Erebus & Terror Fishes, p. 70.
Tephraeops zebra, Günth., Cat. i, p. 432.
Neotephraeops zebra, Casteln., Proc. Zool. Soc. Viet. i, pp. 69 & 248; Macleay, Aust. Cat. i, p. 110.
Girella zebra, Steind., Sitzgsber. Ak. Wiss. Wien liii, 1866, p. 430, t. 6, f. 2.
Girellichthys zebra, Klunz., Arch. f. Nat. 1872, p. 22.
Hab.—King George's Sound; Port Jackson, (Steindachner). Grows to a foot in length.

HAPLODACTYLUS LOPHODON.

Günth., Cat. i, p. 435; Macleay, Aust. Cat. i, p. 111.
Hab.—New South Wales coast; Port Jackson, common. Attains a length of 18 inches.

HAPLODACTYLUS OBSCURUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 374.
Hab.—Port Jackson. Probably an early stage of the preceding.

LETHRINUS NEMATACANTHUS.

Bleek., Japan, p. 403, & Atl. Ichthyol. Perc., pl. 59, f. 3; Günth., Cat. i, p. 456; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 275; Macleay, Aust. Cat. i, p. 112.
Hab.—Japan; Louisiade Archipelago; North-east coast of Australia; Port Jackson (Macleay).

LETHRINUS CHRYSOSTOMUS.

Rich., Voy. Erebus & Terror Fishes, p. 118, pl. 60, ff. 6, 7; Günth., Cat. i, p. 457; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 276; Macleay, Aust. Cat. i, p. 112.
Hab.—Norfolk Island; north and east coasts of Australia; Port Jackson. Attains a length of 13 inches.

LETHRINUS HARAK.

Sciæna harak, Forsk., Descr. Anim., p. 52.
Lethrinus harak, Rüpp., N.W. Fische, p. 116, t. 29, f. 3; Günth., Cat. i, p. 458; Bleek., Atl. Ichthyol. Perc., pl. 49, f. 3; Day, Fishes of India, p. 137, pl. 33, f. 3; Macleay, Aust. Cat. i, p. 114; Kner, Voy. Novara Fische, p. 81.
Hab.—From the Red Sea, through the Indian Seas to the Malay Archipelago; Sydney (Kner). It seems probable that Kner's specimens are not identical with Forskal's *S. harak*.

LETHRINUS GLYPHODON.

Günth., Cat. i, p. 462; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 372.
Hab.—Louisiade Archipelago: Port Jackson (Castelnau). Attains a length of 13 inches.

PAGRUS UNICOLOR.

Chrysophrys unicolor, Quoy & Gaim., Voy. Uranie, p. 209.
Pagrus unicolor, Cuv. & Val. vi, p. 160; Rich., Ichthyol. China, p. 242; Günth., Cat. i, p. 468; Kner, Voy. Novara Fische, p. 85; Macleay, Aust. Cat. i, p. 116; Tenison-Woods, Fisheries of N. S. Wales, p. 39, pl. 8, and frontispiece.
Hab.—New Zealand and Australian seas; Port Jackson, abundant. *Schnapper* of the fishermen; *Wollomai* of the aborigines. Attains a weight of 25 lbs. An excellent food fish.

CHRYSOPHRYS SARBA.

Sparus sarba, Forsk., Descr. Anim., p. 31; Linn. Gmel. p. 1275.
Chrysophrys sarba, Cuv. & Val. vi, p. 102; Rüpp., N.W. Fische, p. 110, pl. 28, f. 1; Günth., Cat. i, p. 488; Kner, Voy. Novara Fische, p. 88; Day, Fishes of India, p. 142, pl. 34, f. 6; Macleay, Aust. Cat. i, p. 118; Tenison-Woods, Fisheries of N. S. Wales, p. 42, pl. 9.
Hab.—From the Red Sea to the east coast of Australia; Port Jackson, common. Grows to the length of 16 inches. *Tarwhine* of the fishermen. A poor table fish.

CHRYSOPHRYS AUSTRALIS.

Günth., Cat. i, p. 494; McCoy, Prodr. Zool. Viet. dec. i, pl. 4; Macleay, Aust. Cat. i, p. 119.
Chrysophrys sarba, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 373.
Hab.—Australian seas, entering rivers; Port Jackson, abundant. *Black Bream* of the fishermen. Attains to 18 inches in length. Of good flavor.

CIRRHITIDÆ.

CIRRHITICHTHYS APRINUS.

Cirrhitichthys aprinus, Cuv. & Val. iii, p. 76.

——— *graphidopterus*, Bloek, Amboina iii, p. 106.

Cirrhitichthys graphidopterus, Günth., Cat. ii, p. 74; Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

Hab.—Amboina; Port Jackson. Attains a length of 5 inches.

CHIRONEMUS MARMORATUS.

Günth., Cat. ii, p. 76; Macleay, Aust. Cat. i, p. 121.

Hab.—Australian coasts. Grows to a foot in length.

CHILODACTYLUS VITTATUS.

Garrett, Proc. Calif. Ac. Nat. Sc. iii, p. 103; Günth., Fische d. Sudsee, p. 73, pl. 51, f. B; Macleay, Aust. Cat. i, p. 122; Tenison-Woods, Fisheries of N. S. Wales, pl. 13.

Zeodrius vestitus, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 377.

Hab.—Sandwich Islands; Port Jackson. Specimen examined 8 inches long.

CHILODACTYLUS MACROPTERUS.

Sciæna macroptera, Forst.

Cichla macroptera, Bl. Schn., p. 342.

Chilodactylus macropterus, Rich., Proc. Zool. Soc. 1850, p. 62, and Ann. Nat. Hist. 1851 vii, p. 278; Günth., Cat. ii, p. 78, and Study of Fishes, p. 411, f. 177; Macleay, Aust. Cat. i, p. 122; Tenison-Woods, Fisheries of N. S. Wales, p. 46, pl. 10.

Hab.—Australian seas; Port Jackson, common. *Morwong* and *Jackass-fish* of the Sydney market. Attains a length of 18 inches. Of excellent flavor.

CHILODACTYLUS GIBBOSUS.

Chatodon gibbosus, Banks.

Chilodactylus gibbosus, Rich., Trans. Zool. Soc. iii, p. 102, and Proc. Zool. Soc. 1850, p. 65, pl. 2, ff. 3, 4; Günth., Cat. ii, p. 84, & Ann. Nat. Hist. xx, p. 60; Stein & Döder., Denk. Ak. Wien xlvi, p. 27, pl. 7, f. 2; Macleay, Aust. Cat. i, p. 124.

Hab.—West and south coasts of Australia; Tasmania; Port Jackson (Krefft).

CHILODACTYLUS FUSCUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 376; Macleay, Aust. Cat. i, p. 125; Tenison-Woods, Fisheries of N. S. Wales, p. 46, pl. 11.

Chilodactylus annularis, Casteln., l.c., p. 377; Macleay, l.c., p. 125 (*young*).

Hab.—Port Jackson, common. *Carp*, of the fishermen. Grows to 16 inches in length. An excellent table fish.

CHILODACTYLUS MULHALLI.

Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 366.

Hab.—Port Jackson. Length of specimen 26 inches.

PSILOCRANIUM COXII.

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 439.

Hab.—Port Jackson. Length of specimen 32 inches.

LATRIS CILIARIS.

Sciæna ciliaris, Forst., Descr. Anim. ed. Licht., p. 137.

Latris ciliaris, Rich., Voy. Erebus and Terror Fishes, p. 37, pl. 26, ff. 6, 7; Günth., Cat. ii, p. 86; Macleay, Aust. Cat. i, p. 126.

Hab.—New Zealand; Port Jackson (Richardson). Attains to 30 inches in length. A moderate fish for the table.

LATRIS RAMSAYI.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 229.

Hab.—Port Jackson. Largest specimen examined, rather more than 21 inches. This may be a variety of *L. forsteri*, Casteln., Proc. Zool. Soc. Vict. i, p. 77.

SCORPÆNIDÆ.

SEBASTES PERCOIDES.

Scorpena percoides, Solander.

Sebastes maculatus, Rich., Trans. Zool. Soc. iii, p. 93 (*not Cuv. & Val. nor Smith*).

Sebastes percoides, Rich., Ann. Nat. Hist. 1842, ix, p. 384, & Voy. Erebus and Terror Fishes, p. 23, pl. 15, ff. 1, 2; Günth., Cat. ii, p. 101, and Study of Fishes, p. 412, f. 178; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 379; McCoy, Prodr. Zool. Vict. dec. iv, p. 17, pl. 33; Hutton, Trans. N. Z. Inst. v, pl. 8; Macleay, Aust. Cat. i, p. 129; Tenison-Woods, Fish. of N. S. Wales, pl. 14.

? ——— *allporti*, Casteln., Proc. Zool. Soc. Vict. i, p. 40.

Hab.—New Zealand; Tasmania; Victoria; Port Jackson, scarce. *Red Gurnard Perch*, at Melbourne. Grows to the length of 12 inches.

SEBASTES SCABER.

Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

Hab.—Port Jackson. Largest specimen, 2½ inches.

SCORPENA

SCORPENA CRUENTA.

- (Solander), Rich., Ann. Nat. Hist. 1842, ix, p. 217; Günth., Cat. ii, p. 112; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 378; Hutton, Trans. N. Z. Inst. v, pl. 8; Macleay, Aust. Cat. i, p. 130.
Scorpena militaris, Rich., Voy. Erebus and Terror Fishes, p. 22, pl. 14, ff. 1, 2.
Hab.—New Zealand; Tasmania; Victoria; New South Wales; Port Jackson, common. *Red Rock Cod* of Sydney fishermen. Grows to the length of eighteen inches. A fair food fish.

SCORPENA BYNÖENSIS.

- Rich., Voy. Erebus and Terror Fishes, p. 22, pl. 14, ff. 3-5; Günth., Cat. ii, p. 113, and Study of Fishes, p. 414, f. 180; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 278; Macleay, l.c. ii, p. 353, and Aust. Cat. i, p. 131.
Scorpena jacksoniensis, Steind., Sitzgsber. Ak. Wiss. Wien liii, 1866, p. 438, t. 3, f. 2.
Hab.—North and east coasts of Australia. Grows to a length of 6 inches.

SCORPENA CARDINALIS.

- (Solander), Rich., Ann. Nat. Hist. 1842, ix, p. 212; Günth., Cat. ii, p. 116; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 378; Macleay, Aust. Cat. i, p. 131; Tenison-Woods, Fisheries of N. S. Wales, pl. 12.
Hab.—Coast of New South Wales, common. *Red Rock Cod* of Sydney fishermen, who confound it with *S. cruenta*. Attains to 8 inches in length. Of fair quality for the table.

GLYPTAUCHEN PANDURATUS.

- Apistus panduratus*, Rich., Proc. Zool. Soc. 1850, p. 58, pl. i, ff. 3, 4, and Ann. Nat. Hist. 1851, vii, p. 274; Günth., Cat. ii, p. 121; Macleay, Aust. Cat. i, p. 134.
Hab.—King George's Sound; Port Jackson. Grows to 8 inches in length.

PTEROIS VOLITANS.

- Gasterosteus volitans*, Linn., Syst. Nat. i, p. 491.
Scorpena volitans, Bl., t. 184.
Pterois volitans, Cuv. & Val. iv, p. 352, pl. 88; Rüpp., N. W. Fische, p. 107; Günth., Cat. ii, p. 122, and Fische d. Sudsee, p. 81; Day, Fishes of India, p. 154, pl. 37, f. 1; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 278; Macleay, Aust. Cat. i, p. 135, and Proc. Linn. Soc. N. S. Wales vii, p. 248.
Hab.—From the east coast of Africa, through all the Indian seas; north and east coasts of Australia. Attains a length of 5 inches.

PTEROIS ZEBRA.

- Cuv. & Val. iv, p. 367; Quoy & Gaim., Voy. Uranie, p. 329, and Voy. Astrolabe Poiss., p. 692, pl. 11, f. 6; Günth., Cat. ii, p. 126, and Fische d. Sudsee, p. 82; Day, Fishes of India, p. 153; Bleek., Atl. Ichthyol. Scorp., pl. 1, f. 1; Macleay, Aust. Cat. i, p. 135.
Hab.—Indian and Malayan seas; Port Jackson. Grows to 8 inches at least.

CENTROPOGON AUSTRALIS.

- Cottus australis*, White, Voy. N. S. Wales, p. 266.
Apistus australis, Cuv. & Val. iv, p. 398.
Centropongon australis, Günth., Cat. ii, p. 128; Macleay, Aust. Cat. i, p. 136.
Hab.—Port Jackson, common; Richmond River. *Fortescue* of the colonists. Attains a length of 5 inches.

CENTROPOGON ROBUSTUS.

- Günth., Cat. ii, p. 128, and Ann. Nat. Hist. 1867, xi, p. 60; Krefft, Proc. Zool. Soc. 1864, p. 182; Macleay, Aust. Cat. i, p. 136, and Proc. Linn. Soc. N. S. Wales viii, p. 203; Tenison-Woods, Fisheries N. S. Wales, p. 48.
Centropongon troschelii, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 440, pl. 4, f. 1.
Hab.—Rivers of the eastern watershed of New South Wales; Cape York (Günther). *Bull-rout* of the colonists. Attains to a length of 7 inches.

PENTAROGE MARMORATA.

- Apistus marmoratus*, Cuv. & Val. iv, p. 416.
Pentaroge marmorata, Günth., Cat. ii, p. 132; Steind., Sitzgsber. Ak. Wiss. Wien 1868, lvii, p. 984; Macleay, Aust. Cat. i, p. 139.
Hab.—Seas of Timor, Australia, and Tasmania; Port Jackson. Grows to the length of 8 inches.

HAPLOACTIS MILESII.

- Aploactis milesii*, Rich., Proc. Zool. Soc. 1850, p. 60, pl. 1, ff. 1, 2, and Ann. Nat. Hist. 1851, vii, p. 275; Günth., Cat. ii, p. 142; Macleay, Aust. Cat. i, p. 140.
Hab.—King George's Sound; Port Jackson. Grows to the length of 6 inches.

SYNANCEIA HORRIDA.

- Scorpena horrida*, Linn. i, p. 453; Bl., t. 183.
Synanceia horrida, Bl. Schn., p. 194; Cuv. & Val. iv, p. 440.
Synancidium horridum, Müll., Akad. Wiss. 1844, p. 163; Günth., Cat. ii, p. 144, and Fische d. Sudsee, p. 83; Kner, Voy. Novara Fische, p. 119; Day, Fishes of India, p. 162, pl. 39, f. 3; Macleay, Aust. Cat. i, p. 142.
Hab.—Indian and Malayan seas; north coast of Australia; ? Port Jackson. Grows to 18 inches in length. Mr. Ramsay thinks it probable that the unique Port Jackson specimen of this fish in the Australian Museum collection came originally from the north, and has been accidentally labelled as from Port Jackson.

NANDIDÆ.

PLESIOPS BLEEKERI.

Günth., Cat. iii, p. 364, and Fische d. Sudsee, p. 87, pl. 58, f. A; Macleay, Aust. Cat. i, p. 100.
Hab.—Port Jackson; Port Hacking. Grows to the length of 12 inches.

TRACHINOPS TENIATUS.

Günth., Cat. iii, p. 366; Kner, Voy. Novara Fische, p. 215, pl. 8, f. 7; Macleay, Aust. Cat. i, p. 100.
Hab.—New South Wales coast. Length of specimen $3\frac{1}{2}$ inches.

RUEPPELLIA PROLONGATA.

Casteln., Proc. Zool. Soc. Vict. ii, p. 51, and Res. Fishes Aust., p. 29.
Hab.—West Australia; Port Phillip; Port Jackson, (Castelnau). Grows to the length of a foot.

TEUTHIDIDÆ.

TEUTHIS JAVA.

Linn., Syst. Nat. i, p. 507; Linn. Gmel. i, p. 1362; Günth., Cat. iii, p. 315; Day, Fishes of India, p. 165, pl. 39, f. 5; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 386; Macleay, Aust. Cat. i, p. 142.
Amphacanthus javus, Cuv. & Val. x, p. 118; Kner, Voy. Novara Fische, p. 205.
Hab.—East Indian, Malayan, and Australian seas; Port Jackson. Attains a length of 6 inches. A good food fish.

TEUTHIS NEBULOSA.

Amphacanthus nebulosus, Quoy & Gaim., Voy. Uranie Zool., p. 369; Cuv. & Val. x, p. 164.
 ——— *maculosus*, Quoy & Gaim., l.c., p. 370.
 ——— *olivaceus*, Cuv. & Val. x, p. 163.
 ——— *gymnopareius*, Rich., Ann. Nat. Hist. 1843, xi, p. 174.
Teuthis nebulosa, Günth., Cat. iii, p. 321, & Study of Fishes, p. 419, f. 182; Playfair, Fishes of Zanz, p. 51, pl. 10, f. 3; Macleay, Aust. Cat. i, p. 144; Tenison-Woods, Fisheries of N. S. Wales, p. 50.
Hab.—From the east coast of Africa to Australia. *Black Trevally* of the Sydney market. Grows to the length of 6 inches. A fair breakfast fish.

TEUTHIS HEXAGONATA.

Amphacanthus hexagonatus, Bleek., Kokos, p. 41; Kner, Voy. Novara Fische, p. 207.
Teuthis hexagonata, Günth., Cat. iii, p. 320.
Hab.—Java; Sumbawa; Kokos; Fiji Islands; Port Jackson (Kner). Attains a length of 6 inches.

BERYCIFORMES.

BERYCIDÆ.

MONOCENTRIS JAPONICUS.

Gasterosteus japonicus, Houtt., Act. Soc. Harl. xx, pt. 2, p. 329.
Sciæna cataphracta, Thunb., Nov. Ac. Sc. Suec. xi, p. 102, t. 3.
Monocentris carinata, Bl. Schn., p. 100, t. 24.
Lepisacanthus japonicus, Lacep. iii, p. 321.
Monocentris japonicus, Cuv. & Val. iv, p. 461, pl. 97; Schleg., Faun. Japon. Poiss., p. 50, pl. 22, f. 1; Günth., Cat. i, p. 9, and Study of Fishes, p. 421, f. 183; Bleek., Atl. Ichthyol. Trachich., pl. 2, f. 4; Macleay, Aust. Cat. i, p. 145.
Hab.—Seas of Japan; Port Jackson and Port Stephens, very rare. Attains a length of 5 inches.

TRACHICHTHYS AUSTRALIS.

Shaw, Nat. Misc., t. 378, & Zool. iv, p. 630; Cuv. & Val. iii, p. 299; Lowe, Fishes of Madeira, p. 55; Günth., Cat. i, p. 10; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 364; Macleay, Aust. Cat. i, p. 145; Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).
Trachichthys jacksoniensis, Macleay, Aust. Cat. i, p. 146.
Hab.—Coast of New South Wales. Grows to at least 6 inches in length.

BERYX AFFINIS.

Günth., Cat. i, p. 13; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 225, & op. cit. iii, p. 365; Hector, Ann. Nat. Hist. 1877, (4) xix, p. 341; Macleay, Aust. Cat. i, p. 147; Tenison-Woods, Fisheries of N. S. Wales, p. 51, pl. 15.
Hab.—Coasts of New Zealand and New South Wales. *Nannygai* of the Sydney market. Grows to 20 inches long. In great estimation for the table.

CYRTIFORMES.

CYRTIDÆ.

PEMPHERIS COMPRESSUS.

Sparus compressus, White, Voy. N. S. Wales, App., p. 267, f. 2; Günth., Cat. ii, p. 508; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 384; Macleay, Aust. Cat. i, p. 151.
Hab.—Swan River; Port Jackson, common. *Bullseye* of the fishermen. Grows to 6 inches in length.

PEMPHERIS MACBOLEPIS.

Macleay, Aust. Cat. i, p. 151.
Hab.—King George's Sound; Port Jackson. Attains a length of 10 inches.

PEMPHERIS

PEMPHERIS LINEATUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 447.

Hab.—Port Jackson. Type specimen measures 7½ inches.

POLYNEMIFORMES.

POLYNEMIDÆ.

POLYNEMUS INDICUS.

Shaw, Zool. v, p. 155; Günth., Cat. ii, p. 326; Kner, Voy. Novara Fische, p. 137, t. 7, f. 1 (*air-bladder*); Macleay, Aust. Cat. i, p. 153.

Polynemus uronemus, Cuv. & Val. iii, p. 385.

Hab.—Indian and Malayan seas; Port Jackson, (Günther & Casteln.). Grows to 4 feet in length. An excellent food fish.

POLYNEMUS MACROCHIR.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 60; Macleay, Aust. Cat. i, p. 153.

Hab.—Port Jackson.

SCIÆNIFORMES.

SCIÆNIDÆ.

SCIÆNA AQUILA.

Cheilodipterus aquila, Lacép. v, p. 685.

Sciæna aquila, Risso, Eur. Mérid. iii, p. 411; Cuv. & Val. v, p. 28, pl. 100; Günth., Cat. ii, p. 291, and Fische d. Sudsee, p. 105; Day, Brit. Fishes i, p. 150, pl. 50.

—— *hololepidota*, Cuv. & Val. v, p. 53; Quoy & Gaim., Voy. Astrolabe Poiss., p. 697, pl. 12, f. 1; Smith, Ill. S. Afr. Zool., Fishes pl. 15.

? —— *antarctica* Casteln., Proc. Zool. Soc. Vict. i, p. 100, and Proc. Linn. Soc. N. S. Wales ii, p. 232, and op. cit. iii, p. 381; Macleay, Aust. Cat. i, p. 154; Tenison-Woods, Fisheries of N. S. Wales, p. 53, pl. 16.

? *Sciæna (Corvina) novæ-hollandiæ*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 445, pl. 5, f. 2.

Hab.—Eastern shores of the Atlantic; Mediterranean; Cape Seas; south and east coasts of Australia; Port Jackson, common. *Jackfish* of Sydney; *Kingfish* of Melbourne; *Dewfish* of Brisbane. Attains a length of 6 feet. A good table fish.

OTOLITHUS ATELODUS.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 60; Macleay, Aust. Cat. i, p. 156; Tenison-Woods, Fisheries of N. S. Wales, p. 54, pl. 17.

Otolithus teraglin, Macleay, Proc. Linn. Soc. N. S. Wales v, p. 48.

Hab.—Coast of New South Wales, abundant. *Teraglin* of the Sydney market. Grows to the length of 3 feet. An excellent food fish.

XIPHIIFORMES.

XIPHIIDÆ.

ISTIOPHORUS GLADIUS.

Scomber gladius, Brouss., Mem. Acad. Sc. 1786, p. 454, pl. x; Bloch, t. 315.

Xiphias velifer, Bl. Schn., p. 93.

Istiophorus gladius, Lacép. iii, pp. 374, 375.

Istiophorus indicus, Cuv. & Val. viii, p. 293, pl. 229.

—— *americanus*, Cuv. & Val. viii, p. 303.

—— *gladius*, Günth., Cat. ii, p. 513; Playfair, Proc. Zool. Soc. 1867, p. 856; Day, Fishes of India, p. 198; Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 295, pl. 8; Macleay, Aust. Cat. i, p. 157; Tenison-Woods, Fisheries of N. S. Wales, p. 55.

Hab.—Seas between or near the tropics; coast of New South Wales. *Swordfish*. Grows to the length of 14 feet.

TRICHIURIFORMES.

TRICHIURIDÆ.

TRICHIURUS HAUMELA.

Clupea haumela, Forsk., p. 72; Linn. Gmel., p. 1408.

Trichiurus haumela, Cuv. & Val. viii, p. 249; Rüpp., N. W. Fische, p. 41; Günth., Cat. ii, p. 348; Kner, Voy. Novara Fische, p. 140; Day, Fishes of India, p. 201; Macleay, Aust. Cat. i, p. 159.

Hab.—East African, Indian, Malayan and Chinese seas; New South Wales coast; Port Jackson and Newcastle. Grows to the length of 3 feet.

COTTO-SCOMBRIFORMES.

ACANTHURIDÆ.

PRIONURUS MICROLEPIDOTUS.

Lacép., Ann. Mus. iv, p. 205; Cuv. & Val. x, p. 295, pl. 292; Günth., Cat. i, p. 347; Macleay, Aust. Cat. i, p. 164.

Hab.—Port Jackson. Grows to 12 inches in length.

CARANGIDÆ.

CARANGIDÆ.

CARANX TRACHURUS.

Scomber trachurus, Linn., Syst. Nat., p. 494; Bloch, t. 50.

Caranx trachurus, Lacép. iii, p. 60; Cuv. & Val. ix, p. 11, pl. 246; Gay, Hist. Chile, Zool. ii, p. 233; Rich., Ichthyol. China, p. 273, and Ann. Nat. Hist. 1843, xi, p. 25; Day, Brit. Fishes i, p. 124, pl. 44; Günth., Study of Fishes, p. 442.

————— var *japonicus*, Schleg., Faun. Japon. Poiss., p. 109, pl. 59, f. 1.

————— *declivis*, Jenyns, Voy. Beagle Fishes, p. 68, pl. 14.

Trachurus trachurus, Casteln., Anim. Nouv., p. 23; Günth., Cat. ii, p. 419; Kner, Voy. Novara Fische, p. 150; Kner & Steind., Sitzgber. Ak. Wiss. Wien liv, p. 364; Steind., op. cit. lvii, p. 382; Macleay, Aust. Cat. i, p. 166; M'Coy, Prodr. Zool. Vict. dec. ii, pl. 18.

————— *declivis*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 383; Tenison-Woods, Fisheries of N. S. Wales, p. 58, pl. 18.

Hab.—All temperate seas; Port Jackson, common. *Yellow-tail* of Sydney. Attains a length of 16 inches. Of fair quality as food.

CARANX NOBILIS.

Macleay, Aust. Cat. i, p. 167.

Hab.—Port Jackson. Length, 24 inches.

CARANX GEORGIANUS.

Cuv. & Val. ix, p. 85; Jenyns, Voy. Beagle Fishes, p. 71; Rich., Ann. Nat. Hist. 1843, xi, p. 27, and Voy. Erebus & Terror Fishes, p. 135, pl. 58, ff. 1-3; Günth., Cat. ii, p. 440; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 327; Macleay, op. cit. viii, p. 204, & Aust. Cat. i, p. 168.

Hab.—Coasts of Norfolk and Raoul Islands, New Zealand, & Australia; New South Wales, abundant. *White Trevally* of Port Jackson. Grows to 25 inches. A well-flavored fish.

CARANX HIPPOS.

Scomber hippos, Linn., Syst. Nat. i, p. 494; Bl. Schn., p. 28.

Caranx forsteri, Cuv. & Val. ix, p. 107; Kner, Voy. Novara Fische, p. 158.

————— *hippos*, Günth., Cat. ii, p. 449, and Fische d. Sudsee, p. 131, pl. 84, and Study of Fishes, f. 106 (*ll. plates*); Day, Fishes of India, p. 216; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 323; Macleay op. cit. ii, p. 355, and vii, p. 355, and Aust. Cat. i, p. 170.

————— *paraspistes*, Rich., Voy. Erebus and Terror Fishes, p. 136, pl. 58, ff. 6, 7.

Hab.—Indian, Malayan, Chinese, and Australian seas. Port Jackson, scarce. Attains a length of 3 feet.

CARANX CILIARIS.

Zeus ciliaris, Bl., t. 191; Linn. Gmel., p. 1223.

Blepharis indicus, Cuv. & Val. ix, p. 154; Schleg., Faun. Japon. Poiss., p. 113, pl. 60, f. 2; Rich., Ichthyol. China, p. 271.

————— *fasciatus*, Rüpp., Atl. Fische, p. 129, pl. 33, f. 2.

Caranx ciliaris, Günth., Cat. ii, p. 454, and Fische d. Sudsee, p. 135, pl. 89; Day, Fishes of India, p. 224; Macleay, Aust. Cat. i, p. 172, and Proc. Linn. Soc. N. S. Wales vii, p. 356.

Blepharis ciliaris, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 383.

Hab.—From the Red Sea through the Indian and Malayan Seas to the north and east coasts of Australia; Port Jackson, scarce. Largest specimen in the Australian Museum, 6 inches.

Castelnau includes *Caranx macrosoma*, Bleck. in his list of Port Jackson fishes (Proc. Linn. Soc. N. S. Wales iii, p. 352), but as the species has not been obtained since his time, and he states that it is called "yellow-tail" at Sydney, there can be little doubt that his identification was erroneous.

SERIOLA LALANDEI.

Cuv. & Val. ix, p. 208; Günth., Cat. ii, p. 463; Macleay, Aust. Cat. i, p. 174; Tenison-Woods, Fisheries of N. S. Wales, p. 59, pl. 19.

Seriola aureo-vittata, Schleg., Faun. Japon. Poiss., p. 115, pl. 62, f. 1.

Hab.—Brazilian coast; Cape seas; Japan; east coast of Australia; Port Jackson. *Kingfish* of the Sydney market. Attains the weight of 50 pounds. Of considerable commercial importance when cured.

SERIOLA GRANDIS.

Casteln., Proc. Zool. Soc. Vict. i, p. 115; Macleay, Aust. Cat. i, p. 175.

Hab.—Coast of Victoria; Port Jackson (Castelnau). *Yellow-tail* of the Melbourne market.

SERIOLA HIPPOS.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 392; Macleay, Aust. Cat. i, p. 176; Tenison-Woods, Fisheries of N. S. Wales, p. 60.

Seriola nigrofasciata, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 352; Macleay, Aust. Cat. i, p. 174.

Hab.—Port Jackson; Botany Bay. *Samson-fish* of the Sydney fishermen.

I have examined the two fish identified by Count Castelnau as *Seriola nigrofasciata*, and find them to be young examples of this species.

SERIOLA SIMPLEX.

Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

Hab.—Port Jackson.

SERIOLELLA BRAMA.

Neptomenus brama, Günth., Cat. ii, p. 390; Macleay, Aust. Cat. i, p. 177.

Hab.—New Zealand; Tasmania; Port Jackson, (Aust. Mus). Attains a length of 10 inches.

In the Hon. Wm. Macleay's museum is a specimen of the Victorian *Seriolella travale*, Casteln., labelled doubtfully from Port Jackson.

NAUCRATES DUCTOR.

Gasterosteus ductor, Linn., Syst. Nat. i, p. 489.

Scomber ductor, Bl., t. 338; Linn. Gmel. i, p. 1824.

Naucrates ductor, Cuv. & Val. viii, p. 312, pl. 232; Günth., Cat. ii, p. 374, and Fische d. Sudsee, p. 137, and Study of Fishes, p. 444; Day, Fishes of India, p. 229, pl. 51A, f. 2, and Brit. Fishes i, p. 127, pl. 45; Lütken, Spol. Atlant., p. 600, pl. 3, ff. 14, 15; Macleay, Aust. Cat. i, p. 194.

———— *indicus*, Cuv. and Val. viii, p. 326; Less., Voy. Coquille Poiss., p. 157, pl. 14; Rich., Ichthyol. China, p. 269; Kner, Voy. Novara Fische, p. 145.

Hab.—Temperate and tropical seas; Port Jackson. *Pilot-fish*. Attains to a foot in length. Said to be dry but well-flavored in its flesh.

CHORINEMUS SANCTI-PETRI.

Cuv. & Val. viii, p. 379, pl. 236; Günth., Cat. ii, pl. 473, and Fische d. Sudsee, p. 138; Day, Fishes of India, p. 230; Macleay, Aust. Cat., App. p. 24.

Hab.—From the east coast of Africa, through the Indian and Malayan seas to the east coast of Australia; Port Denison (Klunzinger); Port Jackson (Macleay). Grows to 20 inches long.

TEMNODON SALTATOR.

Gasterosteus saltatrix, Linn., Syst. Nat. i, p. 491.

Scomber saltator, Bl. Schn., p. 35.

Temnodon heptacanthus, Quoy & Gaim., Voy. Freyc. Zool., p. 400, pl. 61, f. 2.

———— *saltator*, Cuv. and Val. ix, p. 225, pl. 260; Dekay, N. York Faun. Fishes, p. 130, pl. 26, f. 81; Gay, Hist. Chile, Zool. ii, p. 244; Günth., Cat. ii, p. 479; Macleay, Aust. Cat. i, p. 179;

Tenison-Woods, Fisheries of N. S. Wales, p. 60, pl. 20.

Hab.—Seas of the temperate and tropical regions of both hemispheres; Australian coasts, abundant. *Tailor* of Sydney; *Skip-jack* of Melbourne. Attains to a length of 30 inches. Of good quality for the table.

TRACHYNOTUS OVATUS.

Gasterosteus ovatus, Linn., Syst. Nat. i, p. 490.

Trachynotus ovatus, Günth., Cat. ii, p. 481, and Fische d. Sudsee, p. 139; Steind., Sitzgsber. Ak. Wiss. Wien 1869, lx, p. 709; Kner, Voy. Novara Fische, p. 164; Day, Fishes of India, p. 234, pl. 51 B, f. 2; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 330; Macleay, Aust. Cat. i, p. 180, and Proc. Linn. Soc. N. S. Wales vii, p. 359.

———— *kennedyi*, Steind., Sitzgsber. Ak. Wiss. Wien lxxii, p. 75, f. 9.

Hab.—Nearly all tropical and temperate seas; coasts of Australia; Port Jackson. Grows to the length of 20 inches. Of good quality when cured; dry and insipid when fresh, (Day).

TRACHYNOTUS BAILLONI.

Cæsiomorus bailloni, Lacép. iii, p. 93, pl. 3, f. 1.

———— *quadripunctatus*, Rüpp., Atl. Fische, p. 90, pl. 24, f. 1.

Trachynotus bailloni, Cuv. & Val. viii, p. 431; Günth., Cat. ii, p. 484, and Fische d. Sudsee, p. 139; Day, Fishes of India, p. 233, pl. 51 A, f. 4; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 330; Macleay, Aust. Cat. i, p. 180, and Proc. Linn. Soc. N. S. Wales vii, p. 359.

Hab.—East African, Indian, Malayan, and Australian seas; Port Jackson. Grows to the length of 20 inches.

PSETTUS ARGENTEUS.

Chatodon argenteus, Linn., Ann. Acad. iv, p. 249; Bl. Schn., p. 230.

Psettus rhombeus, Cuv. & Val. vii, p. 245.

———— *argenteus*, Rich., Voy. Erebus & Terror Fishes, p. 57, pl. 35, ff. 1-3; Günth., Cat. ii, p. 487, and Fische d. Sudsee, p. 140, and Study of Fishes, ff. 198, 199; Kner, Voy. Novara Fische, p. 164; Day, Fishes of India, p. 235, pl. 51 B, f. 5; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 235; Macleay, op. cit. iv, p. 63, and viii, p. 266, and Aust. Cat. i, p. 181; Tenison-Woods, Fisheries of N. S. Wales, pl. 45.

Hab.—East African, Indian, Malayan, and Australian seas; Port Jackson. *Bat-fish* of the Sydney fishermen. Attains to the length of 8 inches.

PLATAX TEIRA.

Chatodon teira, Forsk., p. 60, t. 22; Bloch t. 199, f. 1; Gmel. Linn., p. 1265.

Platax teira, Cuv., Règne Anim.; Rüpp., Atl. Fische, p. 68; Cuv. & Val. vii, p. 226; Günth., Cat. ii, p. 492, & Fische d. Sudsee, p. 141; Day, Fishes of India, p. 235, pl. 51 B, f. 4; Macleay, Aust. Cat. i, p. 182.

———— *vespertilio*, Schleg., Faun. Japon. Poiss., p. 83, pl. 43 (not Bloch).

Hab.—Indian, Malayan, and North Australian Seas; Lake Macquarie and Port Jackson (Aust. Mus.), rare. Attains a length of 20 inches. Said to be of excellent flavor.

CYTTIDÆ.

ZEUS AUSTRALIS.

Rich., Voy. Erebus & Terror Fishes, pp. 36, 138, pl. 25, f. 1; Casteln., Proc. Zool. Soc. Vict. i, p. 108; Macleay, Aust. Cat. i, p. 185; Tenison-Woods, Fisheries of N. S. Wales, p. 61, pl. 21.

Hab.—Australian coasts; Port Jackson, common. *Dory* or *John Dory*. Grows to 18 inches long. An excellent food fish.

CORYPHÆNIDÆ.

CORYPHÆNIDÆ.

CORYPHÆNA HIPPURUS.

Linn., Syst. Nat., p. 446; Bl., t. 174; Cuv. & Val. ix, p. 278, pl. 266; Lowe, Trans. Zool. Soc. ii, p. 183, iii, p. 6, and Proc. Zool. Soc. 1839, p. 80; Günth., Cat. ii, p. 405; Steind, Sitzgsber. Ak. Wiss. Wien 1868, p. 370.

Coryphæna japonica, Schleg., Faun. Japon. Poiss., p. 120, pl. 64.

——— ? *punctulata*, Macleay, Aust. Cat. i, p. 187.

Hab.—Indian seas, to the Malay Archipelago and Japan; Botany Bay. Grows to 5 feet; our specimen measures 22 inches; it is, without doubt, a young fish of this species, which has been recorded from these seas so long ago as Dampier's time; *vide*, Voy. New Holland i, pl. 2, f. 7.

BRAMA RAII.

Sparus raii, Bloch, t. 273.

Brama raii, Bl. Schn., p. 99; Cuv. & Val. vii, p. 281, pl. 190; Lowe, Trans. Zool. Soc. iii, p. 8; Günth., Cat. ii, p. 408; Lütken, Spol. Atlant. 1880, p. 190, pl. iv, ff. 1, 2; Day, Brit. Fishes i, p. 114, pl. 41; Macleay, Aust. Cat. i, p. 188.

Hab.—Mediterranean and western shores of the Atlantic; Port Jackson, (Castelnau). Grows to the length of 30 inches. I doubt very much the propriety of keeping this species in the Australian catalogue solely on the authority of Count Castelnau, who has left neither specimen nor description, but merely a catalogue name (Proc. Linn. Soc. N. S. Wales iii, p. 252), and whose identifications were not always as careful as is advisable.

PSENES LEUCURUS.

Jenyns, Voy. Beagle Zool., p. 73; Günth., Cat. ii, p. 495; Macleay, Aust. Cat. i, p. 183.

Hab.—Indian Ocean; Port Jackson, (Günther). Largest specimen, 2 inches.

SCOMBRIDÆ.

SCOMBER ANTARCTICUS.

Casteln., Proc., Zool. Soc. Vict. i, p. 106; Macleay, Aust. Cat. i, p. 190; Tenison-Woods, Fisheries of N. S. Wales, p. 62.

Hab.—South and east coasts of Australia. The *Southern Mackerel*. Attains to 10 inches in length. An excellent fish if eaten quite fresh. This is not the fish figured by M'Coy (Prodr. Zool. Vict. dec. iii, p. 43, pl. 28), as *Scomber pneumatophorus*, De la Roche, (as stated by Tenison-Woods and others) if Castelnau is right in stating that his species has no air-bladder. I have never seen an example of this mackerel, but it is difficult to make out any valid difference between it and *Scomber scombrus*, Linn., from the descriptions only.

THYNNUS THUNNINA.

Scomber quadripunctatus, Geoffr., Descr. Eg. Poiss., t. 24, f. 3.

Thynnus thunnina, Cuv. & Val. viii, p. 104, pl. 212; Schleg., Faun. Japon. Poiss., p. 95, pl. 48; Günth., Cat. ii, p. 364, and Fische d. Sudsee, p. 150, pl. 95; Day, Fishes of India, p. 252, pl. 54, f. 6.

——— *brasiliensis*, Cuv. & Val. viii, p. 110.

——— *affinis*, Cant., Cat. p. 106; Günth., Cat. ii, p. 363; Macleay, Aust. Cat. i, p. 191.

Hab.—Tropical parts of the Atlantic; Mediterranean, Indian, Malayan, and North Australian, seas; Port Jackson (Macleay). Grows to 2 feet in length.

THYNNUS PELAMYS.

Scomber pelamis, Linn., Syst. Nat. i, p. 492.

Thynnus pelamys, Cuv. & Val. viii, p. 113, pl. 214; Schleg., Faun. Japon. Poiss., p. 96, pl. 49; Rich., Ichthyol. China, p. 267; Günth., Cat. ii, p. 364, and Fische d. Sudsee, p. 151, pl. 96; Day, Fishes of India, p. 252, and Brit. Fishes i, p. 100, pl. 37; Macleay, Aust. Cat. i, p. 191.

——— *vagans*, Less., Voy. Coquille Zool. ii, p. 162, pl. 32.

Hab.—Warm parts of the Atlantic, Indian, and Pacific Oceans; east coast of Australia (Macleay); Port Jackson (Castelnau). The *Bonito*. Attains the length of 3 feet.

PELAMYS AUSTRALIS.

Macleay, Aust. Cat. i, p. 192.

Hab.—Port Jackson (Macleay). This species should be critically compared with *Pelamys chilensis*, Cuv. & Val., to which it appears to bear a great resemblance.

AUXIS RAMSAYI.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 382.

Hab.—Port Jackson. *Horse-mackerel* of the Sydney market. Said to be a good food fish.

CYBIUM COMMERSONII.

Scomber commersonii, Lacép. ii, p. 600, pl. 20, f. 1; Shaw, Zool. iv, p. 589, pl. 83.

Cybiium commersonii, Cuv., Règne Anim.; Cuv. & Val. viii, p. 165; Rich., Ichthyol. China, p. 268; Günth., Cat. ii, p. 370; Day, Fishes of India, p. 255, pl. 56, f. 5; Macleay, Aust. Cat. i, p. 193, and Proc. Linn. Soc. N. S. Wales viii, p. 266.

Hab.—East African, Indian, Malayan, and Australian seas; Port Jackson. Grows to 4 feet in length.

CYBIUM GUTTATUM.

Scomber guttatus, Bl. Schn. p. 23, f. 5.

Cybiium guttatum, Cuv. & Val. viii, p. 173; Rich., Ichthyol. China, p. 268 (pt.); Günth., Cat. ii, p. 371; Kner, Voy. Novara Fische, p. 143; Day, Fishes of India, p. 255, pls. 55, f. 1 (*young*), and 56, f. 4 (*adult*); Macleay, Aust. Cat. i, p. 194.

Hab.—Indian, Malayan, and Chinese seas; Port Jackson (Macleay). Grows to the length of 6 feet. Is good eating, and salts well. (Day).

ELACATE

ELACATE NIGRA.

Scomber niger, Bl., t. 337.

Elacate birittata, Cuv. & Val. viii, p. 338; Schleg., Faun. Japon. Poiss., p. 104, pl. 56; Rich., Ichthyol. China, p. 269.

——— *nigra*, Günth., Cat. ii, p. 375; Day, Fishes of India, p. 256, pl. 55, f. 2; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 381; Macleay, Aust. Cat. i, p. 195.

Hab.—Warmer parts of the Atlantic; Indian Seas; Port Jackson, scarce. Grows to 5 feet long.

ECHENEIS NAUCRATES.

Echeneis naucrates, Linn., Syst. Nat. i, p. 446; Bl., t. 171.

——— *naucrates*, Lacép. iii, pp. 146 and 162, pl. 9, f. 2; Schleg., Faun. Japon. Poiss., p. 270, pl. 120, f. 1; Rich., Ichthyol. China, p. 203; Günth., Ann. Nat. Hist. 1860, (3) v, p. 395, and Cat. ii, p. 384; Kner, Voy. Novara Fische, p. 146; Day, Fishes of India, p. 257, pl. 57, f. 1; All. & Macleay, Proc. Linn. Soc. N. S. Wales i, p. 321; Casteln., op. cit. ii, p. 234, and iii, p. 382; Macleay, op. cit. viii, p. 266, and Aust. Cat. i, p. 196.

——— *australis*, Griff., Cuv. An. Kingd. Fishes, p. 504.

Hab.—All tropical and temperate seas; Port Jackson (Kreffit); Clarence River, (Ogilby), from Mr. T. Temperley; four specimens adhering to a *Zygæna leeuwini*. The *Great Sucking-fish*. Attains to 3 feet in length.

ECHENEIS REMORA.

Linn., Syst. Nat. i, p. 446; Bl., t. 172; Schleg., Faun. Japon. Poiss., p. 271; Jenyns, Voy. Beagle Zool., p. 142; Günth., Ann. Nat. Hist. 1860, (3) v, p. 390, and Cat. ii, p. 378, and Fische d. Sudsee, p. 156; Kner, Voy. Novara Fische, p. 146; Day, Fishes of India, p. 258, and Brit. Fishes i, p. 108, pl. 39, f. 2; Macleay, Aust. Cat. i, p. 196.

Hab.—Seas of the temperate and tropical regions; Port Jackson, (Kreffit & Castelnau). There are in the Australian Museum three specimens which I took off a shark caught in lat. 6° 50' S., long 76° 0' E. (Ogilby). The common *Sucking-fish* or *Remora*. Grows to a foot in length.

TRACHINIDÆ.

LEPTOSCOPIUS MACROPTYGUS.

Uranoscopus macroptygus, Rich., Voy. Erebus and Terror Fishes, p. 55, pl. 33, ff. 4, 6.

Leptoscopus macroptygus, Gill, Proc. Ac. Nat. Sc. Philad. 1859, p. 133; Günth., Cat. ii, p. 232, and Study of Fishes, f. 206; Macleay, Aust. Cat. i, p. 198; Hutton, Trans. N. Zeal. Inst. vi, p. 106, and viii, p. 212.

——— *huttoni*, Haast, Trans. N. Zeal. Inst. v, p. 275.

Hab.—Port Jackson. Grows to the length of 2 feet.

PERCIS NOVE-CAMBRIÆ.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 228.

Hab.—Port Jackson. Largest specimen 7½ inches.

This species has been confounded by Australian naturalists with the *Percis nebulosa* of Quoy and Gaimard, from which, however, it is very distinct.

PERCIS COXII.

Ramsay, Proc. Linn. Soc. N. S. Wales viii, p. 179.

Hab.—Port Jackson. Type specimen measures nearly 7 inches.

PERCIS ALLPORTI.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 394, and Voy. Challenger Shore Fishes, p. 28; Macleay, Aust. Cat. i, p. 199.

Hab.—Tasmania; Bass's Straits; Twofold Bay. Specimens measure 11 inches.

Count Castelnau includes *Aphritis wroilii*, Cuv. and Val. in his Port Jackson list (Proc. Linn. Soc. N. S. Wales iii, p. 351), but gives no evidence to prove that it has ever occurred so far north.

SILLAGO MACULATA.

Quoy. & Gaim., Voy. Freyc. Zool., p. 261, pl. 53, f. 2; Cuv. & Val. iii, p. 411; Günth., Cat. ii, p. 245; Kner, Voy. Novara Fische, p. 127; Day, Fishes of India, p. 205, pl. 58, f. 4; Bleek., Atl. Ichthyol., pl. 389, f. 5; All. & Macleay, Proc. Linn. Soc. N. S. Wales i, p. 279; Casteln., op. cit. iii, p. 380; Macleay, Aust. Cat. i, p. 201; Tenison-Woods, Fisheries of N. S. Wales, pl. 23.

Hab.—From the Malay Archipelago to South-east Australia; Port Jackson, abundant. *Whiting* or *Sand Whiting* of Sydney. Grows to about a foot long. An excellent food fish.

SILLAGO BASSENSIS.

Cuv. & Val. iii, p. 412; Quoy. & Gaim., Voy. Astrolabe Poiss., p. 672, pl. 1, f. 2; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 380; Macleay, Aust. Cat. i, p. 202; Tenison-Woods, Fisheries of N. S. Wales, p. 65.

Sillago ciliata, Günth., Cat. ii, p. 245.

——— *terra-reginæ*, Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 232.

Hab.—Australian coasts; Port Jackson, common. *Trumpeter Whiting* at Sydney. Attains to 15 inches in length. A good table fish.

SILLAGO CILIATA.

Cuv. and Val. iii, p. 415; Casteln., Proc. Zool. Soc. Vict. ii, p. 113; Macleay, Aust. Cat. i, p. 202; Kner, Voy. Novara Fische, p. 127; All. & Macleay, Proc. Linn. Soc. N. S. Wales i, p. 279; Tenison-Woods, Fisheries of N. S. Wales, pl. 24.

Hab.—North coast of Australia; Port Jackson, scarce.

BOVICHTHYS

BOVICHTHYS VARIEGATUS.

Rich., Voy. Erebus & Terror Fishes, p. 50, pl. 34, ff. 1-4; Günth., Cat. ii, p. 250, and Study of Fishes, f. 207; Hutton, Trans. N. Zeal. Inst. v, p. 262; Macleay, Aust. Cat. i, p. 203.
Hab.—New Zealand; Port Jackson. Specimen measures 8 inches.

OPISTHOGNATHUS JACKSONIENSIS.

Macleay, Aust. Cat. i, p. 205.
Hab.—Port Jackson. Attains to 10 inches long.

BATRACHIDÆ.

BATRACHUS DUBIUS.

Lophius dubius, White, Voy. N. S. Wales, p. 265.
Batrachus dubius, Rich., Voy. Erebus & Terror Fishes, p. 16, pl. 10; Günth., Cat. iii, p. 169; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 335; Macleay, op. cit. viii, p. 267, & Aust. Cat. i, p. 207.
Hab.—South coast of New Guinea; Australian coasts; Port Jackson, common. Grows to 6 inches in length.

BATRACHUS GRUNNIENS.

Cottus grunniens, var. B., Linn. Gmel., Syst. Nat. i, p. 1209.
Batrachus grunniens, Bl. Schn., p. 43; Cuv. & Val. xii, p. 466; Steind., Sitzgsber. Ak. Wiss. Wien ix, 1870, p. 564; Day, Fishes of India, p. 269, pl. 59, f. 1.
 ——— *trispinosus*, Günth., Cat. iii, p. 169; Kner, Voy. Novara Fische, p. 189.
 ? ——— *dussumieri*, Cuv. & Val. xii, p. 474, pl. 367; Günth., Cat. iii, p. 169; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 335; Macleay, Aust. Cat. i, p. 208.
Hab.—Indian and Malayan seas; Sydney (Kner). Grows to 7 inches in length.

PEDICULATI.

BRACHIONICHTHYS HIRsutus.

Lophius hirsutus, Lacép., Ann. Mus. iv, p. 202, pl. 55, f. 3.
Chironectes hirsutus, Cuv. & Val. xii, p. 434.
Brachionichthys hirsutus, Bleek., Nat. Tyd. Ned. Ind. vii, 1854, p. 121; Günth., Cat. iii, p. 182; Macleay, Aust. Cat. i, p. 210; Günth., Voy. Challenger Shore Fishes, p. 28.
Hab.—Tasmania; Twofold Bay (Günther).

ANTENNARIUS MARMORATUS.

Lophius histrio, var. *marmoratus*, Bl. Schn., p. 142.
Chironectes marmoratus, Less., Voy. Coquille Zool. ii, p. 145, Poiss. pl. 16, f. 2; Cuv. & Val. xii, p. 402; Schleg., Faun. Japon. Poiss., p. 159, pl. 81, f. 1.
 ——— *pictus* var. *vittatus*, Rich., Voy. Erebus and Terror p. 15, pl. 9, ff. 3, 4.
Antennarius marmoratus, Günth., Cat. iii, p. 185, and Fische d. Sudsee, p. 162, t. 100, f. A.; Bleek., Atl. Ichthyol. v, p. 23, t. 198, f. 4, and t. 199, f. 1; Kner, Voy. Novara Fische, p. 192; Day, Fishes of India, p. 272; Macleay, Aust. Cat. i, p. 211.
Hab.—East African, Indian, Malayan, and Australian seas; Port Jackson. *Frog-fish* or *Angler* of Sydney. Grows to 5 inches in length.

ANTENNARIUS STRIATUS.

Lophius striatus, Shaw, Nat. Misc. v, pl. 175, and Zool. v, p. 385.
Antennarius striatus, Günth., Fische d. Sudsee, p. 162, pl. 99, f. B; Macleay, Aust. Cat. i, p. 212.
Hab.—Sandwich and Solomon Islands; Mauritius; Australian coasts; Port Jackson, common. *Frog-fish* and *Angler* at Sydney. Grows to 7 inches in length.

ANTENNARIUS PINNICEPS.

(Commerson), Cuv. and Val. xii, p. 410; Günth., Cat. iii, p. 190, and Ann. Nat. Hist. 1867, (3) xx, p. 61; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 457, (var.); Macleay, Aust. Cat. i, p. 212.
Chironectes tridens, Schleg., Faun. Japon. Poiss. (part) pl. 81, f. 4.
Hab.—Indian Ocean; Sydney (Günther).

ANTENNARIUS NUMMIFER.

Chironectes nummifer, Cuv., Mém. Mus. iii, p. 430, pl. 17, f. 4; Cuv. and Val. xii, p. 425; Rüpp., N. W. Fische, p. 141.
Antennarius nummifer, Günth., Cat. iii, p. 195, and Fische d. Sudsee, p. 164; Klunz., Fische d. Roth. Meer., p. 499; Bleek., Atl. Ichthyol. v, p. 18, t. 198, f. 2; Day, Fishes of India, p. 272, pl. 59, f. 2.
Chironectes coccineus, Less. & Garn., Voy. Coquille Poiss., p. 143, pl. 16, f. 1; Cuv. & Val. xii, p. 430; Günth., Cat. iii, p. 191; Macleay, Aust. Cat. i, p. 213.
Hab.—East African, Indian, Malayan, and South Seas; Port Jackson (Macleay). Grows to 6 inches long.

ANTENNARIUS COMMERSONII.

Lophius commersonii, Lacép. i, p. 327.
Chironectes commersonii, Cuv. & Val. xii, p. 426.
Antennarius commersonii, Cant., Cat., p. 204; Günth., Cat. iii, p. 192, and Fische d. Sudsee, p. 163, pls. 100-106; Macleay, Aust. Cat. i, p. 213.
Hab.—Indian Ocean; South Seas; Port Jackson, (Krefft).

COTTIDÆ.

PLATYCEPHALUS ARENARIUS.

Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

Hab.—Coasts of New South Wales, common. *Sand Flathead* of the Sydney market. Grows to the length of 15 inches. A well-flavored fish.

PLATYCEPHALUS BASSENSIS.

Cuv. & Val. iv, p. 247; Quoy & Gaim., Voy. Astrolabe Poiss., p. 683, pl. 10, f. 3; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 379; Macleay, Aust. Cat. i, p. 216.

Platycephalus tasmanius, Rich., Trans. Zool. Soc. iii, p. 97, and Voy. Erebus and Terror Fishes, p. 23, pl. 18, ff. 1, 2; Günth., Cat. ii, p. 179.

Hab.—Coasts of Tasmania, Victoria, and New South Wales; Port Jackson, common. Grows to 18 inches long.

PLATYCEPHALUS FUSCUS.

Cuv. & Val. iv, p. 241; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 379; Sauv., N. Arch. Mus. (2) i, p. 150; Macleay, Aust. Cat. i, p. 217; Tenison-Woods, Fisheries of N. S. Wales, p. 67, pl. 25.

Hab.—Port Jackson; Port Phillip; Maryborough (Ogilby). *Flathead* of the Sydney market. Attains to a length of 3 feet. One of the best food fishes of the Colony.

PLATYCEPHALUS LEVIGATUS.

Cuv. & Val. iv, p. 248; Quoy & Gaim., Voy. Astrolabe Poiss., p. 684, pl. 10, f. 4; Günth., Cat. ii, p. 179; Casteln., Proc. Zool. Soc. Viet. i, p. 81; Macleay, Aust. Cat. ii, p. 217.

Hab.—South and west coasts of Australia; Port Jackson (Kreffl). *Rock Flathead* at Melbourne. Grows to the length of 20 inches. An excellent fish for the table.

PLATYCEPHALUS CIRROKASUS.

Rich., Voy. Erebus and Terror Fishes, p. 114, pl. 51, ff. 7-10; Günth., Cat. ii, p. 180, and Study of Fishes, ff. 212, 213; Macleay, Aust. Cat. i, p. 221.

Hab.—Botany Bay; Port Jackson. Grows to 15 inches in length.

PLATYCEPHALUS LONGISPINIS.

Macleay, Proc. Linn. Soc. N. S. Wales ix, p. 170.

Hab.—Outside Port Jackson, in 50 fathoms. Length of specimen, 10 inches.

PLATYCEPHALUS MACRODON.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 226.

Hab.—Port Jackson. Length of specimen rather over 13 inches.

LEPIDOTRIGLA PAPILIO.

Trigla papilio, Cuv. and Val. iv, p. 80, pl. 73.

Lepidotrigla papilio, Günth., Cat. ii, p. 197; Sauv., N. Arch. Mus. (2) i, p. 155; Macleay, Aust. Cat. i, p. 223.

Hab.—Indian Ocean; Port Jackson, common. *Butterfly Gurnard* at Sydney. Grows to 5 inches long.

LEPIDOTRIGLA MULHALLI.

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 460.

Hab.—Outside Port Jackson, in 40 fathoms, common. Grows to 9 inches in length.

LEPIDOTRIGLA PLEURACANTHICA.

Trigla pleuracantha, Rich., Voy. Erebus and Terror Fishes, p. 23, pl. 16, ff. 1-4; Günth., Cat. ii, p. 202, and Study of Fishes, ff. 214, 215; Macleay, Aust. Cat. i, p. 225.

Lepidotrigla pleuracantha, Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

Hab.—Port Jackson, scarce. Specimen measures 6½ inches.

TRIGLA KUMU.

Less. & Garn., Voy. Coquille Poiss., pl. 19; Cuv. & Val. iv, p. 50; Jenyns, Voy. Beagle Fishes, p. 27; Schleg., Faun. Japon. Poiss., p. 37, pl. 14 a, f. 3; Günth., Cat. ii, p. 204; Kner, Voy. Novara Fische, p. 124, t. 6, f. 2 (*air-bladder*), and Sitzgsber, Ak. Wiss. Wien lviii, p. 318; McCoy, Prodr. Zool. Viet. dec. i, pl. 5; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 380; Macleay, Aust. Cat. i, p. 225; Tenison-Woods, Fisheries of N. S. Wales, p. 68, pl. 26.

Hab.—From the Cape seas to those of Japan and New Zealand; Port Jackson, common. Attains a length of 12 inches. A good fish for the table.

TRIGLA POLYOMMATA.

Rich., Proc. Zool. Soc. 1839, p. 96, and Trans. Zool. Soc. iii, p. 87, pl. 5, f. 2; Günth., Cat. ii, p. 204; Macleay, Aust. Cat. i, p. 226.

Hoplonotus polyommatus, Guich., Ann. Soc. Linn. Maine-et-Loire ix, Ichthyol.

Hab.—Coasts of South and West Australia; Tasmania; Port Jackson. *Flying Gurnard* of the fishermen. Grows to 15 inches long.

CATAPHRACTI.

DACTYLOPTERUS ORIENTALIS.

Cuv. and Val. iv, p. 134, pl. 76; Rich., Ichthyol. China, p. 218; Schleg., Faun. Japon. Poiss., p. 37, pl. 15a; Günth., Cat. ii, p. 222, Proc. Zool. Soc. 1871, p. 663, and Fische d. Sudsee, p. 169; Day, Fishes of India, p. 279, pl. 60, f. 6; Macleay, Aust. Cat. i, p. 227.

Dactylopterus japonicus, Bleek., Japan, p. 396.

—*chirophthalmus*, Bleek., Nat. Tyds. Ned. Ind. 1854, iv, p. 494; Günth., Cat. ii, p. 223 (*young*).
Hab.—Indian, Malayan, Japanese, Australian, and South Seas; Port Jackson. Grows to a foot in length.

PEGASIDÆ.

PEGASIDÆ.

PEGASUS DRACONIS.

Linn., Syst. Nat. i, p. 418; Bl., t. 109, ff. 1, 2; Günth., Cat. viii, p. 147; Day, Fishes of India, p. 280, pl. 61, f. 1.

Pegasus volans, Lacép. ii, p. 83 (not Linné).

——— *draco*, Swains., Fishes ii, p. 332; Günth., Fishes of Zanz., p. 138.

Hab.—Indian and Malayan seas; Port Jackson. Specimen measures 2 inches.

The single specimen from Port Jackson in the Australian Museum agrees pretty well with the species to which I have referred it, except that it has only eight pectoral rays; should further examination disclose other differences sufficient to authorize its specific separation, I would propose *pauciradiatus* as a suitable name.

GOBIIFORMES.

GOBIIDÆ.

GOBIUS ALBOPUNCTATUS.

Cuv. & Val. xii, p. 57; Günth., Cat. iii, p. 25, Fische d. Sudsee, p. 172, pl. 110, f. A., and Voy. Challenger Shore Fishes, p. 28; Kner, Voy. Novara Fische, p. 174; Day, Fishes of India, p. 294, pl. 63, f. 7; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 357, and Aust. Cat. i, p. 230.

Gobius nebulopunctatus, Rüpp., N. W. Fische, p. 139; Cuv. & Val. xii, p. 58.

——— *punctillatus*, Rüpp., Atl. Fische, p. 138, and N. W. Fische, p. 138.

——— *padangensis*, Bleek, Blenn. en Gob., p. 249.

Hab.—From the Red Sea, through the Indian and Malayan Seas to the Fiji and Sandwich Islands; north and east coasts of Australia; Port Jackson (Günther). Length, 4 inches.

GOBIUS BREVIFILIS.

Gobius caninus, Steind., Sitzgaber. Ak. Wiss. Wien 1867, lvi, p. 313 (not Cuv. or Günth.).

——— *brevifilis*, Day, Proc. Zool. Soc. 1867, p. 940.

?——— *krefftii*, Steind, Verh. z. b. Ges. Wien 1867, p. 326.

Hab.—Indian and Malayan Seas; Port Jackson (Günther). Length, 4 inches.

GOBIUS FRENATUS.

Günth., Cat. iii, p. 39; Kner, Voy. Novara Fische, p. 174; Macleay, Aust. Cat. i, p. 231.

Hab.—Port Jackson (Kner). Length, 4 inches.

GOBIUS BIFRENATUS.

Kner, Voy. Novara Fische, p. 177, t. 7, f. 3; Klunz., Sitzgaber. Ak. Wiss. Wien lxxx, Abth. i, p. 383; Macleay, Aust. Cat. i, p. 232.

Gobius bassensis, Casteln., Proc. Zool. Soc. Viet. i, p. 123.

Hab.—Coasts of Victoria and New South Wales; Port Jackson. Length, 5 inches.

GOBIUS SEMIFRENATUS.

Macleay, Aust. Cat. i, p. 233.

Hab.—Port Jackson.

GOBIUS BUCCATUS.

Cuv. & Val. xii, p. 60; Günth., Cat. iii, p. 14; Macleay, Aust. Cat. i, p. 236.

Hab.—Port Jackson (Macleay).

GOBIUS FLAVIDUS.

Macleay, Aust. Cat. i, p. 237.

Hab.—Port Jackson. Length, 1½ in.

GOBIUS DEPRESSUS.

Ramsay & Ogilby, Proc. Linn. Soc. N.S. Wales xi, (in press).

Hab.—Port Jackson. Length, 3.25 inches.

GOBIUS GOBIOIDES.

Gobius cristatus, Macleay, Aust. Cat. i, p. 245 (not Day).

Hab.—Port Jackson, abundant (Macleay); Richmond River, common (Ogilby); numerous examples have been brought from the latter locality to the Australian Museum by Mr. T. Temperley. Length, 5 inches.

The name *cristatus* having been given to an Indian Goby by Dr. Day in 1873 (v. Fishes of India, p. 291), it became necessary to change the name of the Australian fish; and in giving it the above specific name I have been guided by its very strong dentition and the obliquity of its mouth, which gives it a strong outward resemblance to the fishes of that genus.

ELEOTRIS MOGURNDA.

Rich., Voy. Erebus & Terror Fishes, p. 4, pl. 2, ff. 1, 2; Günth., Cat. iii, p. 3; Macleay, Aust. Cat. i, p. 252.

Hab.—Port Essington; Clarence River (Aust. Mus.) Length, 4 inches.

ELEOTRIS AUSTRALIS.

Krefft, Proc. Zool. Soc. 1864, p. 183; Casteln., Proc. Linn. Soc. N.S. Wales iii, p. 384; Macleay, Aust. Cat. i, p. 252.

Hab.—Rivers and creeks of the eastern watershed of New South Wales. Length, 4 inches.

ELEOTRIS COXII.

Krefft, Proc. Zool. Soc. 1864, p. 183; Macleay, Aust. Cat. i, p. 253.

Hab.—Rivers of the eastern watershed of New South Wales. *Gudgeon* of the colonists. Length, 5 inches.

ELEOTRIS

ELEOTRIS GRANDICEPS.

Kreffft, Proc. Zool. Soc. 1864, p. 183; Macleay, Aust. Cat. i, p. 253.
Hab.—Eastern rivers of New South Wales. Length, 3 inches.

ELEOTRIS GYMNOCEPHALUS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 453, pl. 2, f. 3; Günth., Ann. Nat. Hist. 1867, (3) xx,
 p. 62.
Hab.—Hawkesbury River (Günther, Krefft).

ELEOTRIS COMPRESSA.

Kreffft, Proc. Zool. Soc. 1864, p. 184; Bleek., Arch. Néerl. x, p. 147; Macleay, Aust. Cat. i, p. 254.
Eleotris brevisrostris, Steind.
Hab.—Port Denison; Clarence River. Length, 3½ inches.

ELEOTRIS OXYCEPHALA.

Schleg., Faun. Japon. Poiss., p. 150, pl. 77, ff. 4, 5; Günth., Cat. iii, p. 115; Kner., Voy. Novara Fische,
 p. 185; Macleay, Aust. Cat. i, p. 257.
Eleotris cantherius, Rich., Ichthyol. China, p. 209.
Hab.—Chinese and Japanese seas; Port Jackson (Kner). Length, 6 inches.

ELEOTRIS MASTERSII.

Macleay, Aust. Cat. i, p. 257.
Hab.—Rope's Creek (Macleay).

ELEOTRIS STRIATA.

Eleotris striatus, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 452.
Hab.—New South Wales.

ELEOTRIS RICHARDSONII.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 455.
Hab.—New South Wales.

GOBIOIDES PURPURASCENS.

Leme purpurascens, De Vis, Proc. Linn. Soc. N.S. Wales ix, p. 698.
Hab.—Brisbane River (De Vis); Clarence River (Ogilby). Length, 7 inches.
 The Australian Museum possesses a single specimen of a fish which was found by Mr. T. Temperley buried in mud on the bank of the Clarence River near its mouth. Having been dried before being placed in spirits it is impossible now to describe it, and as it appears to agree fairly well with De Vis's species, I have placed it provisionally under that heading, until an opportunity shall occur of comparing it with his type. I am unable to find sufficient differences to warrant the separation of *Leme* from *Gobioides*.

ARISTEUS FLUVIATILIS.

Casteln., Proc. Linn. Soc. N.S. Wales iii, p. 141.
Hab.—Murrumbidgee River; Rope's Creek. Length, 3½ inches.

ARISTEUS LINEATUS.

Macleay, Aust. Cat. i, p. 261.
Hab.—Richmond River. Length, 3 inches.

CALLIONYMIDÆ.

CALLIONYMUS CALAUROPOMUS.

Rich., Voy. Erebus and Terror Fishes, p. 10, pl. 7, ff. 4, 5; Günth., Cat. iii, p. 147; Macleay, Aust.
 Cat. i, p. 262.
Hab.—Coasts of Australia; Port Jackson, common. Length, 11 inches.

CALLIONYMUS PAPILIO.

Günth., Ann. Nat. Hist. 1864, (3) xiv, p. 197; Macleay, Aust. Cat. i, p. 262.
Callionymus ocellifer, Casteln., Proc. Zool. Soc. Vict. ii, p. 49.
Hab.—Melbourne (Günther); Port Jackson (Aust. Mus.). Length, 5 inches.

CALLIONYMUS CURVICORNIS.

Cuv. & Val. xii, p. 298; Günth., Cat. iii, p. 145.
Callionymus japonicus, Cuv. & Val. xii, p. 299 (not Hoult.)
 ——— *valenciennesii*, Schleg., Faun. Japon. Poiss., p. 153, pl. 78, f. 3.
 ——— *punctatus* (Langsd.), Rich., Ichthyol. China, p. 210.
 ——— *calcaratus*, Macleay, Aust. Cat. i, p. 263; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 121.
Hab.—Chinese and Japanese seas; Port Jackson. Length, 9 inches.

CALLIONYMUS MACLEAYI.

Callionymus lateralis, Macleay, Aust. Cat. i, p. 263 (not Richardson).
Hab.—Port Jackson. Length, under 3 inches.
 Richardson having previously called an Indian fish *lateralis*, I have much pleasure in naming the present species after its discoverer.

CALLIONYMUS LUNATUS.

Schleg., Faun. Japon. Poiss., p. 155, pl. 78, f. 4; Günth., Cat. iii, p. 146, and Voy. Challenger Shore
 Fishes, pp. 28 and 67; Macleay, Aust. Cat. App., p. 35.
Hab.—Japanese seas; Port Jackson (Günther). Length, 8 inches.

CALLIONYMUS PHASIS.

Günth., Voy. Challenger Shore Fishes, p. 28, pl. 15, f. C; Macleay, Aust. Cat. App., p. 35.
Hab.—Twofold Bay, 120 fathoms. Length, 4 inches.

BLENNIIFORMES.

BLENNIIFORMES.

TRICHONOTIDÆ.

HEMEROCÆTES HASWELLI.

Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 575.

Hab.—North Head, Port Jackson, in 10 fathoms. Length, 2½ inches.

BLENNIIDÆ.

BLENNIUS TASMANIANUS.

Rich., Trans. Zool. Soc. iii, p. 129; Günth., Cat. iii, p. 214; Macleay, Aust. Cat. ii, p. 3; Günth., Voy. Challenger Shore Fishes, p. 28.

Hab.—Tasmania; Port Jackson (Günther). *Lempriere's Blenny*. Length, 5 inches.

BLENNIUS UNICORNIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 384.

Hab.—Port Jackson. Length, 2 inches. Said to feed upon the living oysters.

BLENNIUS CASTANEUS.

Macleay, Aust. Cat. ii, p. 5.

Hab.—Port Jackson (Macl. Mus.)

PETROSCIPTES VARIABILIS.

Cant., Cat., p. 200; Günth., Cat. iii, p. 234; Day, Fishes of India, p. 327, pl. 69, f. 7; Macleay, Aust. Cat. ii, p. 6.

Hab.—Coasts of India and the Malay Archipelago; Port Jackson (Günther). Length, 4 inches.

PETROSCIPTES ANOLIS.

Blennechis anolius, Cuv. & Val. xi, p. 288.

Petroscirtes anolis, Günth., Cat. iii, p. 238; Macleay, Aust. Cat. ii, p. 6.

Hab.—Port Jackson. Length, 2 inches.

PETROSCIPTES SOLORENSIS.

Bleek., Solor, p. 81; Günth., Cat. iii, p. 235; Kner, Voy. Novara Fische, p. 196; Macleay, Aust. Cat. ii, p. 7.

Hab.—Sea of Lawajong; Sydney (Kner).

PETROSCIPTES MACLEAYI.

Petroscirtes fasciolatus, Macleay, Aust. Cat. ii, p. 8 (*not Ehrenb. or Cuv. and Val.*)

Hab.—Port Jackson. Length, 3 inches.

Cuv. & Val. having given the specific name of *fasciolatus* to a *Petroscirtes* (*Blennechis*) from the Red Sea, I am reluctantly obliged to re-name our Port Jackson species, but in doing so I take the opportunity of calling it after the talented author of the Descriptive Catalogue of Australian Fishes, in which work it is first differentiated.

PETROSCIPTES GUTTATUS.

Macleay, Aust. Cat. ii, p. 9.

Hab.—Port Jackson. Length, 3 inches.

PETROSCIPTES ROTUNDICEPS.

Macleay, Aust. Cat. ii, p. 9.

Hab.—Port Jackson. Length, 3 inches.

PETROSCIPTES CRISTICEPS.

Macleay, Aust. Cat. ii, p. 9.

Hab.—Port Jackson (Macleay); Clarence River (Ogilby). A single specimen brought down by Mr. T. Temperley. Length, 3 inches.

PETROSCIPTES WILSONI.

Macleay, Proc. Linn. Soc. N. S. Wales ix, p. 171.

Hab.—Port Jackson. Length, 2½ inches.

LEPIDOBLENNIUS GEMINATUS.

Macleay, Aust. Cat. ii, p. 13.

Hab.—Port Jackson, common in rock-pools; Port Hacking; Jervis Bay. Length, 5 inches.

PETRAITES HEPTÆOLUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 225.

Hab.—Port Jackson. Length, 3½ inches.

CRISTICEPS NASUTUS.

Günth., Cat. iii, p. 273; Macleay, Aust. Cat. ii, p. 18.

Hab.—New South Wales (Günther). Length, nearly 2 inches.

CRISTICEPS FASCIATUS.

Macleay, Aust. Cat. ii, p. 19.

Hab.—Port Jackson.

CRISTICEPS MACLEAYI.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 385.

Hab.—Port Jackson, common. Length, 7 inches.

CRISTICEPS AURANTIAOUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 386.
Hab.—Port Jackson; Kiama. Length, 9 inches.

CRISTICEPS PICTUS.

Macleay, Aust. Cat. ii, p. 25.
Hab.—Port Jackson. Length, 3 inches.

CRISTICEPS ARGYROPLEURA.

Kner, Voy. Novara Fische, p. 199, t. 7. f. 4; Macleay, Aust. Cat. ii, p. 25.
Hab.—Port Jackson, common. Length, 4 inches.

TRIPTERYGIUM *sp.*

Günth., Voy. Challenger Shore Fishes, p. 28.
Hab.—Port Jackson.

STICHARIUM DORSALE.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 63; Macleay, Aust. Cat. ii, p. 29.
Hab.—? Port Jackson (Günther.) Length, 2½ inches.

PATECUS FRONTO.

Rich., Ann. Nat. Hist. 1844, xiv, p. 280, and Voy. Erebus and Terror Fishes, p. 20, pl. 13; Günth., Cat. iii, p. 292, and Study of Fishes, f. 227; Macleay, Aust. Cat. ii, p. 30.
Hab.—Australian seas; Port Jackson; Richmond River. Length, 9 inches.

PATECUS MACULATUS.

Günth., Cat. ii, p. 292; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 231; Macleay, Aust. Cat. ii, p. 31.
Hab.—West Australia; Port Jackson (Kreff.)

MUGILIFORMES.

SPHYRENIDÆ.

SPHYRENA NOVE-HOLLANDIÆ.

Günth., Cat. ii, p. 335; Macleay, Aust. Cat. ii, p. 32.
Hab.—Coasts of Victoria and New South Wales. Attains to 25 inches in length. *Pike* of Port Jackson.

SPHYRENA OBTUSATA.

Cuv. & Val. iii, p. 350; Schleg., Faun. Japon. Poiss, p. 33, pl. 13, f. 2; Günth., Cat. ii, p. 339, and Fische d. Sudsee, p. 211, pl. 119, f. B.; Kner, Voy. Novara Fische, p. 140; Klunz., Verh. z. b. Ges. Wien 1870, p. 820; Day, Fishes of India, p. 343, pl. 71, f. 5; Macleay, Aust. Cat. ii, p. 34.

Sphyraena flavicauda, Rüpp., N. W. Fische, p. 100, t. 25. f. 3.
Hab.—From the Red Sea through those of India and the Malay Archipelago to Japan and Australia; Port Jackson, common. *Pike* of the fishermen. Grows to 20 inches long.

ATHERINIDÆ.

ATHERINA LACUNOSA.

Forst., Descr. Anim. p. 298; Bl. Schn., p. 112; Günth., Fische d. Sudsee, p. 213, pl. 118, f. E (*not Bleek*).
Atherina pinguis, Lacép. v., p. 372, pl. 11, f. 1; Günth., Cat. iii, p. 399; Klunz., Fische d. Roth. Meer., p. 833; Day, Fishes of India, p. 344; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 340; Macleay, Aust. Cat. ii, p. 38.

——— *affinis*, Benn., Proc. Zool. Soc. 1831, i, p. 166.

——— *pectoralis*, Cuv. & Val. x, p. 447.

——— *forskali*, Rüpp., N. W. Fische, p. 132, t. 33, f. 1; Günth., Cat. iii, p. 397; Day, Fishes of India, p. 345, pl. 71, f. 4; Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 362.

Hab.—East African, Indian, Malayan, Australian, and South Seas; New South Wales coast, abundant. *Hardihead* of Sydney. Grows to a length of 6 inches; an excellent breakfast fish.

ATHERINA SIGNIFER.

Pseudomugil signifera, Kner, Voy. Novara Fische, p. 275, pl. 13, f. 5, a and b.
Atherina signata, Günth., Ann. Nat. Hist. 1867, (3) xx, p. 64; Macleay, Aust. Cat. ii, p. 40.
Hab.—Cape York (Günther); Sydney (Kner). Length, 1½ in.

ATHERINICHTHYS JACKSONIANA.

Atherina jacksoniana, Quoy & Gaim., Voy. Uranie Zool., p. 333; Cuv. & Val. x, p. 461.

Atherinichthys jacksoniana, Günth., Cat. iii, p. 402; Macleay, Aust. Cat. ii, p. 41.

Hab.—Tasmania; Port Jackson. Length, 4½ inches.

ATHERINICHTHYS DUBOULAYI.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 143.
Hab.—Richmond River. Length rather over 3 inches.

NEMATOCENTRIS NIGRANS.

Atherina nigrans, Rich., Ann. Nat. Hist. 1843, xi, p. 180.

Atherinichthys nigrans, Günth., Cat. iii, p. 406.

Nematocentris splendida, Peters, Monatsber. Ak. Wiss. Berl. 1866 (July), p. 516.

Strabo nigrofasciatus, Kner & Steind., Sitzgsber. Ak. Wiss. Wien 1866 (Oct.), p. 372, f. 10 (*immature*)
Nematocentris

Nematocentris nigrans, Günth., Ann. Nat. Hist. 1867, (3) xx, p. 65.

Hab.—Fresh waters of North Australia; Clarence and Severn Rivers, N. S. Wales. Length, 5 inches.

MUGILIDÆ.

MUGIL GRANDIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 386; Macleay, op. cit. iv, p. 412; Tenison-Woods, Fisheries of N. S. Wales, p. 71, pl. 30.

Hab.—From Brisbane to the Gippsland Lakes, common. *Sea Mullet* of the Sydney market. Length up to 2 feet. An excellent food fish.

MUGIL DOBULA.

Günth., Cat. iii, p. 420, and Fische d. Sudsee p. 214, pl. 120, f. A; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 387, Macleay, op. cit. iv, p. 415, and viii, p. 208.

Hab.—Coasts of New South Wales and Queensland, entering fresh waters, common; Aneiteum; Sandwich Islands. *Hard-gut Mullet* of Sydney. Length up to 15 inches. An excellent food fish.

MUGIL OEUR.

Mugil œur, Forsk., p. 74; Rüpp., N. W. Fische, p. 131.

——— *cephalotus*, Cuv. & Val. xi, p. 110; Cant., Ann. Nat. Hist. 1842, ix, p. 284; Eyd. & Soul., Voy. Bonite Zool. i, p. 175, pl. 4, f. 4; Günth., Cat. iii, p. 419; Kner, Voy. Novara Fische, p. 224; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 416.

——— *japonicus*, Schleg., Faun. Japon. Poiss., p. 134, pl. 72, f. 1; Rich., Ichthyol. China, p. 247.

——— *œur*, Klunz., Fische d. Roth. Moer., p. 829; Day, Fishes of India, p. 353, pl. 75, f. 3; Steind., Denk. Ak. Wien xlv, p. 40.

Hab.—From the Red Sea through those of India to China, Japan, and Australia; Sydney (Kner). Length up to 3 feet.

MUGIL ARGENTUS.

Quoy. & Gaim., Voy. Uranie Poiss., p. 338, pl. 59, f. 3; Günth., Cat. iii, p. 424, and Fische d. Sudsee, p. 214; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 417.

Mugil ferrandi, Cuv. & Val. xi, p. 142.

Hab.—S. Australia; Fitzroy River; Port Jackson (Günther); Richmond River (Aust. Mus.). Length up to 12 inches.

MUGIL LONGIMANUS.

Günth., Cat. iii, p. 428; Steind., Denk. Ak. Wien xli, p. 5.

Hab.—East Indian Archipelago; Port Jackson (Steindachner).

MUGIL BREVICEPS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 459, t. 1, f. 1.

Hab.—Port Jackson.

MUGIL AUSTRALIS.

Steind., Denk. Ak. Wien xli, p. 5.

Hab.—Port Jackson.

MUGIL PERONII.

Cuv. & Val. xi, p. 138; Günth., Cat. iii, p. 452; Casteln., Proc. Zool. Soc. Vict. ii, p. 151, and Proc. Linn. Soc. N. S. Wales iii, p. 387; Macleay, op. cit. iv, p. 421.

Hab.—Coasts of Victoria, New South Wales, and Queensland, common. *Flat-tail Mullet* of Sydney market. Length up to 12 inches. An excellent fish for the table.

MUGIL COMPRESSUS.

Günth., Cat. iii, p. 451, and Fische d. Sudsee, pl. 123, f. A; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 421, and viii, p. 269.

Hab.—New South Wales (Günther); Port Darwin (Macleay); Richmond River (Ogilby). Length up to 1 foot.

MUGIL PETTARDI.

Casteln., Res. on the Fishes of Aust., p. 32; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 422.

Hab.—Richmond River, common. *Richmond Mullet*. Length up to 15 inches. Of excellent quality for the table.

I have omitted *Mugil crenidens*, Kner (Voy. Novara Fische, p. 229), because he gives the locality merely as New Holland (not Sydney, as stated by the Hon. Wm. Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 424), which is much too vague.

MYXUS ELONGATUS.

Günth., Cat. iii, p. 466; Kner, Voy. Novara Fische, p. 230; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 426.

Hab.—Coasts of Victoria and New South Wales. *Sand Mullet* and *Tallegallon* of the fishermen. Length up to 12 inches. Little esteemed as an article of food.

GASTROSTEIFORMES.

FISTULARIIDÆ.

FISTULARIA SERRATA.

Fistularia tabaccaria, White, Voy. N. S. Wales, p. 296, f. 2; Bl., t. 387, ff. 2, 3.

——— *serrata*, Cuv. Règne Anim.; Günth., Cat. iii, p. 533, and Voy. Challenger Shore Fishes, p. 68, pl. 32, f. C; Kner, Voy. Novara Fische, p. 238; Day, Fishes of India, p. 360, pl. 76, f. 3; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 388; Macleay, op. cit. viii, p. 270, and Aust. Cat. ii, p. 49.

——— *immaculata*, Cuv., Règne Anim.; Rich., Ichthyol. China, p. 247; Schleg., Faun. Japon. Poiss., p. 820. *Fistularia*

Fistularia commersonii, Rüpp., N. W. Fische, p. 142.

Hab.—From the east coast of Africa through the Indian seas to China and Australia; Bermudas; Port Jackson, common. *Pipe-fish* of the Sydney fishermen. Grows to 5 feet in length.

FISTULARIA DEPRESSA.

Günth., Voy. Challenger Shore Fishes, p. 69, pl. 32, f. D.

Hab.—From the east coast of Africa through all the Indian seas to China and Australia; Fiji Islands; Coast of California; New South Wales (Günther). Grows to 5 feet in length.

CENTRISCIFORMES.

CENTRISCIDÆ.

CENTRISCUS GRACILIS.

Lowe, Proc. Zool. Soc. 1839, p. 86, and Trans. Zool. Soc. iii, p. 12; Günth., Cat. iii, p. 521; Macleay, Aust. Cat. App., p. 42.

Hab.—Madeira; West coast of Africa; Chinese and Japanese seas; Port Jackson. Length of specimen rather over 4 inches. Our example belongs to the short-spined form, var. *japonicus*, Günth.

GOBIESOCIFORMES.

GOBIESOCIDÆ.

DIPLOCREPIS COSTATUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 270.

Hab.—Port Jackson. Length up to 2½ inches.

CREPIDOGASTER TASMANIENSIS.

Günth., Cat. iii, p. 507; Kner, Voy. Novara Fische, p. 277; Macleay, Aust. Cat. ii, p. 53.

Hab.—Tasmania; Sydney (Kner). Length 2.15 inches.

CHANNIFORMES.

OPHIOCEPHALIDÆ.

OPHIOCEPHALUS STRIATUS.

Bloch, t. 359; Cuv. & Val. vii, p. 417, pls. 202 and 206; Günth., Cat. iii, p. 474, and Study of Fishes, f. 234; Kner, Voy. Novara Fische, p. 234; Day, Fishes of India, p. 366 (*stom. & cæc. pyl. figd.*); Bleek., Atl. Ichthyol. Oph., t. 3, f. 1; Macleay, Aust. Cat. ii, p. 54.

Hab.—Fresh waters of India, Burmah, China and the Philippines; Sydney (Kner.) Attains to the length of 3 feet.

LABYRINTHIBRANCHII.

LABYRINTHICI.

POLYACANTHUS CUPANUS.

Cuv. & Val. vii, p. 357; Günth., Cat. iii, p. 381; Kner, Voy. Novara Fische, p. 218; Day, Fishes of India, p. 371, pl. 78, f. 4.

Hab.—Coasts of India; Sydney (Kner). Length up to 3 inches.

TENIIFORMES.

TRACHYPTERUS JACKSONENSIS.

Regalecus jacksonensis, Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 631, pl. 20.

Hab.—Coast of New South Wales; Port Jackson. *Southern Ribbon-fish*. Largest specimen 7 feet. Closely allied to *Trachypterus arcticus*.

ACANTHOPTERYGII PHARYNGOGNATHI.

POMACENTRIDÆ.

POMACENTRUS UNIFASCIATUS.

Steind., Sitzgsber. Ak. Wiss. Wien lvi, p. 326; Kner, op. cit. lviii, pp. 31 & 348, t. 8, f. 24.

Hab.—Fiji, (Kner); Port Jackson (Steindachner).

POMACENTRUS DOLII.

Macleay, Aust. Cat. ii, p. 65, pl. 1, f. 1.

Hab.—Port Jackson. Length up to 4 inches. Lives in large shells, such as those of *Dolium variegatum*.

PARMA MICROLEPIS.

Günth., Cat. iv, p. 57; Macleay, Aust. Cat. ii, p. 69.

Hab.—Port Jackson; Botany Bay. Length up to 6 inches.

PARMA SQUAMIPINNIS.

Günth., Cat. iv, p. 58; Macleay, Aust. Cat. ii, p. 69.

Glyphidodon australis, Steind., Sitzgsber. Ak. Wiss. Wien lvi, p. 328.

Hab.—Port Jackson. Length 8 inches.

HELIASTES HYPHILEPIS.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 66; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 388; Macleay, Aust. Cat. ii, p. 71.

Hab.—Port Jackson. Length 6.50 inches.

HELIASTES IMMACULATUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 416.

Hab.—Port Jackson. Length up to 6 inches.

LABRIDÆ.

HETEROCHÆROPS VIRIDIS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 461, pl. 5, f. 3.

Hab.—Port Jackson.

TROCHOCOPIUS UNICOLOR.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 398; Macleay, Aust. Cat. ii, p. 70.

Hab.—Port Jackson (Günther). Length of specimen 14.50 inches.

COSSYPHUS UNIMACULATUS.

Günth., Cat. iv, p. 109; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 389; Macleay, Aust. Cat. ii, p. 77; Tenison-Woods, Fisheries of New South Wales, p. 75, pl. 32.

Hab.—New South Wales coast; Port Jackson, common. *Pig-fish* of the Sydney market. Attains a length of 18 inches. An excellent table-fish.

COSSYPHUS GOULDII.

Labrus gouldii, Rich., Ann. Nat. Hist. 1843, xi, p. 353.

Cossyphus vel Lachnolaimus gouldii, Rich., Voy. Erebus & Terror Fishes, p. 132.

Cossyphus gouldii, Rich., Ann. Nat. Hist. 1851, (2) vii, p. 298, and Proc. Zool. Soc. 1850, p. 72, pl. 3, f. 3; Macleay, Aust. Cat. ii, p. 78; Tenison-Woods, Fisheries of N. S. Wales, p. 74, pl. 31.

Hab.—Western Australia; Port Jackson, common. *Blue Groper* of the fishermen. Attains a length of 40 inches. A good table fish. Though it seems impossible to specifically separate our common Blue Groper from the fish described by Sir John Richardson as *Cossyphus gouldii*, it should nevertheless be borne in mind that our fish invariably has a strong posterior canine tooth at each angle of the mouth, and that the fishes, though common at each of the localities mentioned, have not hitherto been recorded from intermediate localities.

Cossyphus vulpinus, Rich., has been included in Castelnau's list (Proc. Linn. Soc. N. S. Wales iii, p. 354), and again in the Report on the Fisheries of New South Wales, App. E, p. 54, but no proof of its occurrence is adduced.

LABRICHTHYS CELIDOTUS.

Labrus celidotus, Forst., Descr. Anim. ed. Licht, p. 133; Bl. Schn., p. 265; Rich., Voy. Erebus and Terror Fishes, p. 53, pl. 31, ff. 1—5.

——— *pæcilopleura*, Cuv. & Val. xiii, p. 95.

Sparus notatus, Solander, MS.

Julis (?) *notatus*, Rich., Ann. Nat. Hist. 1843, xi, p. 425.

Labrichthys celidota, Günth., Cat. iv, p. 113, & Ann. Nat. Hist. 1876, (4) xvii, p. 398; Macleay, Aust. Cat. ii, p. 78.

Hab.—Coasts of Australia and New Zealand; Botany Bay.

LABRICHTHYS LATICLAVIUS.

Labrus laticlavus, Rich., Proc. Zool. Soc. 1839, p. 99, & Trans. Zool. Soc. iii, p. 139, & Voy. Erebus & Terror Fishes, p. 128, pl. 56, ff. 3—6.

Labrichthys laticlavus, Günth., Cat. iv, p. 115, and Ann. Nat. Hist. 1867, (3) xx, p. 66; Macleay, Aust. Cat. ii, p. 80.

Hab.—Coasts of Tasmania; King George's Sound; Port Jackson, common. Length up to a foot.

LABRICHTHYS LUCULENTUS.

Labrus luculentus, Rich., Voy. Erebus & Terror Fishes, p. 130.

Labrichthys luculenta, Günth., Cat. iv, p. 116; Macleay, Aust. Cat. ii, p. 80.

Hab.—East and west coasts of Australia; Norfolk Island; Port Jackson. Length 6 inches.

LABRICHTHYS PARILUS.

Tautoga parila, Rich., Proc. Zool. Soc. 1850, p. 70, & Ann. Nat. Hist. 1851, (2) vii, p. 286.

Labrichthys parila, Günth., Cat. iv, p. 117; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 389; Macleay, Aust. Cat. ii, p. 81.

Hab.—West Australia; Port Jackson (Castelnau). Length up to 8 inches.

LABRICHTHYS GYMNOGENIS.

Günth., Cat. iv, p. 117, and Ann. Nat. Hist. 1867, (3) xx, p. 66; Steind., Sitzgsber. Ak. Wiss. Wien lvi, p. 342; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 389; Macleay, Aust. Cat. ii, p. 82.

Hab.—Port Jackson, common. Length up to a foot.

LABRICHTHYS NIROMARGINATUS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 35, pl. 3, f. 3.

Hab.—Port Jackson. Length up to a foot.

LABRICHTHYS DORSALIS.

Macleay, Aust. Cat. ii, p. 87.

Hab.—Port Jackson. Length 7 inches.

LABRICHTHYS LABIOSUS.

Macleay, Aust. Cat. ii, p. 88.
Hab.—Port Jackson.

LABRICHTHYS MELANURUS.

Macleay, Aust. Cat. ii, p. 88, pl. 1, f. 2.
Hab.—Port Jackson. Length 6 inches.

PLATYGLOSSUS TRIMACULATUS.

Julis trimaculata, Quoy & Gaim., Voy. Astrolabe Zool. ii, p. 705, pl. 20, f. 2; Cuv. & Val. xiii, p. 452.
Julis spilurus, Bleek., Banda i, p. 252.
Güntheria trimaculata, Bleek., Atl. Ichthyol. Labr., p. 138, t. 32, f. 1.
PlatyGLOSSUS trimaculatus, Günth., Cat. iv, p. 153; Kner, Voy. Novara Fische, p. 255; Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 273.
Hab.—Sea of Vanicolo; East Indian Archipelago; South-east New Guinea (Macleay); Sydney (Kner). Length up to 5 inches.

NOVACULA JACKSONIENSIS.

Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 198.
Hab.—Port Jackson. Example immature.

CORIS LINEOLATA.

Julis lineolata, Cuv. & Val. xiii, p. 436.
 ——— *cyanogramma*, Rich., Ann. Nat. Hist. 1851, (2) vii, p. 289, and Proc. Zool. Soc. 1850, p. 73.
Ophthalmolepis lineolata, Bleek., Proc. Zool. Soc. 1861, p. 413; Kner, Voy. Novara Fische, p. 258, pl. 11, f. 1.
Coris lineolata, Günth., Cat. iv, p. 206; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 390.
Hab.—Australian coasts; Port Jackson, common. *Maori* of the New South Wales coast. Grows to 15 inches in length. Said to be fair eating.

CORIS SEMICINCTA.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 301.
Hab.—Lord Howe's Island; Broken Bay.

CORIS REX.

Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).
Hab.—Bondi, N. S. Wales. Length 16.50 inches.

PSEUDOSCARUS OCTODON.

Bleek., Atl. Ichthyol. Scar., p. 33, t. 13, f. 2; Günth., Cat. iv, p. 234; Kner, Voy. Novara Fische, p. 262.
Hab.—Buton (Bleeker); Sydney (Kner). Length up to 9.50 inches.

HETEROSCARUS FILAMENTOSUS.

Casteln., Proc. Zool. Soc. Vict. i, p. 245, & ii, p. 74; Macleay, Aust. Cat. ii, p. 104.
Hab.—South Australia; Port Jackson. Length up to 7 inches.

HETEROSCARUS CASTELNAULI.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 36, pl. 5, f. 2.
Hab.—Port Jackson. *Rainbow-fish* at Sydney. Length up to 9 inches. Very closely allied to the preceding species; perhaps the female of it.

ODAX BALTEATUS.

Cuv. & Val. xiv, p. 303; Günth., Cat. iv, p. 240; Macleay, Aust. Cat. ii, p. 106.
Odax algensis, Rich., Proc. Zool. Soc. 1840, p. 26, and Trans. Zool. Soc. iii, p. 148.
Hab.—Tasmania; Port Jackson. *Kelp-fish* of Tasmania.

ODAX SEMIFASCIATUS.

Cuv. & Val. xiv, p. 299, pl. 407; Günth., Cat. iv, p. 241; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 390; Macleay, Aust. Cat. ii, p. 107.
Hab.—Port Jackson, common. *Rock Whiting* of the Sydney market. Grows to the length of 15 inches. A poor food-fish.

ODAX RICHARDSONII.

Odax pusillus, Cuv. & Val. xiv, pl. 408 (*not Forst*).
 ——— *richardsonii*, Günth., Cat. iv, p. 241, and Ann. Nat. Hist. 1867, (3) xx, p. 66; Casteln., Proc. Zool. Soc. Vict. i, p. 152; Macleay, Aust. Cat. ii, p. 107.
 ——— *hyrtlü*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 464.
Hab.—Port Phillip; Tasmania (Aust. Mus.); New South Wales (Günther). The *Stranger* at Melbourne. Attains a length of 15 inches.

ODAX BRUNNEUS.

Macleay, Aust. Cat. ii, p. 109.
Hab.—Port Jackson. Length 3.50 inches.

ODAX OBSCURUS.

Casteln., Proc. Zool. Soc. Vict. i, p. 154, and Proc. Linn. Soc. N. S. Wales iii, p. 391; Macleay, Aust. Cat. ii, p. 108.
Hab.—Port Phillip & Port Jackson (Castelnau).

OLISTHEROPS BRUNNEUS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 36, pl. 5, f. 1.

Hab.—Port Jackson. *Herring-cod* at Sydney. Length up to 18 inches. In a fresh state the males of this species correspond exactly with Sir John Richardson's description of *O. cyanomelas*, except that I have never seen the blue pectoral streak which he describes, and more especially all our examples have from 56 to 59 scales in the lateral line; in fact if fifty-eight were read instead of forty-eight in Richardson's description it would be impossible to separate the two forms.

ANACANTHINI.

GADOPSIDÆ.

GADOPSIS MARMORATUS.

Rich., Voy. Erebus & Terror Fishes, p. 122, pl. 59, ff. 6-11; Günth., Cat. iv, p. 318; Macleay, Aust. Cat. ii, p. 112.

Hab.—Fresh waters of Tasmania, South Australia, Victoria, and New South Wales. Prof. M'Coy. (Prodr. Zool. Vict. dec. iii, pl. 27, f. 2) has described a *Gadopsis* from the Yarra, which he names *G. gracilis*, and a second from the Bunyip River, Gippsland, under the name of *G. gibbosus*. The differences between these and the typical form appear to be slight, and only such as might be expected in a species of such wide range, and which exists under such different conditions of life and diversities of climate. The Hon. Wm. Macleay also mentions a *Gadopsis* (Proc. Linn. Soc. N. S. Wales x, p. 267) which is more elongate than *G. marmoratus*, and which is probably the same form which Prof. M'Coy describes as *G. gracilis*; it came from the Little River, near Yass, New South Wales.

Gadoidei.

GADIDÆ.

LOTELLA FULIGINOSA.

Günth., Cat. iv, p. 347; Macleay, Aust. Cat. ii, p. 114.

Hab.—Port Jackson, (Castelnau) *vide* Macleay. Count Castelnau gives no description of the fish which he includes in his list as *L. rubiginosa*, Günth., and I doubt the propriety of continuing to keep it in the New South Wales catalogue, the more so since Castelnau may have had in his mind the *Gadus rubiginosus* of Solander's MS., which is probably our *Pseudophycis bachus*.

LOTELLA CALLARIAS.

Günth., Ann. Nat. Hist. 1863, (3) xi, p. 116; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 391; M'Coy, Prodr. Zool. Vict. dec. ii, pl. 19; Macleay, Aust. Cat. ii, p. 114.

Lotella schuettii, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 456.

Hab.—Port Phillip; Port Jackson (Castelnau). *Small-scaled Rock-cod*. Attains to the length of 24 inches. Not much esteemed for the table.

LOTELLA LIMBATA.

Lotella marginata, Macleay, Aust. Cat. ii, p. 114; Tenison-Woods, Fisheries of N. S. Wales, p. 76, pl. 23 (*low. fig.*)

Hab.—Port Jackson. *Beardy* of the Sydney Market. Length up to 20 inches. Dr. Günther (Ann. Nat. Hist. 1878, (5) ii, p. 19) having given the specific name of *marginata* to a *Lotella* obtained by the Challenger Expedition, off the south-western coast of South America, I am obliged to change the name of our species, and I have selected in its place a name which conveys the same meaning as that under which the species was originally described by the Hon. Wm. Macleay.

LOTELLA GRANDIS.

Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 462.

Hab.—Wollongong.

PSEUDOPHYCIS BACHUS.

Gadus bacchus, Forst., Descr. Anim. ed. Licht., p. 120.

Enchelyopus bacchus, Bl. Schn., p. 53.

Lota breviscula, Rich., Voy. Erebus & Terror Fishes, p. 61, pl. 38, f. 1.

Lotella bacchus, Günth., Cat. iv, p. 347; Parker, Trans. N. Zeal. Inst. xv, p. 234, pl. 33.

Pseudophycis brevisculus, Günth., Cat. iv, p. 350; Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 717.

——— *bachus*, Günth., Voy. Challenger Shore Fishes, p. 28, and Study of Fishes, p. 542, f. 248.

Hab.—New Zealand; coast of New South Wales; Twofold Bay (Günther); Port Jackson, Ramsay. *Red cod* of New Zealand.

Pleuronectoidei.

PLEURONECTIDÆ.

PSEUDORHOMBUS RUSSELLII.

Platessa russellii, Gray & Hardw., Ill. Ind. Zool., t. 91, f. 2; Cant., Cat. Mal. Fishes, p. 214.

Rhombus lentiginosus, Rich., Ann. Nat. Hist. 1843, xi, p. 495.

Platessa chrysoptera, Rich., Ichthyol. China, p. 278.

Rhombus arsius, Bleek., Beng. en Hind., p. 76.

Pseudorhombus russellii, Günth., Cat. iv, p. 424; Kner, Voy. Novara Fische, p. 283; Bleek., Atl. Ichthyol. Pleuronect., p. 6, t. 233, f. 2; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 391; Macleay, op. cit. ii, p. 362, and Aust. Cat. ii, p. 124; Tenison-Woods, Fisheries of N. S. Wales, p. 76, pl. 33.

——— *arsius*, Günth., Cat. iv, p. 426; Day, Fishes of India, p. 423, pl. 91, f. 5.

Teratorhombus excisiceps, Macleay, Aust. Cat. ii, p. 126 (*malformation*).

Hab.—From the east coast of Africa through the Indian seas to Australia; Port Jackson, common in summer. *Flounder* of Port Jackson. Attains to the length of 15 inches. A moderate fish for the table.

PSEUDORHOMBUS

PSEUDORHOMBUS MULTIMACULATUS.

Günth., Cat. iv, p. 427; Macleay, Aust. Cat. ii, p. 125.

Hab.—Coast of New South Wales, common. *Flounder* of Port Jackson; not distinguished from the preceding. Grows to 12 inches in length. A moderate table fish.

RHOMBOIDICHTHYS SPINICEPS.

Macleay, Aust. Cat. ii, p. 127.

Hab.—Port Jackson. Length 4.50 inches.

LOPHONECTES GALLUS.

Günth., Voy. Challenger Shore Fishes, p. 29, pl. 15, f. B. (*very bad*).

Lophorhombus cristatus, Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 14.

Hab.—Port Jackson. Length up to 7 inches. In Dr. Günther's figure the fish is colored on the wrong side, the short first dorsal ray is omitted, and there is a separation between the elongate and short rays of that fin, which is purely imaginary.

AMMOTRETIS ADSPERSUS.

Ammotretis rostratus, var. *adpersus*, Kner, Voy. Novara Fische, p. 286, t. 13, f. 4.

——— *zonatus*, Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 367.

——— *macleayi*, Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 121.

Rhombosolea bassensis, Casteln., Proc. Zool. Soc. Vict. i, p. 167.

Hab.—Coasts of New South Wales and Victoria. Attains to the length of 10 inches.

It is probable that this species will prove to be identical with the *Ammotretis rostratus* of Dr. Günther, but his specimen must have been abnormally elongate, if the comparative measurement of height given in the Catalogue of Fishes, vol. iv, p. 458, is correct. Should further examination prove their identity, the range of the fish would be increased by Tasmania, whence it was originally described, and New Zealand, from which it has been recorded by Hutton, (Trans. N. Zeal. Inst. viii, p. 215), who had previously (op. cit. v, p. 267, pl. 11) described an *A. guentheri* from the same place. The Australian Museum is fortunate in possessing the type specimen of Count Castelnau's *Rhombosolea bassensis*, labelled in his own handwriting, and it is undoubtedly this species.

LEOPS PARVICEPS.

Günth., Voy. Challenger Shore Fishes, p. 29, pl. 15, f. A.

Hab.—Twofold Bay, 120 fathoms (?) Length, to 5.50 inches.

RHOMBOSOLEA LEPORINA.

Günth., Cat. iv, p. 460; Kner, Voy. Novara Fische, p. 287; Hutton, Trans. N. Zeal. Inst. v, p. 268, pls. 11, 12; Macleay, Aust. Cat. ii, p. 130.

Hab.—Sydney (Kner). Length, up to 8 inches.

Rhombosolea flesoides, Günth., is included in Castelnau's list (Proc. Linn. Soc. N. S. Wales iii, p. 354), but no authority is given.

SOLEA MICROCEPHALA.

Günth., Cat. iv, p. 466; Kner, Voy. Novara Fische, p. 288; Macleay, Aust. Cat. ii, p. 135.

Hab.—New South Wales coast; Port Jackson, common. Length, up to 8 inches.

SOLEA MACLEAYANA.

Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 462.

Hab.—Port Jackson. Length, up to 7 inches.

SOLEA FLUVIATILIS.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 111.

Hab.—Hunter River, fresh water. Length, 3.60 inches.

SOLEA LINEATA.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 406.

Hab.—Port Stephens. Length, 2.75 inches.

SOLEA HUMILIS.

Cant., Cat. Mal. Fishes, p. 219; Günth., Cat. iv, p. 471; Kner, Voy. Novara Fische, p. 288.

Solea maculata, Bleek., Verhand. Bat. Genootsch. xxiv, Pleuronect., p. 17.

Hab.—Seas of Java and Penang; Sydney (Kner). Length, up to 4 inches.

ACHIRUS PAVONINUS.

Lacép. iv, pp. 658, 661; Bleek., Atl. Ichthyol. Pleuronect., p. 24, pl. 241, f. 1; Day, Fishes of India, p. 427, pl. 93, f. 2.

Pleuronectes pavoninus, Shaw, Zool. iv, p. 310.

Pardachirus pavoninus, Günth., Cat. iv, p. 479; Macleay, Proc. Linn. Soc. N. S. Wales i, p. 347, and Aust. Cat. ii, p. 156.

Solea (Pardachirus) pavonina, Steind., Fische Sing. 1870, p. 570.

Hab.—Malay Archipelago; Australian coasts; Port Jackson. Length, up to 6 inches.

SYNAPTURA QUAGGA.

Aesopia quagga, Kaup, Wieg. Arch. 1858, p. 98.

Synaptura quagga, Günth., Cat. iv, p. 485; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 392; Macleay, Aust. Cat. ii, p. 136.

Hab.—Chinese seas; Sydney, Brisbane, and Swan River (Castelnau). Length, up to 6 inches.

SYNAPTURA

SYNAPTURA NIGRA.

Macleay, Proc. Linn. Soc. N. S. Wales v, p. 49; Tenison-Woods, Fisheries of N. S. Wales, p. 77.

Hab.—Estuaries of the New South Wales coast. *Sole* of the Sydney market. Attains to the length of 10 inches. An excellent table-fish.

SYNAPTURA FASCIATA.

Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 14.

Hab.—Port Jackson. Length, up to 8 inches.

PLAGUSIA UNICOLOR.

Macleay, Aust. Cat. ii, p. 138.

Hab.—Port Jackson. *Lemon Sole* of the fishermen. Length, up to 10 inches.

PHYSOSTOMI.

SILURIDÆ.

HOMALOPTERÆ.

PLOTOSINA.

PLOTOSUS ARAB.

Silurus arab, Forsk., Descr. Anim. xvi, no. 36.

Platysticus anguillaris, Bl. viii, p. 61, t. 373, f. 1.

Plotosus anguillaris, Lacép. v, p. 130, pl. 3, f. 2; Rüpp., N. W. Fische, p. 76; Günth., Cat. v, p. 24; Macleay, Aust. Cat. ii, p. 139.

——— *ikapor*, Less. & Garn., Voy. Coquille Zool. ii, p. 132, pl. 31, f. 3.

——— *lineatus*, Cuv. & Val. xv, p. 412; Rich., Ichthyol. China, p. 286; Schleg., Faun. Japon. Poiss., p. 228, pl. 104, f. 3.

——— *arab*, Bleek., Atl. Ichthyol. Silur., p. 98, t. 95, f. 2; Kner, Voy. Novara Fische, p. 300; Day, Fishes of India, p. 483, pl. 112, f. 4.

Hab.—From the east coast of Africa through the Indian Seas to Japan and Polynesia; coasts of North Australia and Queensland; Clarence River (Ogilby); a small specimen forwarded by Mr. T. Temperley.

COPIDOGLANIS TANDANUS.

Plotosus tandanus, Mitch., Exp. into Int. of Australia, ed. 2, vol. i, p. 95, pl. 6, f. 2.

Copidoglanis tandanus, Günth., Cat. v, p. 26; Klunz., S.B. Ak. Wien lxxx, Abth. i, p. 410; Macleay, Aust. Cat. ii, p. 141, and Proc. Linn. Soc. N. S. Wales viii, p. 208; Tenison-Woods, Fisheries of N. S. Wales, p. 105.

Hab.—Rivers of New South Wales. *Fresh-water Cat-fish*. Length, up to 3 feet.

COPIDOGLANIS OBSCURUS.

Günth., Cat. v, p. 26.

Hab.—Port Jackson (Krefft).

CNIDOGLANIS MEGASTOMA.

Plotosus megastomus, Rich., Voy. Erebus & Terror Fishes, p. 31, pl. 21, ff. 1-3.

Cnidoglanis megastoma, Günth., Cat. v, p. 27, and Study of Fishes, f. 258; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 392; Macleay, Aust. Cat. ii, p. 144; Tenison-Woods, Fisheries of N. S. Wales, p. 81.

Charoplotosus decemfilis, Kner, Voy. Novara Fische, p. 300, pl. 13, f. 1 (an *Plotosus limbatus*, Cuv. & Val. xv, p. 422).

Hab.—Coast of New South Wales; Port Jackson, common. The *Cat-fish* of Sydney. Attains a length of 30 inches. Though the flesh of this fish is excellent, there is a prejudice against it, which makes it unsaleable, except at a nominal price to foreign sailors and Chinese.

CNIDOGLANIS LEPTURUS.

Günth., Cat. v, p. 28; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 393; Macleay, Aust. Cat. ii, p. 145.

Hab.—Port Jackson. Length, up to 18 inches.

PROTEROPTERÆ.

ARIINA.

ARIUS AUSTRALIS.

Günth., Proc. Zool. Soc. 1867, p. 103 (*fig. of head*), and Study of Fishes, f. 261; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 50; Macleay, Aust. Cat. ii, p. 149.

Hab.—Hunter and Richmond Rivers (Günther); Normau River (Castelnau). Length, up to 18 inches.

ARIUS THALASSINUS.

Bagrus thalassinus, Rüpp., N. W. Fische, p. 75, pl. 20, f. 2.

Arius nasutus, Cuv. & Val. xv, p. 60.

Netuma nasuta, Bleek., Atl. Ichthyol. Silur., t. 61.

——— *thalassina*, Bleek., l.c., t. 28.

Arius thalassinus, Günth., Cat. v, p. 139; Kner, Voy. Novara Fische, p. 310; Day, Fishes of India, p. 463, pls. 104, f. 4, and 106, f. 1; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 348; Macleay, Aust. Cat. ii, p. 148, and Proc. Linn. Soc. N. S. Wales viii, p. 209.

Hab.—From the east coast of Africa through all the Indian and Malayan seas to the east coast of Australia; Port Jackson. Grows to a large size.

SCOPELIDÆ.

SAURUS MYOPS.

Salmo footens, Bloch., t. 384, f. 2; Bl. Schn., p. 404 (not Linn.)

——— *myops*, Forst., Descr. Anim., p. 412.

Saurus limbatus, Eyd. & Soul., Voy. Bonite Poiss., p. 100, t. vii, f. 3.

——— *myops*, Cuv., Règ. Anim.; Cuv. & Val. xxii, p. 485; Bleek., Atl. Ichthyol. Saurida, t. 2, f. 8; Günth., Cat. v, p. 398; Day, Fishes of India, p. 504, pl. 117, f. 5; Macleay, Aust. Cat. ii, p. 153.

——— *trachinus*, Schleg., Faun. Japon. Poiss., p. 231, pl. 106, f. 2.

Hab.—Tropical seas; Port Jackson. Grows to the length of a foot.

SAURUS NEBULOSUS.

Dentex nebulosus (Solander), Cuv. & Val. xxii, p. 506.

Saurus gracilis, Quoy & Gaim., Voy. Uranie, p. 222.

Saurida nebulosa, Cuv. & Val. xxii, p. 504, t. 648; Bleek., Atl. Ichthyol. Saurida, t. 1, f. 1; Günth., Cat. v, p. 399; Kner, Voy. Novara Fische, p. 316; Day, Fishes of India, p. 505; Macleay, Aust. Cat. ii, p. 154.

Hab.—East African, Indian, Malayan, and Australian seas; Port Jackson. Length, up to 8 inches.

SAURUS AUSTRALIS.

Saurida australis, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 393.

Hab.—Port Jackson. Length, 14 inches.

SAURUS TRUCULENTUS.

Saurida truculenta, Macleay, Aust. Cat. ii, p. 155.

Hab.—Port Jackson. Length, 20 inches.

SAURUS FEROX.

Saurida ferox, Ramsay, Proc. Linn. Soc. N. S. Wales viii, p. 177.

Hab.—Port Jackson.

Count Castelnau includes *Saurus undosquamis*, Rich., in his list of Port Jackson fishes (Proc. Linn. Soc. N. S. Wales, iii, p. 355), but without giving any proof of its occurrence, and as a mere catalogue name I unhesitatingly omit it from the New South Wales Fauna.

AULOPUS PURPURISSATUS.

Rich., Ic. Pisc., p. 6, pl. 2, f. 3 (very bad); Günth., Cat. v, p. 403; McCoy, Prodr. Zool. Vict. dec. vi, pls. 54, 55; Macleay, Aust. Cat. ii, p. 157; Tenison-Woods, Fisheries of N. S. Wales, p. 82, pl. 35.

Aulopus milesii, Cuv. & Val. xxii, p. 519, pl. 650.

Hab.—Coasts of Victoria and New South Wales. *Sergeant Baker* at Sydney. Attains to the length of 2 feet. One of the best food fishes of the colony. One of the characters of this genus, as given in the British Museum Catalogue, is "Pyloric appendages few in number"; this will have to be omitted, as our southern species have these organs in very large numbers, up to 130 in a specimen examined lately.

CHELOROPHTHALMUS NIGRIPINNIS.

Günth., Ann. Nat. Hist. 1878, (5) ii, p. 182.

Hab.—Twofold Bay, 120 fathoms.

PLAGYODUS FEROX.

Alepisaurus ferox, Lowe, Trans. Zool. Soc. i, pl. 19, and p. 395, pl. 59; Cuv. & Val. xx, p. 529; Johnson, Ann. Nat. Hist. 1862, (3) x, p. 317.

? ——— Rich., Voy. Erebus and Terror Fishes, p. 34, pl. 22, ff. 1-4.

Alopidosaurus ferox, Günth., Cat. v, p. 421; Macleay, Aust. Cat. ii, p. 162.

Plagyodus ferox, Günth., Ann. Nat. Hist. 1867, (3) xix, p. 185, and Study of Fishes, p. 586, f. 270.

Hab.—Atlantic Ocean; Tasmania (Richardson); Port Jackson (Kreffl). Attains a length of 5 feet.

CYPRINIDÆ.

CYPRININA.

CARASSIUS VULGARIS.

Cyprinus carassius, Linn., Syst. Nat. i, p. 526; Cuv. & Val. xvi, p. 82, pl. 459.

Carassius vulgaris, Nordm. in Demid. Voy. Russ. Mer. iii, p. 479; Günth., Cat. vii, p. 29, and Study of Fishes, p. 591; Houghton, Brit. Fresh-water Fishes, p. 19; Day, Brit. Fishes ii, p. 164, pl. 130.

Cyprinus gibelio, Linn. Gmel., p. 1417.

Hab.—Europe and Siberia; introduced to many fresh-water lagoons and ponds of New South Wales; Botany swamps. Length up to 10 inches. Those which I have seen from this neighbourhood belong to var. *gibelio*; one received lately from the Nepean above Penrith is true *C. vulgaris*.

LEUCISCINA.

TINCA VULGARIS.

Cyprinus tinca, Linn., Syst. Nat. i, p. 526.

Tinca vulgaris, Cuv., Règ. Anim.; Cuv. & Val. xvi, p. 322, pl. 484; Günth., Cat. vii, p. 265, and Study of Fishes, p. 599, f. 274; Houghton, Brit. Fresh-water Fishes, p. 49; Day, Brit. Fishes ii, p. 188, pl. 134, f. 2.

Hab.—Fresh waters of Europe and Asia Minor; introduced into New South Wales. *Tench*. Grows to the weight of 5 pounds. A moderate fish for the table.

SCOMBRESOCIDÆ.

SCOMBRESOCIDÆ.

BELONE FEROK.

Günth., Cat. vi, p. 242; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 239, and iii, p. 394; Macleay, Aust. Cat. ii, p. 176; Tenison-Woods, Fisheries of N. S. Wales, p. 83, pl. 36.

Hab.—New South Wales, common. *Long Tom* of the Sydney fishermen.

BELONE KREFFTII.

Günth., Cat. vi, p. 250; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 50; Macleay, op. cit. viii, p. 209, and Aust. Cat. ii, p. 178.

Hab.—Rivers of Northern Queensland; Hunter River (Kreffft). Length up to 2 feet.

BELONE MACLEAYANA.

Belone gracilis, Macleay, Aust. Cat. ii, p. 179.

Hab.—Port Jackson. Length, 8 inches. I am again compelled to change Mr. Macleay's name, the same having been given previously to an Indian species by Schlegel, and to a Portuguese species by Lowe.

SCOMBRESOX FORSTERI.

Esox saurus, Forst., Descr. Anim. ed. Licht., p. 143.

Scomberesox forsteri, Cuv. & Val. xviii, p. 481.

Scomberesox forsteri, Günth., Cat. vi, p. 258; Hutton, Fishes of N. Zeal., p. 53; Macleay, Aust. Cat. ii, p. 180.

Hab.—New Zealand; Melbourne (Castelnau); Sydney (Macleay).

HEMIRHAMPHUS INTERMEDIUS.

Cant., Ann. Nat. Hist. 1842, ix, p. 485; Rich., Ichthyol. China, p. 264; Macleay, Aust. Cat. ii, p. 181; Tenison-Woods, Fisheries of N. S. Wales, p. 84, pl. 37 (*up. fig.*)

Hemirhamphus melanochir, Cuv. & Val. xix, p. 41; Castelnau, Proc. Linn. Soc. N. S. Wales iii, p. 394.

Hab.—Seas of China, Australia, and New Zealand; Port Jackson, abundant. *Common Garfish* of the Sydney market. Grows to 18 inches in length. An excellent fish for the table.

HEMIRHAMPHUS REGULARIS.

Günth., Cat. vi, p. 261; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 394; Macleay, Aust. Cat. ii, p. 181; Tenison-Woods, Fisheries of N. S. Wales, p. 84, pls. 37 (*low. fig.*) and 38.

Hab.—Coasts of Australia; Port Jackson, common. *River Garfish*. Grows to the length of 12 inches. A good table-fish, but not equal to the preceding.

HEMIRHAMPHUS ARGENTEUS.

Benn., Whaling Voy. ii, p. 269; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 394.

Hemirhamphus breviceps, Casteln., l. c. ii, p. 240.

Hab.—Brisbane; Sydney (rare). Length up to 5 inches.

This is perhaps the young of *Hemirhamphus intermedius*.

HEMIRHAMPHUS FAR.

Esox far, Forsk., Descr. Anim., No. 98.

Hemirhamphus far, Rüpp., N. W. Fische, p. 74; Day, Fishes of India, p. 516, pl. 120, f. 3.

——— *commersonii*, Cuv. & Val. xix, p. 28; Bleek., Atl. Ichthyol. Scombres., t. 6, f. 3; Günth., Cat. vi, p. 271; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 350; Macleay, op. cit. vii, p. 593, and Aust. Cat., p. 183.

Hab.—From the east coast of Africa through all the Indian and Malayan seas to the east coast of Australia; Port Jackson. Length up to 15 inches.

HEMIRHAMPHUS AUSTRALIS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 471.

Hab.—Port Jackson.

ABRHAMPHUS SCLEBOLEPIS.

Günth., Cat. vi, p. 277; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 364, and Aust. Cat. ii, p. 184.

Hemirhamphus krefftii, Steind., Sitzgsber. Ak. Wiss. Wien 1867, lvi, p. 332, t. 1.

Hab.—East coast of Australia; Port Jackson (Steindachner). Length up to 9 inches.

EXOCOETUS MELANOCERCUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 123.

Hab.—Port Jackson. Length, 15.25 inches.

? EXOCOETUS UNICOLOR.

Exocoetus unicolor?, Cuv. & Val. xix, p. 97; Kner, Voy. Novara Fische, p. 325.

Hab.—Sydney (Kner). Length, 8 inches.

GALAXIIDÆ.

GALAXIAS OLIDUS.

Günth., Cat. vi, p. 209; Macleay, Aust. Cat. ii, p. 166.

Hab.—Rivers of New South Wales (Kreffft). Length up to 4 inches.

GALAXIAS KREFFTII.

Günth., Cat. vi, p. 211; Macleay, Aust. Cat. ii, p. 167.

Hab.—Rivers of New South Wales; Rope's Creek (Macleay). Length up to 6 inches.

GALAXIAS

GALAXIAS SCRIBA.

Cuv. & Val. xviii, p. 347; Günth., Cat. vi, p. 212; Macleay, Aust. Cat. ii, p. 168.
Hab.—Port Jackson. Length, 3 inches.

GALAXIAS PUNCTATUS.

Günth., Cat. vi, p. 212; Macleay, Aust. Cat. ii, p. 168.
Hab.—Eastern Creek. Length, 6.50 inches.

GALAXIAS COXII.

Macleay, Proc. Linn. Soc. N. S. Wales v, p. 45.
Hab.—Streams on the uplands of Mount Wilson. Length, 7 inches.

GALAXIAS PLANICEPS.

Macleay, Aust. Cat. ii, p. 169.
Hab.—Rankin's Lagoon, near Bathurst.

GALAXIAS BONG-BONG.

Macleay, Aust. Cat. ii, p. 169.
Hab.—Moss Vale and rivers at Bong-bong. Length, 3 inches.

GALAXIAS NEBULOSUS.

Galaxias nebulosa, Macleay, Aust. Cat. ii, p. 170.
Hab.—Long Bay, near Sydney. Length, 3 inches.

GALAXIAS FINDLAYI.

Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 107.
Hab.—Upland ponds of Mount Kosciusko. Length, 3 inches.

GALAXIAS SCOTTII.

Kreffft, M.S. name.
Hab.—Ash Island, Hunter River. Length, 4.75 inches.

SALMONIDÆ.

SALMO FARIO.

Linn., Syst. Nat. i, p. 509; Günth., Cat. vi, p. 59; Houghton, Brit. Fresh-water Fishes ii, p. 111; Day, Brit. Fishes ii, p. 95, pls. 109, f. 3, 113, 114, and 116, f. 1.

Hab.—Temperate and colder parts of the northern hemisphere; introduced into New Zealand, Tasmania, Victoria, and New South Wales; streams of the National Park, 1885. The *Trout*. Grows to the weight of 20lbs. and over; I have seen a trout from Lough Neagh, Ireland, which weighed 28lbs., and Thompson (Nat. Hist. Ireland iv, p. 158) mentions having examined one of 36lbs. These belonged to var. *ferox*. Other forms of this most variable species have been separated as *nigripinnis*, *estuarinus*, *stomachicus*, *orcadensis*, *cornubiensis*, and so on; at this rate every stream and feeder of a stream might furnish us with a so-called species.

RETROPINNA RICHARDSONII.

Argentina retropinna, Rich., Voy. Erebus & Terror Fishes, p. 121, pl. 52, ff. 1-3.
Retropinna richardsonii, Gill, Proc. Ac. Nat. Sc. Philad. 1862, p. 14; Günth., Cat. vi, p. 171; Hector, Trans. N. Zeal. Inst. iii, p. 133, pl. 18, f. 3; Macleay, Aust. Cat. ii, p. 164.
Richardsonia retropinna, Kner, Voy. Novara Fische, p. 318.
Hab.—Fresh waters of New Zealand and the Southern parts of Australia; Rope's Creek (Macleay). Length up to 4 inches.

CLUPEIDÆ.

CHATOËSSUS RICHARDSONII.

Casteln., Proc. Zool. Soc. Vict. ii, p. 144; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 369.
Hab.—Murray River and its tributaries. *Manur* and *Ka-ee-ra* of the Aborigines. Attains to the length of 14 inches. Of delicate flavour.

CHATOËSSUS EREBI.

? *Chatoësus come*, Rich., Voy. Erebus and Terror Fishes, p. 62, pl. 38, ff. 7-10.
Chatoësus erebi, Günth., Cat. vii, p. 407; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 368; Tenison-Woods, Fisheries of N. S. Wales, p. 106.
Hab.—Rivers of North and West Australia; Clarence and Namoi Rivers, New South Wales. *Bony Bream*; *Sardine* at Brisbane; *Perth Herring* of Swan River, West Australia.

CLUPEA SAGAX.

Jenyns, Voy. Beagle Fishes, p. 134; Günth., Cat. vii, p. 443; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 371; Tenison-Woods, Fisheries of N. S. Wales, p. 86.
Alosa melanosticta, Cuv. & Val. xx, p. 444 (*not Schleg.*).
— fimbriata, Kner and Steind., Sitzgsber. Ak. Wiss. Wien 1867, liv, p. 386, t. 15.
Hab.—Pacific coasts of America; Japan; New Zealand; Tasmania; Victoria; New South Wales, abundant. *Maray* of the Port Jackson fishermen. Length, up to 8 inches. An excellent table-fish.

CLUPEA SUNDAICA.

Bleek., Atl. Ichthyol. Clup., p. 105, pl. 271, f. 5; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 373; Tenison-Woods, Fisheries of N. S. Wales, p. 86.
Hab.—Java & Celebes (Bleeker); New South Wales, abundant. *Herring* of the Sydney fishermen. Length, up to 6 inches. A well-flavored fish.

CLUPEA

CLUPEA HYPSELOSOMA.

Harengula hypselosoma, Bleek., Nat. Tydschr. Ned. Ind. viii, 1855, p. 427.

Clupea hypselosoma, Günth., Cat. vii, p. 431; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 375; Bleek., Atl. Ichthyol. Clup. vi, p. 104, pl. 267, f. 2.

Hab.—Amboyna; Port Jackson, abundant. An excellent food fish.

CLUPEA MOLUCCENSIS.

Harengula moluccensis, Bleek., Nat. Tydschr. Ned. Ind. iv, p. 609.

——— *kunzei*, Bleek., l. c. xii, p. 209.

Clupea moluccensis, Günth., Cat. vii, p. 427; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 395; Macleay op. cit. iv, p. 376; Bleek., Atl. Ichthyol. Clup. vi, p. 107, t. 263, ff. 1, 2.

Hab.—From Ceylon to the Malay Archipelago; Port Jackson (Castelnau).

CLUPEA NOVÆ-HOLLANDIÆ.

Meletta novæ-hollandiæ, Cuv. & Val. xi, p. 376.

Clupea novæ-hollandiæ, Günth., Cat. vii, p. 431; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 378.

Hab.—Nepean River. *Nepean Herring*. Length, up to 8 inches. Of little value as a food fish.

CLUPEA RICHMONDIA.

Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 380.

Hab.—Richmond River. *Richmond Herring*. Length, under 5 inches.

ETRUMEUS JACKSONIENSIS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 36, pl. 4, f. 1, & iv, p. 382.

Hab.—Coast of New South Wales; Port Jackson. Also called *Maray* by the fishermen. Said to be excellent for the table.

ELOPS SAURUS.

Linn., Syst. Nat. i, p. 518; Bloch, t. 393, f. 1; Cuv. & Val. xix, p. 365; Bleek., Atl. Ichthyol. Clup. vi, p. 84, t. 218, f. 3; Kner, Voy. Novara Fische, p. 338; Günth., Cat. vii, p. 470; Day, Fishes of India, p. 649, pl. 166, f. 1; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 241; Macleay, op. cit. iv, p. 382; Günther, Study of Fishes, p. 661, f. 301.

Argentina machnata, Forsk., Descr. Anim., p. 68, No. 100; Linn. Gmel., p. 1395.

Elops machnata, Cuv. Reg. Anim.; Rüpp., N. W. Fische, pp. 80, 84; Rich., Voy. Erebus and Terror Fishes, p. 59, pl. 30, ff. 3-5, and Ichthyol. China, p. 310; Schleg., Faun. Japon. Poiss., p. 241, t. 109, f. 2.

——— *capensis*, Smith, Ill. Zool. S. Africa Fishes, pl. vii.

Hab.—From the east coast of Africa through all the Indian and Malayan seas, to the Australian coasts; Port Jackson, scarce. Grows to 3 feet in length. The flesh is of good quality.

MEGALOPS CYPRINOIDES.

Clupea cyprinoides, Brouss., Ichthyol., t. ix; Forst., Descr. Anim. ed. Licht., p. 296; Bl. Schn., p. 427.

Megalops filamentosus, Lacép. v, pp. 289, 290; Bleek., Atl. Ichthyol. Clup. vi, p. 86, t. 273.

——— *cyprinoides*, Swains., Fishes ii, p. 292; Günth., Cat. vii, p. 471; Day, Fishes of India, p. 650, pl. 159, f. 3; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 383, and viii, p. 210.

——— *setipinnis*, Rich., Ann. Nat. Hist. xi, p. 493, and Ichthyol. China, p. 310.

——— *indicus*, Cuv. & Val. xix, p. 388, pl. 542; Kner, Voy. Novara Fische, p. 339.

——— *macrophthalmus*, Bleek., l. c., p. 85, t. 273, f. 2.

——— *cundinga*, Bleek., l. c., p. 87, t. 274, f. 1.

Hab.—From the east coast of Africa, through all the Indian and Malayan seas, to Australia and Polynesia, entering fresh water. Hawkesbury River. Grows to the length of a foot. Of excellent flavor.

CHANOS SALMONEUS.

Mugil chanos, Forst., Descr. Anim., p. 74, No. 110.

——— *salmoneus*, Bl. Schn., p. 121; Forsk., Descr. Anim. ed. Licht., p. 299.

Chanos arabicus, Lacép. v, pp. 395, 396; Cuv. & Val. xix, p. 187.

——— *salmoneus*, Cuv. & Val. xix, p. 201; Günth., Cat. vii, p. 473; Bleek., Atl. Ichthyol. Clup. vi, p. 81, t. 272, f. 4; Day, Fishes of India, p. 651, pl. 166, f. 2; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 383, vii, p. 594, and viii, p. 210; Günth., Study of Fishes, p. 662, f. 302.

——— *orientalis*, Cuv. & Val. xix, p. 197; Kner., Voy. Novara Fische, p. 341.

Hab.—Indian and Pacific Oceans, entering fresh waters. Port Jackson (Castelnau). Grows to the length of 4 feet. An excellent fish for the table.

CHIROCENTRIDÆ.

CHIROCENTRUS DORAB.

Clupea dorab, Forsk., Descr. Anim., p. 72.

Esox chirocentrus, Lacép. v, p. 317, t. 8, f. 1.

Chirocentrus dorab, Rüpp., N. W. Fische, p. 81; Cuv. & Val. xix, p. 150, pl. 565; Rich., Ichthyol. China, p. 311; Bleek., Atl. Ichthyol. vi, p. 92, t. 271, f. 3; Kner, Voy. Novara Fische, p. 340; Günth., Cat. vii, p. 475; Day, Fishes of India, p. 652, pl. 166, f. 3; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 351; Macleay, op. cit. vii, p. 594, viii, p. 210, & Aust. Cat. ii, p. 199.

——— *hypselosoma*, Bleek., Atl. Ichthyol. vi, p. 93, t. 269, f. 3.

Hab.—From the Indian seas to Japan and Australia; Port Jackson. Grows to the length of 12 feet (Day); 3 feet (Günther). Of little value as food.

SYMBRANCHIDÆ.

CHILOBRANCHIUS RUFUS.

Macleay, Aust. Cat. ii, p. 202.

Hab.—Tasmania; Port Jackson, common. Length, up to 3.50 inches.

MURÆNIDÆ.

MURÆNIDÆ.

ANGUILLA REINHARDTII.

Steind., Sitzgaber. Ak. Wiss. Wien 1867, lv, p. 15; Günth., Cat. viii, p. 27; Macleay, Aust. Cat. ii, p. 203, and Proc. Linn. Soc. N. S. Wales viii, p. 210.

Hab.—North and east coasts of Australia; Port Jackson; Hawkesbury and Richmond Rivers. Grows to the length of 30 inches.

ANGUILLA AUSTRALIS.

Rich., Trans. Zool. Soc. iii, p. 157, & Voy. Erebus and Terror Fishes, p. 112, pl. 45, ff. 1-5; Jenyns, Voy. Beagle Fishes, p. 142; Bleek., Atl. Ichthyol. Muræn., p. 12, t. 7, f. 1; Günth., Cat. viii, p. 36; Macleay, Aust. Cat. ii, p. 203; Tenison-Woods, Fisheries of N. S. Wales, p. 88, pl. 39.

Hab.—Timor; New Zealand; Auckland Islands; Tasmania; rivers of the eastern watershed and coasts of Victoria and New South Wales. The *Australian eel*. A good fish for the table.

CONGER LABIATUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 396.

Hab.—Port Jackson. Grows to 3 feet in length.

CONGROMURÆNA HABENATA.

Congrus habenatus, Rich., Voy. Erebus and Terror Fishes, p. 109, pl. 50, ff. 1-5.

Congromuræna habenata, Kaup, Apodes, p. 108, f. 72; Günth., Cat. viii, p. 42; Macleay, Aust. Cat. ii, p. 206.

? *Ophisoma habenata*, Kner, Voy. Novara Fische, p. 374, t. 13, f. 2.

Hab.—New Zealand; Melbourne, rare; a single specimen cast up on Bondi Beach, N. S. Wales. Length, 12.70 inches.

MURÆNESOX CINEREUS.

Muræna cinerea, Forsk., Descr. Anim., pp. 10 and 22.

——— *bagio*, Ham. Buch., Fish. Ganges, pp. 24, 364.

Ophisurus rostratus, Quoy & Gaim., Voy. Freyc. Zool., p. 242, pl. 51, f. 1.

Conger oxyrhynchus, Eyd. & Soul., Voy. Bonite i, p. 203, pl. ix, f. 2.

Congrus tricuspis, Rich., Voy. Sulphur Fishes, p. 105, pl. 51, f. 2, Ichthyol. China, p. 312, and Voy. Erebus and Terror Fishes, p. 110.

Conger hamo, Schleg., Faun. Japon. Poiss., p. 262, pl. 114, f. 2; Rich., Voy. Erebus and Terror Fishes, p. 111.

Murænesox bagio, Peters, Wieg. Arch. 1855, p. 270; Kaup, Apodes, p. 116, pl. xiv, f. 78; Bleek., Atl. Ichthyol. Muræn. iv, p. 24, t. 170, f. 2; Kner, Voy. Novara Fische, p. 373; Casteln. Proc. Linn. Soc. N. S. Wales ii, p. 244, and iii, p. 395.

——— *cinereus*, Günth., Cat. viii, p. 46; Day, Fishes of India, p. 662, pl. 168, f. 4; Macleay, Aust. Cat. ii, p. 206.

Hab.—From the Red Sea through those of India to Japan and Australia; Port Jackson; Hawkesbury River. *Silver Eel* of the colonists. Grows to the length of 3 feet.

? MYROPHIS AUSTRALIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 396.

Hab.—Port Jackson. Length, 3.4 inches.

MURÆNICHTHYS AUSTRALIS.

Macleay, Aust. Cat. ii, p. 208.

Hab.—Lane Cove, Port Jackson. Length, 10 inches.

? MURÆNICHTHYS GYMNOTUS.

Murænichthys gymnotus, Bleek, Act. Soc. Sc. Indo-Nederl. ii, Amboina, viii, p. 90, and Atl. Ichthyol. Muræn., p. 33, pl. 6, f. 3; Günth., Cat. viii, p. 53, and ? Voy. Challenger Shore Fishes, p. 30.

Hab.—Amboina; Port Jackson (Günther). Length of type, 6 inches.

OPHICHTHYS SERPENS.

Muræna serpens, Linn., Syst. Nat. i, p. 425.

Ophisurus serpens, Lacép. ii, p. 198; Schleg., Faun. Japon. Poiss., p. 264, pl. 115, f. 1; Rich., Voy. Erebus and Terror Fishes, p. 106; Kaup, Apodes, p. 7.

Leptorhynchus capensis, Smith, Ill. Zool. S. Afr. Pisc., pl. 6.

Ophichthys serpens, Günth., Cat. viii, p. 65; Macleay, Aust. Cat. ii, p. 209.

Ophisurus novæ-zealandiæ, Hector, Trans. N. Zeal. Inst. 1870, ii, p. 34, pl. 3.

Hab.—Eastern Atlantic; Mediterranean; Japan; Australia; Lane Cove, Port Jackson (Macleay).

MURÆNA UNDULATA.

Murænophis undulata, Lacép. v., pp. 629, 644.

Muræna cinerascens, Rüpp., Atl. Fische, p. 120; Günth., Cat. viii, p. 123.

——— *cancellata*, Rich., Voy. Erebus and Terror Fishes, p. 87, pl. 46, ff. 1-5.

——— *valenciennii*, Eyd. & Soul., Voy. Bonite Poiss., p. 207, t. viii, f. 1.

Gymnothorax cancellatus, Bleek., Atl. Ichthyol. Muræn. iv, p. 93, tt. 176, f. 3, 177, f. 2, and 183, f. 1; Kner, Voy. Novara Fische, p. 384.

Muræna undulata, Günth., Cat. viii, p. 110; Day, Fishes of India, p. 671, pl. 171, f. 5 (*young*), and 173, f. 2 (*adult*); Macleay, Aust. Cat. ii, p. 213.

Hab.—Indian and Pacific Oceans; Port Jackson.

MURÆNA AFRA.

Gymnothorax afer, Bloch, t. 417.

Muræna lineopinnis & prasina, Rich., Voy. Erebus and Terror Fishes, pp. 89, 93.

Gymnothorax boschi & monochrous, Bleek, Atl. Ichthyol. Muræn. iv, pp. 105, 106, tt. 190, f. 3, and 191, f. 2.

————— *jacksoniensis*, Bleek, Verst. en Medel. Ak. Wet. Amst. 1863, xv, p. 450.

Muræna afra, Günth., Cat. viii, p. 123; Day, Fishes of India, p. 671; Steind. Denk. Ak. Wien xliv, p. 49; Macleay, Aust. Cat., p. 217.

Hab.—Tropical parts of the Atlantic and Indian Oceans; Australian coasts; Port Jackson, common. *Green Eel* of the Sydney Market. Grows to 30 inches long.

MURÆNA PICTA.

Ahl, de Mur. et Ophich. in Thunb. Diss. iii, p. 6, t. 2, f. 2; Günth., Fish. Zanz., p. 126, & Cat. viii, p. 116, & Study of Fishes, f. 306; Day, Fishes of India, p. 672, pl. 172, f. 4; Macleay, Aust. Cat. ii, p. 215.

Gymnothorax pictus, Bl. Schn., p. 529; Bleek., Atl. Ichthyol. Muræn. iv, p. 87, tt. 170, ff. 3, 4, 172, f. 3, 173, f. 3 & 189, f. 3; Kner., Voy. Novara Fische, p. 334.

Muræna variegata, Quoy & Gaim., Voy. Uranie Zool., p. 246, t. lii, f. 1.

————— *siderca*, Rich., Voy. Erebus and Terror Fishes, p. 84, pl. 48, ff. 1-5; Casteln, Proc. Linn. Soc. N. S. Wales iii, p. 396; Macleay, op. cit. vii, p. 594.

Hab.—Indian and Pacific Oceans; Australian coasts; Port Jackson. Grows to 30 inches in length.

MURÆNA NEBULOSA.

Ahl, de Mur. et Ophich., p. 5, t. 1, f. 2; Günth., Cat. viii, p. 130; Day, Fishes of India, p. 673, pl. 172, f. 2; Macleay, Aust. Cat. ii, p. 218.

Echidna variegata, Forst., Descr. Anim. ed. Licht., p. 181; Bleek., Atl. Ichthyol. Muræn. iv, p. 80, t. 168, f. 2.

Muræna ophis, Rüpp., Atl. Fische, p. 116, t. 29, f. 2; Rich., Voy. Erebus and Terror Fishes, p. 93.

————— *variegata*, Rich., l.c., p. 94, pl. 47, ff. 11-16.

Hab.—Indian and Pacific Oceans; Torres Straits (Macleay); Port Jackson (Krefft). Attains to a length of 5 feet.

LOPHOBRANCHII.

SYNGNATHIDÆ.

SYNGNATHINA.

SYNGNATHUS MARGARITIFER.

Peters, Monatsber. Ak. Wiss. Berlin 1868, p. 457; Günth., Cat. viii, p. 171; Macleay, Aust. Cat. ii, p. 225.

Hab.—Port Jackson.

SYNGNATHUS TIGRIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 397.

Hab.—Port Jackson. Length, 12 inches.

SYNGNATHUS CINCTUS.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 111.

Hab.—Port Jackson.

SYNGNATHUS SUPERCILIARIS.

Günth., Voy. Challenger Shore Fishes, p. 30; Macleay, Aust. Cat. App., p. 60.

Hab.—Port Jackson. Length, 6.75 inches.

NANNOCAMPUS RUBER.

Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales i, (*in press.*)

Hab.—Port Jackson.

UROCAMPUS CABINIROSTRIS.

Casteln., Proc. Zool. Soc. Vict. 1872, i, p. 200; Macleay, Aust. Cat. ii, p. 230.

Urocampus calorhynchus, Günth., Fische d. Sudsee 1873, ii, p. 103, and Voy. Challenger Shore Fishes, p. 30.

Hab.—Port Phillip (Castelnau); Port Jackson (Günther). Length, 3.50 inches.

STIOMATOPHORA ARGUS.

Syngnathus argus, Rich., Proc. Zool. Soc. 1840, p. 29, and Trans. Zool. Soc. iii, p. 183, pl. 7, f. 2.

Stigmatophora argus, Kaup, Lophobr., p. 53; Günth., Cat. viii, p. 189; Macleay, Aust. Cat. ii, p. 233.

Hab.—New Guinea; Tasmania; Port Jackson, common. Length, up to 7 inches.

STIOMATOPHORA NIGRA.

Kaup, Lophobr., p. 53; Günth., Cat. viii, p. 190; Macleay, Aust. Cat. ii, p. 233.

Hab.—Port Phillip; Port Jackson. Length, up to 5 inches.

HIPPOCAMPINA.

SOLENOGNATHUS SPINOSISSIMUS.

Günth., Cat. viii, p. 195; Macleay, Aust. Cat. ii, p. 237.

Hab.—Tasmania; Port Jackson (Aust. Mus.) Length 15 inches.

SOLENOGNATHUS FASCIATUS.

Günth., Voy. Challenger Shore Fishes, p. 30, pl. 14, f. B; Macleay, Aust. Cat. App., p. 61.

Hab.—Twofold Bay, 120 fathoms. Length 12 inches.

PHYLLOPTERYX

PHYLLOPTERYX FOLIATUS.

Syngnathus foliatus, Shaw, Gen. Zool. v, p. 456, pl. 180.

Phyllopteryx foliatus, Kaup, Lophobr., p. 21; Günth., Proc. Zool. Soc. 1865, p. 327, pl. 14, and Cat. viii, p. 196; M'Coy, Prodr. Zool. Vict. dec. vii, pl. 65, f. 1; Macleay, Aust. Cat. ii, p. 237.

Hab.—Tasmania; South coast of Australia; Port Jackson. Length up to 14 inches.

HIPPOCAMPUS NOVE-HOLLANDIÆ.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 474, t. 1, f. 2; Günth., Cat. viii, p. 201; Macleay, Aust. Cat. ii, p. 241.

Hab.—South coast of Australia; Port Jackson, common. *Long-snouted Sea-horse*. Length up to 4.50 inches.

HIPPOCAMPUS BREVICEPS.

Peters, Monatsber. Ak. Wiss. Berlin 1869, p. 710; Günth., Cat. viii, p. 200; Macleay, Aust. Cat. ii, p. 241.

Hab.—Tasmania; South coast of Australia; Port Jackson. *Short-snouted Sea-horse*. Length up to 3 inches.

PLECTOGNATHI.

SCLERODERMI.

BALISTINA.

BALISTES MACULATUS.

Linn. Gmel. i, p. 1468; Bloch, t. 151; Bleek, Atl. Ichthyol. v, p. 122, t. 218, f. 4; Kner, Voy. Novara Fische, p. 401; Günth., Cat. viii, p. 213; Day, Fishes of India, p. 687, pl. 176, f. 3, & Brit. Fishes ii, p. 268, pl. 146.

Balistes oculatus, Gray & Hardw., Ill. Ind. Zool.; Bleek., Atl. Ichthyol. v, p. 121, t. 218, f. 2.

Hab.—Tropical and sub-tropical regions of the Atlantic and Indian Oceans, extending into the Pacific; Sydney, (Kner). *Spotted Filefish*. Grows to the length of 16 inches.

BALISTES VIDUA.

Rich., Voy. Sulphur Fishes, p. 128, pl. 59, ff. 9, 10; Günth., Cat. viii, p. 216.

Melichthys vidua, Bleek., Atl. Ichthyol. v, p. 109, t. 217, f. 2.

Hab.—Indian Archipelago and Pacific; Port Jackson (Aust. Mus.) Mr. Ramsay thinks that there are grave doubts as to the authenticity of the locality assigned to this specimen, as it is said to have been presented by Mr. J. Macgillivray, all of whose fishes came from the South Sea Islands.

Quoy & Gaimard (Voy. Uranie Poiss., p. 209) describe a *Balistes jacksonianus* from Sydney, but the species has not been recognized since; nevertheless Count Castelnau includes it in his catalogue of Port Jackson fishes without any comment (Proc. Linn. Soc. N. S. Wales iii, p. 356).

MONACANTHUS HIPPOCREPIS.

Balistes hippocrepis, Quoy & Gaim., Voy. Uranie Poiss., p. 212.

Aleuterius variabilis, Rich., Voy. Erebus & Terror Fishes, p. 67, pl. 53, f. 1—7.

Monacanthus hippocrepis, Holl., Ann. Sc. Nat. 1854, ii, p. 338; Steind., Sitzgsber. Ak. Wiss. Wien 1868, lvii, p. 1002; Günth. Cat. viii, p. 246; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 390.

Hab.—South Australia; New South Wales coast, common. Length up to 17 inches.

MONACANTHUS CONVEXIROSTRIS.

Günth., Cat. viii, p. 248; Macleay, Aust. Cat. ii, p. 248.

Hab.—New Zealand; Tasmania; Port Jackson. Length 10 inches.

MONACANTHUS TRACHYLEPIS.

Günth., Cat. viii, p. 248; Macleay, Aust. Cat. ii, p. 249; Klunz., S.B. Ak. Wien lxxx, Abth. i, p. 422.

Hab.—Broken Bay; Port Jackson. Length 14 inches.

MONACANTHUS GUENTHERI.

Macleay, Aust. Cat. ii, p. 250.

Monacanthus peronii, Günth., Cat. viii, p. 249.

Hab.—Tasmania; South coast of Australia; Port Jackson. Length 10 inches.

MONACANTHUS SPILOMELANURUS.

Balistes spilomelanurus, Quoy & Gaim., Voy. Uranie Poiss., p. 217.

Aleuterius paragaudatus, Rich., Voy. Erebus & Terror Fishes, p. 66, pl. 39, ff. 1—4; Holl., Ann. Sc. Nat. 1854, ii, p. 357.

Monacanthus spilomelanurus, Günth., Cat. viii, p. 250; Macleay, Aust. Cat. ii, p. 251.

Hab.—South and west coasts of Australia; Tasmania; New South Wales. Length 8 inches.

MONACANTHUS MACULOSUS.

Aleuterius maculosus, Rich., Proc. Zool. Soc. 1840, and Trans. Zool. Soc. iii, p. 170, and Voy. Erebus & Terror Fishes, p. 67, pl. 39, ff. 5—7; Hollard, Ann. Sc. Nat. 1854, ii, p. 359.

Monacanthus maculosus, Macleay, Aust. Cat. ii, p. 252.

Hab.—Tasmania; New South Wales; Port Jackson (Macleay). Length 5 inches.

MONACANTHUS CASTELNAUI.

Macleay, Aust. Cat. ii, p. 252.

Monacanthus peronii, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 398.

Hab.—Port Jackson.

MONACANTHUS FREYCINETI.

- Balistes freycineti*, Cuv. in Quoy & Gaim., Voy. Uranie Poiss., p. 213.
Monacanthus freycineti, Holl., Ann. Sc. Nat. 1854, ii, p. 336, pl. 12, f. 3.
Hab.—New South Wales (Macleay).

MONACANTHUS MOSAICUS.

- Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales xi, (*in press*).
Hab.—Port Jackson. Largest specimen 4½ inches.

MONACANTHUS PRASINUS.

- Casteln., Proc. Zool. Soc. Vict. i, p. 205, & Proc. Linn. Soc. N. S. Wales iii, p. 400; Macleay, Aust. Cat. ii, p. 254.
Hab.—Port Phillip; Port Jackson. Length 2.50 inches.

MONACANTHUS MARGARITIFER.

- Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 80; Macleay, Aust. Cat. ii, p. 256.
Hab.—West and south coasts of Australia; Port Jackson. Length 6 inches.

MONACANTHUS CHINENSIS.

- Balistes chinensis*, Bloch, ii, p. 29, pl. 52, f. 1.
Monacanthus chinensis, Cuv., Règ. Anim.; Bleek., Atl. Ichthyol. v, p. 125, pl. 222, f. 2; Günth., Cat. viii, p. 236; Kner, Voy. Novara Fische, p. 395; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 476; Macleay, Aust. Cat. ii, p. 358.
 ——— *geographicus*, Cuv., Règ. Anim.; Casteln., Res. Fishes Aust., p. 50.
Hab.—From China to the north coast of Australia; Sydney, (Kner). Length 9 inches.

MONACANTHUS MEGALURUS.

- Rich., Ic. Pisc., p. 5, pl. 1, f. 3; Günth., Cat. viii, p. 237; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 398; Macleay, op. cit. vii, p. 596, and Aust. Cat. ii, p. 259.
Monacanthus chinensis, Rich., Voy. Erebus and Terror Fishes, p. 61, pl. 40, ff. 3, 4; Hollard, Ann. Sc. Nat. 1854, ii, p. 346.
Hab.—Australian seas; Port Jackson, abundant. Length, 12 inches.

MONACANTHUS TOMENTOSUS.

- Balistes tomentosus*, Linn., Syst. Nat. i, p. 405.
Monacanthus tomentosus, Cuv., Règ. Anim.; Bleek., Atl. Ichthyol. v, p. 127, tt. 220, f. 1, and 229, f. 1; Günth., Cat. viii, p. 238; Macleay, Aust. Cat. ii, p. 259.
Hab.—Endeavour River (Macleay); Port Jackson (Kreffft). Length, 5 inches.

MONACANTHUS SULCATUS.

- Holl., Ann. Sc. Nat. 1854, ii, p. 363, pl. 14, f. 3 (*not good*); Günth., Cat. viii, p. 239; Macleay, Aust. Cat. ii, p. 260.
Monacanthus isogramma, Bleek., Atl. Ichthyol. v, p. 128, pl. 222, f. 1.
Hab.—From the Chinese to the Australian seas; east coast (Kreffft). Length, 3.50 inches.

MONACANTHUS GRANULATUS.

- Balistes granulatus*, White, Voy. N. S. Wales, p. 295, pl. (p. 254), f. 2.
Monacanthus granulatus, Rich., Voy. Erebus and Terror Fishes, p. 63, pl. 40, ff. 1, 2 (*not good*); Steind., Sitzgsber., Ak. Wiss. Wien 1866, liii, p. 476; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 398; Macleay, Aust. Cat. ii, p. 260.
 ——— *granulosus*, Günth., Cat. viii, p. 243.
Hab.—Coast of New South Wales; Port Jackson, common. Length, 9 inches.

MONACANTHUS RUDIS.

- Rich., Trans. Zool. Soc. iii, p. 166, and Voy. Erebus and Terror Fishes, p. 65, pl. 40, ff. 7, 8; Günth., Cat. viii, p. 244; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 399; Macleay, Aust. Cat. ii, p. 261.
Hab.—Tasmania; Port Jackson. Length, 10 inches.

MONACANTHUS AYRAUDI.

- Balistes ayraudi*, Quoy & Gaim., Voy. Uranie Poiss., p. 216, pl. 47, f. 2.
Aluterus velutinus, Jenyns, Voy. Beagle Fishes, p. 157.
Monacanthus vittatus (Solander), Rich., Voy. Erebus and Terror Fishes, p. 66; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 476, and 1867, lvi, p. 335.
 ——— *frauenfeldii*, Kner, Voy. Novara Fische, p. 397.
 ——— *ayraudi*, Günth., Cat. viii, p. 244; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 397; Macleay, Aust. Cat. ii, p. 262; Tenison-Woods, Fisheries of N. S. Wales, p. 89, pl. 40.
Hab.—Australian coasts; Port Jackson, common. The *Leather-jacket*. Attains the length of 18 inches. An excellent food-fish, though but little eaten through prejudice against its looks.

MONACANTHUS PENICILLIGERUS.

- Cuv., Règ. Anim.; Holl., Ann. Sc. Nat. 1854, ii, p. 350, pl. 13, f. 2; Günth., Cat. viii, p. 245; Macleay, Aust. Cat. ii, p. 263.
Monacanthus spinosissimus, Quoy & Gaim., Voy. Uranie Poiss., p. 211, pl. 45, ff. 3-8.
Chatodermis penicilligerus, Bleek., Atl. Ichthyol. v, p. 129, pl. 221, f. 3.
Hab.—Malay Archipelago; north and east coasts of Australia; Port Jackson (Kreffft). Length, 10 inches.

MONACANTHUS TROSSULUS.

- Aluterius trossulus*, Rich., Voy. Erebus and Terror Fishes, p. 68, pl. 40, ff. 5, 6; Holl., Ann. Sc. Nat. 1855, iv, p. 6, pl. 1, f. 1.
Monacanthus trossulus, Günth., Cat. viii, p. 234; Macleay, Aust. Cat. ii, p. 264.
 Hab.—West Australia; Victoria; Port Jackson, common. Length, 3 inches.

MONACANTHUS OCVLATUS.

- Günth., Cat. viii, p. 235; Macleay, Aust. Cat. ii, p. 265.
 Hab.—South Australia; Port Jackson. Length, 1.50 in.

MONACANTHUS MACULICAUDA.

- Monacanthus macrurus*, Macleay, Aust. Cat. ii, p. 266.
 Hab.—Port Jackson. Length, 7 inches. The name *macrurus* is preoccupied by Bleeker for a *Monacanthus* from the Malay Archipelago, and I have therefore substituted a name which has reference to the distinctive tail-markings of the species.

OSTRACIONTINA.

OSTRACION CONCATENATUS.

- Bloch, t. 131; Holl., Ann. Sc. Nat. 1857, vii, p. 155; Günth., Cat. viii, p. 259; Macleay, Aust. Cat. ii, p. 268.
Ostracion bicuspis, Smith, Ill. Zool. S. Afr. Pisc., pl. 18.
 Hab.—Cape seas; Chinese seas; Port Jackson, common. Length, 10 inches.

OSTRACION DIAPHANUS.

- Bloch Schn., p. 501; Holl., Ann. Sc. Nat. 1857, vii, p. 157; Günth., Cat. viii, p. 264; Macleay, Aust. Cat. ii, p. 269.
Ostracion brevicornis, Schleg., Faun. Japon. Poiss., p. 297, t. 130, f. 3.
Acanthostracion cornutus, Bleek., Atl. Ichthyol. Ostrac., p. 33, tt. 2, f. 2, and 4, f. 3.
 Hab.—From the Cape seas to Japan and Australia; Port Jackson. Length, 8.50 in.

OSTRACION CORNUTUS.

- Linn. Syst. Nat. i, p. 409; Bloch, t. 133; Schleg., Faun. Japon. Poiss., p. 299, t. 131, f. 4; Bleek., Atl. Ichthyol. v, p. 33, t. 202, f. 2 (*young*), and t. 204, f. 3 (*adult*); Holl., Ann. Sc. Nat. 1857, vii, p. 158; Günth., Cat. viii, p. 265; Day, Fishes of India, p. 697, pl. 176, f. 4; Macleay, Aust. Cat. ii, p. 270.
Ostracion arcus, Bl. Schn., p. 502; Bleek., Atl. Ichthyol. v, p. 35, t. 202, f. 3 (*adult*) and t. 204, f. 4 (*young*).
 Hab.—Indian Ocean and Archipelago to Micronesia; north and east coasts of Australia; Port Jackson. Length 14 inches.

OSTRACION LENTICULARIS.

- Rich., Proc. Zool. Soc. 1841, p. 21, and Trans. Zool. Soc. iii, p. 158; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 400; Macleay, Aust. Cat. ii, p. 271.
Aracana lenticularis, Günth., Cat. viii, p. 268.
 Hab.—South coast of Australia; Port Jackson, common. Length, 12 inches.

GYMNODONTES.

TETRODONTINA.

TETRODON LEVIGATUS.

- Linn., Syst. Nat. i, p. 411; Günth., Cat. viii, p. 274; Macleay, Aust. Cat. ii, p. 272, and Proc. Linn. Soc. N. S. Wales viii, p. 211.
 ? *Tetrodon inermis*, Schleg., Faun. Japon. Poiss., p. 278, pl. 122, f. 2.
 Hab.—Atlantic coasts of Tropical America; Japan; Australia; Port Jackson. Length to 18 inches.

TETRODON SCELERATUS.

- (Forst.) Linn. Gmel. i, p. 1444; Günth., Cat. viii, p. 276; Day, Fishes of India, p. 701; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 357; Macleay, op. cit. viii, p. 280, and Aust. Cat. ii, p. 273.
Tetrodon argenteus, Lacép., Ann. Mus. d'Hist. Nat. 1804, iv, p. 211, t. 58, f. 2; Schleg., Faun. Japon. Poiss., p. 275, t. 121, f. 2; Bleek., Atl. Ichthyol. v, p. 64, t. 209, f. 1.
Tetraodon bicolor, Brev., Not. Japan. Fish., p. 283.
 Hab.—East coast of Africa to Japan and Polynesia; S. Australia; Port Jackson (Aust. Mus.) Length up to 30 inches.

TETRODON HYPSELOGENION.

- Tetraodon honckenii*, Rüpp., Atl. Fische, p. 65, t. 17, f. 2 (*not Bloch*).
 ——— *hypselogenion*, Bleek., Atl. Ichthyol. v, p. 61, t. 213, f. 5; Günth., Cat. viii, p. 277; Day, Fishes of India, p. 702, pl. 183, f. 5; Macleay, Aust. Cat. ii, p. 273.
 Hab.—From the east coast of Africa to the Malay Archipelago and Australia; Fiji Islands; Port Jackson, common. Length 6 inches.

TETRODON HAMILTONII.

- Rich., Voy. Erebus & Terror Fishes, p. 63, pl. 39, ff. 10, 11; Günth., Cat. viii, p. 280; Kner., Voy. Novara Fische, p. 409; Macleay, Aust. Cat. ii, p. 274; Tenison-Woods, Fisheries of N. S. Wales, p. 90.
 Hab.—Port Jackson. Toado of Sydney Fishermen. Length 5.50 inches.

TETRODON RICHEL.

- Freminv., Nouv. Bull. Philom. ii, p. 250, pl. 4, f. 2; Bleek., Atl. Ichthyol. Gymnod., p. 61, pl. 9, f. 3; Günth., Cat. viii, p. 285; Kner, Voy. Novara Fische, p. 407; Macleay, Aust. Cat. ii, p. 275.
 Hab.—New Zealand; Tasmania; South Australia; Sydney (Kner). Length, 11 inches.

TETRODON

TETRODON IMMACULATUS.

Bl. Schn., p. 507; Günth., Cat. viii, p. 291; Day, Fishes of India, p. 703, pl. 183, f. 4.

Crayracion immaculatus, Bleek., Atl. Ichthyol. Gymnod., p. 75, t. 7, f. 1.

Tetrodon virgatus, Rich., Voy. Erebus & Terror Fishes, p. 62, pl. 39, ff. 8, 9, and Voy. Herald Zool. p. 163, pl. 28, ff. 6-8; All. & Maccl., Proc. Linn. Soc. N. S. Wales i, p. 356; Macleay, Aust. Cat. ii, p. 275.

Hab.—From the Red Sea to Australia and Polynesia; Port Jackson. Length 12 inches.

TETRODON HISPIDUS.

Lacép. i, p. 487, t. 21, f. 2; Rich., Voy. Samarang Fishes, p. 17, pl. 9, ff. 3, 4; Günth., Cat. viii, p. 297; Day, Fishes of India, p. 706, pl. 183, f. 2; Macleay, Aust. Cat. ii, p. 277.

Tetrodon laterna, Rich., Voy. Sulphur Zool., p. 124, pl. 61, f. 2, and Ichthyol. China, p. 199; Günth., Fish. Zanz., p. 131.

Crayracion implutus, Bleek., Atl. Ichthyol. Gymnod., p. 71.

——— *laterna*, Bleek., l. c., t. 1, f. 3.

Hab.—From the Red Sea through the Indian and Malayan Seas to Australia; Port Jackson. Length 20 inches.

TETRODON FIRMAMENTUM.

Schleg., Faun. Japon. Poiss., p. 280, pl. 126, f. 2; Günth., Cat. viii, p. 299; Macleay, Aust. Cat. ii, p. 277.

Hab.—Japan; Port Jackson (Macleay). Length 12 inches.

TETRODON STELLATUS.

Bl. Schn., p. 503; Günth., Cat. viii, p. 294.

Tetrodon lineatus, Schleg., Faun. Japon. Poiss., p. 287, pl. 125, f. 2; Kner., Voy. Novara Fische, p. 409; Macleay, Aust. Cat. ii, p. 278.

Crayracion stellatus, Bleek., Atl. Ichthyol. Gymnod., p. 73, t. 5, f. 2.

——— *lineatus*, Bleek., l. c., p. 70, pls. 2, f. 1, and 8, f. 1.

——— *astrotania*, Bleek., l. c., p. 69, pl. 10, f. 2.

Hab.—Indian and Pacific Oceans; Port Jackson. Length, 2 feet.

TETRODON ERYTHROTANIA.

Bleek., Nat. Tyds. Ned. Ind. v, p. 174; Günth., Cat. viii, p. 298; Kner., Voy. Novara Fische, p. 408.

Crayracion erythrotania, Bleek., Atl. Ichthyol. Gymnod., p. 68, pl. 10, f. 4.

Hab.—Rivers of Celebes and Amboina; Sydney (Kner).

TETRODON AMABILIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 401.

Hab.—Port Jackson. Length, 4.50 inches.

DIODON HYSTRIX.

Linn., Syst. Nat. i, p. 413; Günth., Cat. viii, p. 306; Day, Fishes of India, p. 708, pl. 179, f. 4; Macleay, Aust. Cat. ii, p. 279, and Proc. Linn. Soc. N. S. Wales viii, p. 280.

Hab.—Tropical seas; Port Jackson (Castelnau). Length to 28 inches.

DIODON MACULATUS.

Diodon novem-maculatus, Cuv., Mem. Mus. Hist. Nat. iv, p. 136; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 401.

——— *sex-maculatus*, Cuv., l. c., p. 136.

——— *multi-maculatus*, Cuv., l. c., p. 136.

——— *quadri-maculatus*, Cuv., l. c., p. 137.

Paradiodon novem-maculatus, Bleek., Atl. Ichthyol. Gymnod., p. 57, pl. 2, f. 3.

——— *quadri-maculatus*, Bleek., l. c., p. 58, pl. 8, f. 2.

Diodon maculatus, Günth., Cat. viii, p. 307.

Atopomycterus bocagei, Steind., Sitzsber. Ak. Wiss. Wien 1866, liii, p. 477, pl. 6, f. 3.

Hab.—Tropical seas; Port Jackson (Castelnau). Length, 1 foot.

DICOTYLICHTHYS PUNCTULATUS.

Kaup, Wieg. Arch. 1855, p. 230; Günth., Cat. viii, p. 315; Macleay, Aust. Cat. ii, p. 282.

Hab.—Cape seas; Australia; coast of New South Wales, common. *Porcupine-fish*. Length, 12 inches.

MOLINA.

ORTHAGORISCUS MOLA.

Tetrodon mola, Linn., Syst. Nat. i, p. 412.

Orthagoriscus mola, Bl. Schn., p. 510; Schleg., Faun. Japon. Poiss., p. 288, t. 127; Günth., Cat. viii, p. 317; Day, Brit. Fishes ii, p. 272, pl. 148.

Ostracion boops, Rich., Voy. Erebus and Terror Fishes, p. 52, pl. 30, ff. 18-21; Günth., Cat. viii, p. 268 (young).

Orthagoriscus (on the young of), Lütken, Ann. Nat. Hist. 1871, (4) viii, p. 320.

Hab.—Temperate and tropical seas; Port Jackson; Port Stephens. *Sun-fish*. Length, 10 feet; height, 14 feet.

LEPTOCARDII.

CIRROSTOMI.

BRANCHIOSTOMA BASSANUM.

Günth., Voy. Alert Zool., p. 33.

Hab.—Bass's Straits; Port Jackson (Aust. Mus.)

APPENDIX B.

COLONIAL AND INDIAN EXHIBITION, 1886.

CLASS 111.—*Natural History Specimens.*

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—Edible Mollusca, Oysters.

(*Ostrea glomerata*, *O. virescens*, *O. subtrigona*, Sow., *O. mordax*, Gld., *O. edulis*, var. *purpurea*, Hanley.)
A LARGE collection of oysters, in numerous varieties, and from beds in different localities. Most of these are natural beds, very few of them formed by artificial layings; all are under lease, and more or less under cultivation.

Owing to the supply of oysters, both on deep water-beds and on foreshores of the tidal waters of the Colony, having been either exhausted or greatly impaired by over-dredging or other causes, and with a view to afford extra encouragement to oyster-culture, it was found necessary to amend the Fisheries Act of 1881. Accordingly, in July, 1884, the Legislature passed an Act for the amendment of the Fisheries Act, 1881, the promotion of oyster-culture, and the regulation of oyster fisheries, known as the "Oyster Fisheries Act, 1884," the following short *resumé* of which may prove of interest:—Under the Act areas having a foreshore frontage of 2,000 lineal yards or under may be leased for oyster-culture for any term not exceeding fifteen years, at an annual rental of £1 for every 100 yards or part thereof. All oysters within the limits of any such leased area are the absolute property of the lessee, but are subject, when lifted, to a royalty of 3s. per bag (containing not more than three bushels). Oysters on Crown Lands or on any public oyster reserve are the property of the Crown.

Heavy penalties are inflicted under the Act for oyster-stealing from leased areas or from Crown Lands; also for burning live oysters anywhere for the purpose of converting the shells into lime.

The Act provides for inspectorial supervision of leased areas, so that should it be reported by an Inspector that a lessee is so stripping his leased area of oysters, or otherwise mismanaging it, as to threaten its destruction as an oyster-bearing area, the Governor may, on the recommendation of the Commissioners, declare the lease of such lessee to be forfeited.

Provision is also made for the closing of oyster-beds on Crown Lands for any term not exceeding three years.

Any lease may be renewed from time to time, on the application of the lessee during the twelfth year, if the Commissioners report that the area leased is fairly stocked with oysters, and has been properly worked in accordance with conditions of the lease and the regulations.

Liberal provision is made for leaseholders for oyster-culture to gather spat, brood, and ware of oysters from public oyster reserves or from Crown Lands for the purpose of stocking their leased areas.

No oyster which can be passed through a metal ring having a clear inside diameter of 1½ inch are marketable. Any person exposing any such for sale is liable to a fine.

The Act contains numerous other clauses and regulations, framed with a view of affording the utmost encouragement and protection to all engaged in oyster-culture; and as instancing the increasing attention that is being paid to this industry, the following statistics are given:—Up to the 31st December, 1885, 1,400 applications to lease areas for oyster-culture had been lodged with the Commissioners of Fisheries, the total foreshore frontage of these areas being close on 500 miles. 550 applications for areas, representing a total foreshore frontage of about 160 miles, had, on the recommendation of the Commissioners, been approved by the Governor, and the leases issued. About 300 applications for areas, representing a total foreshore frontage of about 200 miles, were disallowed by the Commissioners on the ground of those areas having been either previously applied for or set apart for public oyster reserves, hauling-grounds for fishing-nets, or for other public purposes. The remaining number of applications are being speedily dealt with.

Large public oyster reserves have been proclaimed, including all the foreshores of Port Jackson, all the foreshores at George's River, facing the National Park, and numerous areas in other districts along the coast.

The following collection from 100 different beds and localities is exhibited, to show the numerous forms which our *Ostrea glomerata* assumes in various places, and the great wealth which it is hoped will be developed under the present legislation and administration, and by the proper cultivation of the oyster-beds in New South Wales.

Recent experiments tend to prove that the so-called rock-oyster of our shores, which is left dry by every tide, is only a variety of the drift-oyster, and when taken from the rocks at low tides and laid in beds always covered by the sea they thrive well; and although oysters may thrive on natural beds of mud and sand, whenever these beds are over-dredged the animals become diseased by the infiltration of the mud into the shell. Steamer traffic over the shallow-water beds of the Hunter River, formerly so prolific, has almost completely destroyed them. The black mud stirred up by the steamer traffic has infiltrated into the shell; the oyster, unable to get rid of it, has deposited a layer of nacre over it, inside which a worm breeds and eventually kills the animal. So bad is it that one of the largest leaseholders on the river contemplates throwing up all his areas, and the Commissioners have under consideration the closing of the whole river against oyster-dredging, with the view to make an attempt to cleanse the beds. It is thought that this might be successfully done in the event of a very heavy and prolonged flood occurring on the river. That natural oyster-beds can and are, in fact, being destroyed daily by over-dredging, and by traffic when situated in shallow waters, in other countries, as well as in Australia, must be patent to any one who has taken the trouble personally to examine into the subject. It is also clear from the numerous specimens exhibited from our waters that the depth up to 10 or 15 feet is not material, although the best oysters are obtained from the shallowest beds, and are grown on a rough, shelly, gravelly, or stony bottom. The most highly prized in New South Wales are those from the rocks or beds where the fresh and salt water mingles at certain seasons of the year—for instance, at the estuaries of the river and vicinity of fresh-water creeks. It may prove interesting to learn that, from the personal observation of many persons experienced in oyster-culture here, it has been ascertained that there is no fixed season at which the oyster in New South Wales appears to spawn. They spawn at different seasons in nearly every district, the time being apparently greatly affected by the temperature of the water; indeed it is said that in some districts they spawn twice a year.

The

The value of oysters in Sydney is from 4s. to 10s. per bushel, and they are retailed at from 6d. to 1s. per dozen. The Melbourne market is largely supplied from New South Wales, the very best oysters bringing as high as from £2 10s. to £4 the 3-bushel bag in Melbourne.

Further information on this subject may be gained from the reports of the Royal Commission on the Oyster Fisheries of New South Wales, 1877, 1880, &c., and the "Proceedings of the Linnean Society of New South Wales" for the last few years (1881 to 1884), where several interesting papers will be found on the subject by Dr. J. C. Cox, M.D., F.L.S., the Rev. J. E. Tennison-Woods, F.L.S., Mr. John Brazier, C.M.Z.S., and Mr. E. P. Ramsay's Report, in Exhibition Catalogue of International Fisheries, London, 1883.

Hunter River Oysters.

1. From Mosquito Channel; taken off the foreshore; hard mud bottom; dry at low tide.
2. From Mosquito Channel; growing on cobbler's pegs and mangroves; dry at low tide.
3. From F. T. Gibbon's Bed, Mosquito Channel; 100 yards long, 4 to 8 yards wide; hard mud bottom; part becomes dry at low water.
4. From Andralaki's Bed, Mosquito Channel; 50 yards long, 4 to 8 yards wide; stiff mud bottom; depth of water, from 1 to 10 feet.
5. Rock Oysters growing on stones laid along the bank of Mosquito Channel.
6. Rock Oysters from the main channel.
7. From Eastern Spectacle Island, Sandy Island, and Goat Island. Taken off the foreshore; bottom, mud, sand, and shells; part becomes dry at low water.
8. Rock Oysters, growing on ballast stones discharged from a ship at the Bluff Head.
9. Rock Oysters from Spit Island.
10. From F. J. Gibbon's Bed, Spit Island; 60 yards long, 4 to 8 yards wide; soft mud bottom; depth of water, 1 to 5 feet.

Hawkesbury River Oysters.

11. From Browera Creek. Natural Dredge Oysters; length of bed, 10 miles, about 10 yards wide from low-water mark; depth of water, 5 to 12 feet; bottom, shelly and rocky.
12. From Browera Creek. Rock Oysters; dry at low tide.
13. From Mooney Mooney Creek. Rock Oysters; dry at low tide.
14. From Mooney Mooney Creek. Cultivated Rock Oysters. These were laid down about ten months ago on a shelly bottom in 1 foot of water at low tide; about three months old when laid down.
15. From Mooney Mooney Creek. Cultivated Rock Oysters. These were laid down about ten months ago on an artificial wooden bottom, in the middle of a very soft mud flat; completely dry at low tide.
16. From Mooney Mooney Creek. The very best large Rock Oysters; found along a rocky foreshore several miles long; about 10 yards wide, and the greater part dry at low tide. These are very scarce, and bring the highest price in the market when obtainable.

Port Stephens Oysters.

17. Rock Oysters from the Reserve at North Arm; dry at low tide. These could be greatly improved by being laid in deeper water.
18. From Bundobah Creek, North Arm; growing on patches of hard ground and roots of mangroves; dry at low tide.
19. Rock Oysters from Farm Cove; dry at low tide.
20. Rock Oysters from Barom Point Reef, North Arm. A rocky spit, running about 100 yards seawards; dry at low tide.
21. From Karuah River. Dredged off "Joass' Bed"; 50 yards long, 10 yards wide; depth of water, 4 to 6 feet; bottom, hard shell.
22. From Karnah River. Dredged off "Engel's Bed"; 100 yards long, 20 yards wide; depth of water, 6 to 8 feet; bottom, soft pipeclay and mud.
23. From Karuah River. Dredged from Griffen's Bed"; 30 yards long, 10 yards wide; 2 to 14 feet water; bottom, shells and stones.
24. From Serpent River. Dredged from "Eagel's Bed"; 300 yards long, 13 yards wide; depth of water, 3 to 18 feet; bottom, pebbles and shells.

Cape Hawke Oysters

25. Rock Oysters from Coomba, at the entrance to Wallis' Lake; depth of water, 3 feet at low tide.
26. From the Broadwater, Wollombi River; depth of water, 3 feet at low tide; bottom, soft mud.
27. From the foreshores of Swan Bay; dry at low tide; bottom, mud and shells.
28. Cultivated Oysters from the entrance to Wollombi River. Taken from cobbler's pegs and mangroves, and laid down about eight months; depth of water, 2 feet at low tide; bottom, soft mud; very small when laid down.
29. Cultivated Oysters from the entrance to Wollombi River. Taken from cobbler's pegs and mangroves, and laid down about three months; depth of water, 3 feet at low tide; bottom, soft mud.
30. Cultivated Oysters from Twin Island. Taken from cobbler's pegs and mangroves, and laid down about six months; depth of water, 2 feet at low tide; bottom, soft shells and mud.

Manning River Oysters.

31. Cultivated Oysters from Cathai Creek. Taken off the foreshores, and laid down about two years in 3 feet of water at low tide; bottom, sand and mud.
32. Cultivated Oysters from Scott's Creek. Taken off the foreshores, and laid down about eighteen months in 2 feet of water at low tide; bottom, rocks and gravel.
33. Cultivated Oysters from Suthey Bay, Scott's Creek. Taken off the foreshores, and laid down about two years in 3 feet of water at low tide; bottom, rocks and sand.
34. Cultivated Oysters from Oyster Reach. Taken off the foreshores, and laid down about three years in 3 feet of water at low tide; bottom, rocky.

35. Cultivated Oysters from South Channel. Taken off the foreshores; laid down about six months in 2 feet of water at low tide; bottom, rocks and gravel.
36. From South Channel. Dredged from "Layton's Bed"; 250 yards long, 10 yards wide; depth of water, 6 to 15 feet; bottom, rocky.

Camden Haven Oysters.

37. Cultivated Oysters. Taken off the foreshores; laid down about twelve months in 3 feet of water at low tide; bottom, sand and mud.
38. Cultivated Oysters. Taken off the foreshores; laid down about six months in 4 feet of water at low tide; bottom, sand and mud.
39. Taken off the foreshores; dry at low tide; bottom, sandy.
40. Taken off the foreshores; dry at low tide; bottom, sandy and shelly.

Clarence River Oysters.

41. From the "House Bed"; depth of water, 4 to 12 feet; bottom, silt, covered with mud.
42. From the "Mud Patch Bed"; area, about $1\frac{1}{2}$ acre; depth of water, 8 to 10 feet; bottom, soft mud and shell.
43. From "Brodie's Bed"; area, about 3 acres; depth of water, 3 to 10 feet; bottom, silt, covered with shell.
44. From "Dick's Bed"; area, about 2 acres; depth of water, 3 to 8 feet; bottom, silt, covered with shell.

Erans River Oysters.

45. Rock Oysters from "Iron Gates"; a narrow rocky channel in the river, through which the tide passes with great rapidity.

Richmond River Oysters.

46. Taken from 7 to 10 feet of water; bottom, hard clay, thickly covered with shells.
47. Taken from the "Upper Bed"; depth of water, 7 feet; bottom, hard blue clay, covered with shells.
48. Taken from the "Lower Bed"; depth of water, 3 feet; bottom, shell and silt.

Brunswick River Oysters.

49. Rock Oysters, from the foreshore; dry at low tide.

Tweed River Oysters.

50. From Terranora waters, off "No. 6 Bed"; depth of water, 2 feet; bottom, stones and dead shells.
51. From Terranora waters, off "No. 7 Bed"; depth of water, 4 feet; bottom, mud.

George's River Oysters.

52. Mud Oysters; procured by a diver in 40 feet of water.
53. Rock Oysters (deep water); procured by a diver in 40 feet of water.
54. Rock Oysters; taken off the rocks between high and low water.
55. Rock Oysters; procured by a diver in 20 feet of water.
56. From Port Hacking; taken off the foreshores between high and low water; bottom, mud and sand.

Shoalhaven River Oysters.

57. Rock Oysters from Curley's Bay; dry at low tide.
58. Cultivated Oysters from Curley's Bay; laid down about fifteen months in 4 feet water at high tide; dry at low tide; bottom, rocky.
59. Oysters from the foreshores of Saltpan Creek; dry at low tide; bottom, muddy.
60. Cultivated Oysters from Saltpan Creek; laid down about six months in 4 feet water at high tide; dry at low tide; bottom, muddy.
61. Rock Oysters from "No. 1 Bed," Broughton Creek; 200 yards long; 10 yards wide; depth of water, 8 to 14 feet.
62. Cultivated Oysters from "No. 2 Bed," Broughton Creek; 150 yards long, 25 yards wide; depth of water, 2 to 11 feet; bottom, rocky. Taken from the foreshores of Berry's Creek; laid down about five months.
63. Rock Oysters from "No. 3 Bed," Broughton Creek; 100 yards long, 18 yards wide; depth of water, 6 to 10 feet.
64. Rock Oysters from "No. 4 Bed," Broughton Creek; 200 yards long, 20 yards wide; depth of water, 4 to 12 feet.
65. Rock Oysters from Broughton Creek; off a heap of ballast stones discharged from a ship; dry at low tide.
66. From Berry's Creek; off a muddy foreshore; dry at low water.

Crookhaven River Oysters.

67. Cultivated Oysters from "No. 1 Bed," H. Woodward's; 350 yards long; 30 yards wide; depth of water, 3 to 13 feet; bottom, rocky; laid down about six months.
68. Rock Oysters from "The Dyke"; dry at low water.
69. Rock Oysters from "Nos. 2, 3, and 5 Beds"; each bed is about 100 yards long, 10 yards wide; depth of water, 6 to 10 feet.

Jervis Bay Oysters.

70. From Bherrewerre Creek; dredged from "Bryce's Bed"; 200 yards long; 25 yards wide; depth of water, 4 to 9 feet; bottom, rocky.
71. Rock Oysters from Flat Rock Creek; depth of water, 2 feet.
72. From Currambene Creek. Cultivated Oysters from "No. 1 Bed," G. Haiser's; 150 yards long; 20 yards wide; depth of water, 3 to 12 feet; taken off foreshores; laid down about six months.
73. From Currambene Creek. Dredged from "No. 1 Bed," G. Haiser's; 200 yards long; 20 yards wide; depth of water, 2 to 15 feet; bottom, rocky.

74. From Moona Creek. Taken off the foreshores; dry at low tide; bottom, sand and mud.
75. Mud Oysters from the "Hole in the Wall"; a bed 600 yards long; 400 yards wide; depth of water, 20 to 30 feet.

Olyde River Oysters.

76. Rock Oysters from "Big Island Bed"; 1 mile long; 100 yards wide; depth of water, 20 to 40 feet.
77. Rock Oysters from "Schnapper Point Bed"; 300 yards long; 150 yards wide; depth of water, 10 to 20 feet.
78. Oysters taken off the mangroves; dry at low tide.
79. Cultivated Oysters from the "Old Bed"; 300 yards long; 150 yards wide; depth of water, 3 to 20 feet; taken off the mangroves, and laid down for six months.
80. Cultivated Oysters from the "Chinaman's Point Bed"; 300 yards long; 50 yards wide; depth of water, 2 to 20 feet; taken off the mangroves and laid down for four months.
81. Rock Oysters from between high and low water; age, about eighteen months.
82. Rock Oysters from between high and low water on the Bold Shore, facing the "Bold Shore Bed." This bed is 1,000 yards long; 12 yards wide; depth of water, 3 to 15 feet.
83. Cultivated Oysters from Budd's Island; taken off the mangroves and laid down about eight months in 2 feet of water at low tide; bottom, hard mud.
84. Rock Oysters.

Lake Durras Oysters.

85. Sample from 6 feet of water; bottom, shingly.
86. Mud Oysters; depth of water, 4 feet.

Moruya River Oysters.

87. Rock Oysters; depth of water, 3 to 10 feet.

Pambula River Oysters.

88. Rock Oysters; depth of water, 1 to 12 feet.
89. Cultivated Oysters; taken off the foreshore rocks, and laid down about twelve months in 3 feet of water at low tide.

Bermagui River Oysters.

90. Rock Oysters; taken off the rocks from high-water mark to 2 feet below low-tide mark.
91. Oysters taken off the mangroves; dry at low tide.

Cuttagee Lake Oysters.

92. Rock Oysters; depth of water, 2 feet at low tide.

Nelson Lake Oysters.

93. Oysters collected from small pieces of wood, and growing on whelks.

Wapengo Lake Oysters.

94. Oysters growing on whelks on a sandpit.

Keat's River Oysters.

95. Rock Oysters; from the foreshores between high and low tide.

Womboyne River Oysters.

96. Rock Oysters.

Port Jackson Oysters.

97. Mud Oysters; from Woolloomooloo Bay and Parramatta River. [*Specimens of natural Oyster growth.*]
98. Oysters growing on boots, bottles, &c.; from A. Philp's leased beds at Palmer's Island, Clarence River.
99. A large piece of rock with oysters growing naturally thereon; taken from Botany Bay.
100. Cluster of Oysters, showing growth and size from spat to three, six, twelve, and twenty months; from H. Woodward's "Lake Bed," Clarence River.

CLASS 85.—Preserved Fish.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES.—Fish prepared for food.

These exhibits have been prepared to the order of the Commissioners of Fisheries for New South Wales by two of the principal Meat-preserving Companies of New South Wales.

Most of the fish were preserved during the months of July and August, 1885, having been purchased under the supervision of an officer of the Fisheries Department.

The fresh fish comprise many of the best known food fishes, of which the mullet, bream, blackfish, and eel appear to be best adapted for this mode of preserving.

In smoked fish, whiting and eels are exhibited.

The oysters were specially selected from beds on the Clarence River and at Cape Hawke.

Crayfish, tinned and sun-dried, and tinned prawns, are also exhibited.

Fish tinned for food, prepared at the works of the Sydney Meat-preserving Company (Limited), Rookwood.

Smoked Fish:—

Whiting (*Sillago bassensis*).

Eel (*Anguilla Australis*).

Fresh Fish:—

Grey Mullet (*Mugil grandis*).

Jewfish (*Sciaena Antarctica*).

Tailor (*Temnodon saltator*).

Blackfish (*Girella tricuspidata*).

Fresh

Fresh Fish—*continued.*

Schnapper (*Pagrus unicolor*).
 Black Bream (*Chrysophrys Australis*).
 Perch (*Lates colonorum*).
 Nannagai (*Beryx affinis*).
 Garfish (*Hemirhamphus regularis*).
 Eel (*Anguilla Australis*).
 Oysters (*Ostrea glomerata*).
 Crayfish (*Palinurus hugeli*).

Fish tinned for Food, prepared at the works of Messrs. Walsh, Elliot, & Rennie, Bunnerong Works, Botany:—

Smoked Fish:—

Whiting (*Sillago bassensis*).

Fresh Fish:—

Grey Mullet (*Mugil grandis*).
 Jewfish (*Sciaena Antarctica*).
 Black Bream (*Chrysophrys Australis*).
 Whiting (*Sillago bassensis*).
 Oysters (*Ostrea glomerata*).
 Crayfish (*Palinurus hugeli*).
 Prawns (*Penæus esculentes*).
 Sun-dried Fish for food:—
 Crayfish (*Palinurus hugeli*).

CLASS 47.—*Oils.*

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Phillip-street, Sydney.—Oils from Fish, other than edible purposes.

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| 1. The Sun-fish (<i>Orthogoriscus</i> sp.) | 7. "Blue Pointer" Shark (<i>Lamna glauca</i> .) |
| 2. Sea-Mullet (<i>Mugil grandis</i> , Castelnau.) | 8. "Grey Pointer" Shark (<i>Carcharodon rondeletii</i> .) |
| 3. Black Stinging Ray (<i>Trygon pastinicia</i> .) | 9. "Hump Back" Whale. |
| 4. Rayner's Shark (<i>Galleocerdo Rayneri</i> .) | 10. "Black Fish" Whale. |
| 5. Tiger Shark, or "Wobbigong" (<i>Crossorhinus varbatus</i> .) | 11. "Baleen Whale." |
| 6. "Grey Nurse" Shark (<i>Odontaspis Americanus</i> .) | 12. Dugong (<i>Halicore Australis</i> .) |

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—Models of Food Fishes.

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|--|---|
| 1. Blackfish (<i>Girella tricuspidata</i>). | 7. Tailor (<i>Temnodon saltator</i>). |
| 2. Black Bream (<i>Chrysophrys Australis</i>). | 8. Squire (<i>Pagrus unicolor</i>). |
| 3. Carp (Sea) (<i>Chilodactylus fuscus</i>). | 9. Mullet (<i>Mugil grandis</i>). |
| 4. Tarwhine (<i>Chrysophrys hasta</i>). | 10. Yellow-tail (<i>Caranx trachurus</i>). |
| 5. Whiting (<i>Sillago ciliata</i>). | 11. Trevalley (<i>Caranx Georgianus</i>). |
| 6. Jewfish (<i>Sciaena Antarctica</i>). | 12. Salmon Trout (<i>Arripis truttaceus</i>). |

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—Paintings of Australian Fish.

Crayfish	<i>Palinurus hugeli</i> .	Tailor	<i>Temnodon saltator</i> .
Teraglin	<i>Otolithus atelodus</i> .	Sea Mullet.....	<i>Mugil grandis</i> .
Long Tom.....	<i>Belone ferox</i> .	Morwong	<i>Chilodactylus macropterus</i> .
Blue Groper.....	<i>Cossyphus Gouldi</i> .	Flathead	<i>Platycephalus fuscus</i> .
Wirrah	<i>Plectropoma ocellatum</i> .	Schnapper.....	<i>Pagrus unicolor</i> .
Garfish	<i>Hemirhamphus</i> sp.	Blackfish	<i>Girella tricuspidata</i> .
Batfish	<i>Psettus argenteus</i> .	Drummer	<i>Girella elevata</i> .
Squire	<i>Pagrus unicolor</i> .		<i>Odax</i> sp.
Carp	<i>Chilodactylus fuscus</i> .		<i>Serranus</i> sp.
Maray	<i>Clupea Sundaica</i> .		<i>Labrichthys</i> sp.
White Trevally.....	<i>Caranx Georgianus</i> .		<i>Apogon fasciatus</i> .
Sergeant Baker.....	<i>Aulopus purpurissatus</i> .		<i>Chelmo truncatus</i> .
Perch.....	<i>Lates colonorum</i> .		<i>Heteroscarus filamentosus</i>
Tarwhine (2)	<i>Chrysophrys sarba</i> .		<i>Plectropoma nigrorubrum</i> .
Nannagai	<i>Beryx affinis</i> .		<i>Labrichthys laticlavius</i> .
Flounder	<i>Pseudorhombus Russellii</i> .		<i>Gerres</i> sp.
Sole	<i>Synaptura niger</i> .		<i>Coris lineolata</i> .
Mullet	<i>Mugil</i> sp.		<i>Carassius vulgaris</i> .
Trumpeter Whiting	<i>Sillago bassensis</i> .		<i>Cirrhitichthys aprinus</i> .
Pike	<i>Sphyræna obtusata</i> .		<i>Cossyphus</i> sp.
Mullet	<i>Mugil pettardi</i> .		<i>Caranx</i> sp.
Red Rock Cod	<i>Scorpæna cardinalis</i> .		<i>Caranx</i> sp.
Gurnard	<i>Trigla kumu</i> .		<i>Scatophagus multifasciatus</i> .
John Dory.....	<i>Zeus Australis</i> .		<i>Temnodon</i> sp.

1 Fishing-net from New Guinea.

CLASS 15a.—*Scientific Reports and Publications.*

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Phillip-street, Sydney.—Catalogue of Australian Fishes, Mollusca, and Seals and Whales.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Phillip-street, Sydney.—Works on Ichthyology.

Descriptive Catalogue of Australian Fishes. 2 vols. By the Hon. Wm. Macleay, F.L.S., M.L.C., &c.
 Catalogue of Fishes of New South Wales, with their principal Synonyms. By J. Douglas-Ogilby,
 Assistant Zoologist, Australian Museum, Sydney, N.S.W. Reports

Reports of the Royal Commission of Fisheries of New South Wales.
Fisheries Act of New South Wales, 1881. By Alex. Oliver, Esq., M.A.
Oyster Fisheries Act, 1884.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES (Assisted by Trustees of Australian Museum).
[E. P. Ramsay, Curator.]—Australian Sponges.

Dr. Von Lendenfeld estimates the number of known species of Australian sponges at 350. Considering how little is known of the Australian Marine Invertebrates, compared with those of European seas, this number shows that there must be more species of sponges in Australian waters than in any other locality of similar extent.

Divided from the other continents by mostly deep, and for shallow-water sponges, unsurpassable oceans, Australia has a Sponge Fauna of its own. Only three or four European species have up till now been discovered in Australia.

The collection of sponges in the Australian Museum comprises nearly all Australian species, and will be found enumerated and described in the catalogues published by that Institution.

The species exhibited are described in that catalogue. They are few in number, for limit of space precluded a more extensive display.

CLASSIS SPONGIAE.

I. SUBCLASSIS CALCAREA.

1. Ordo Calcispongiae.

II. Subordo Heterocœla.

Familia Syconidae—

1. *Grantessa sacca*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
2. *Sycandra arborea*, Haeckel, (in spirits), Port Phillip, V.
3. *Sycandra Ramsayi*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

Familia Leuconidae—

4. *Leucandra saccharata*, Haeckel, (in spirits), Port Jackson, N.S.W.
5. *Leucandra cataphracta*, Haeckel, (in spirits), Port Molle, L.

2. Ordo Hexactinellae.

II. SUBCLASSIS NONCALCAREA.

3. Ordo Chondrospongiae.

Familia Papillionidae—

6. *Papillina panis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
7. *Raphyrus Hixsoni*, Lendenfeld, (dry), Port Jackson, N.S.W.

Familia Chondrosidae—

8. *Chondrilla Australiensis*, Carter, (in spirits), Port Phillip, V.
9. *Chondrilla secunda*, Lendenfeld, (in spirits), Port Phillip, V.

4. Ordo Myzospingiae.

5. Ordo Halichondriæ.

Familia Spongillidae—

10. *Meyenia nigra*, Lendenfeld, (in spirits), Botany swamps, N.S.W.

Familia Fibrospongidae—

11. *Renieropsis globosa*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
12. *Pellina nubicunda*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
13. *Vomerula Ridleyi*, Lendenfeld, (dry), Western Australia.

6. Ordo Cornuspiculæ.

Familia Chalinidae—

14. *Syphanella digitata*, Lendenfeld, (in spirits), east coast of Australia, N.S.W.
15. *Syphonochalina typica*, Lendenfeld, (in spirits), Port Stephens, N.S.W.
16. *Llaplocholina dendrilla*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
17. *Chalinissa communis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
18. *Dactylocholina Australis*, Lendenfeld, (in spirits), Port Phillip, V.
19. *Dactylocholina reticulata*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

Familia Echiopidae—

20. *Clathria levis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
21. *Clathria paucispina*, Lendenfeld, (in spirits), Port Phillip, V.
22. *Clathria arbuscula*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

7. Ordo Ceraaspongiae.

I. SUBORDO MICROCOMERAE.

Familia Spongidae—

23. *Euspongia levis*, Lendenfeld (in spirits), Port Jackson, N.S.W.
24. *Aulena fabellum*, Lendenfeld, (in spirits) Port Jackson, N.S.W.
25. *Halmopsis Australia*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
26. *Cacospongia Canalis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
27. *Cacospongia Australis*, var. *conulata*, Lendenfeld, (in spirits), Port Phillip, V.
28. *Halme laxa*, var. *digitata*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
29. *Halme gigantea*, var. *intermedia*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
30. *Halme gigantea*, var. *macrapora*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

Familia Hircinidae—

31. *Hircinia digitata*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
32. *Hircinia densa*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
33. *Hircinia pocula*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
34. *Hircinopsis pocula*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
35. *Hircinopsis Australis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
36. *Hircinia gigantea*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

II. SUBORDO MACROCAMEBAE.

Familia Spongeliidae—

37. *Spongelia Australis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
38. *Spongelia Violacea*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
39. *Dysidea tubaria*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
40. *Dysidea corticata*, var. *tubaria*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
41. *Dysidea squalida*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

Familia Aplysillidae—

42. *Dendrilla cavernosa*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
43. *Dendrilla tenella*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
44. *Dendrilla rosea*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
45. *Ianthella fiabelliformis*, Gray, (dry).

DIVERSE SPECIMENS.

46. Crabs overgrown with sponges.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, AND TRUSTEES OF THE AUSTRALIAN MUSEUM,
Sydney.—Australian Fish in Alcohol.

ACANTHOPTERYGII.

PERCIDE.

1. *Lates colonorum*, Günth. Gippsland Lakes. 2 spec.
2. " " *curtus*, Casteln. Sydney Markets. 2 spec.
3. *Enoplosus armatus*, White. Port Jackson. 2 spec.
4. *Caprodon Schlegelii*, Günth ♂ & ♀. Port Jackson. 2 spec.
5. *Serranus daemeli*, Günth. Port Jackson.
6. *Plectropoma nigrorubrum*, C. & V. Port Jackson.
7. " *annulatum*, Günth. Port Jackson.
8. " *ocellatum*, Günth. Port Jackson.
9. *Lutianus fulviflamma*, Forsk. Fraser Island.
10. *Apogon fasciatus*, White. Port Jackson.
11. " " var? Port Jackson.
12. " *Guentheri*, Casteln. Port Jackson. 2 spec.
13. *Arripis salar*, Rich. Port Jackson. 4 spec.
14. *Oligorus Macquariensis*, C. & V. Richmond River. 2 spec.
15. *Therapon Cuvieri*, Bleek. Port Jackson. 6 spec.
16. " *percoides*, Günth. Gayndah. 2 spec.
17. *Gerres argyreus*, C. & V. Richmond River.
18. *Priacanthus macracanthus*, C. & V. Port Jackson.

SQUAMIPINNES.

19. *Chelmo truncatus*, Kner. Port Jackson. 2 spec.
20. *Scorpiæ æquipinnis*, Rich. Port Jackson. 2 spec.
21. *Atypichthys strigatus*, Günth. Port Jackson.

NANDIDE.

22. *Plesiops Bleakeri*, Günth. Port Hacking.

MULLIDE.

23. *Hypeneus vlamingii*, C. & V. Port Jackson. 2 spec.
24. " *signatus*, Günth. Port Jackson. 2 spec.
25. " *porosus*, C. & V. Port Jackson. 3 spec.

SPARIDE.

26. *Pachymetopon grande*, Günth. Port Jackson.
27. *Girella tricuspidata*, C. & V. Port Jackson. 2 spec.
28. " *simplex*, Rich. Port Jackson.
29. *Lethrinus chrysostomus*, Rich. Port Jackson.
30. *Haplodactylus lophodon*, Günth. Port Jackson.
31. *Pagrus unicolor*, C. & V. Port Jackson. 5 spec.
32. *Chrysophrys sarba*, Forsk. Port Jackson. 4 spec.
33. " *Australis*, Günth. Port Jackson. 2 spec.

CIRRHITIDE.

34. *Chironemus marmoratus*, Günth. Port Jackson.
35. *Chilodactylus fuscus*, Casteln (ad. & jur.) Port Jackson. 2 spec.
36. *Latris Forsteri*, Casteln. Port Jackson.

SCORPÆNIDE.

37. *Sebastes percoides*, Rich. Port Jackson.
38. *Scorpena cardinalis*, Rich. Port Jackson. 3 spec.
39. " *cruenta*, Rich. Port Jackson. 2 spec.
40. *Centropogon Australis*, White. Port Jackson. 3 spec.

BERYCIDE.

41. *Trachichthys Jacksoniensis*, Macl. Port Jackson.
42. *Beryx affinis*, Günth. Port Jackson. 2 spec.

CREYTIDE.

43. *Pempheris compressus*, White. Port Jackson.

SCLÉNIDE.

44. *Otolithus atelodus*, Günth. Port Jackson. 2 spec.

ACANTHURIDE.

45. *Prionurus microlepidotus*, Lacép. Port Jackson.

CARANGIDE.

CARANGIDÆ.

46. *Caranx trachurus*, Linn. Port Jackson. 2 spec.
 47. " *georgianus*, C. & V. Port Jackson.
 48. *Temnodon saltator*, Linn. Port Jackson. 4 spec.
 49. *Psettus argenteus*, Linn. Port Jackson. 2 spec.

CYTTIDÆ.

50. *Zeus Australis*, Rich. Port Jackson.

SCOMBRIDÆ.

51. *Echeneis naucrates*, Linn. Clarence River.

TRACHINIDÆ.

52. *Sillago bassensis*, C. & V. Port Jackson. 3 spec.
 53. " *maculata*, Q. & G. Port Jackson.
 54. *Opisthognathus Jacksoniensis*, Macl. Port Jackson.

BATRACHIDÆ.

55. *Batrachus dubius*, White. Port Jackson. 3 spec.

COTTIDÆ.

56. *Platycephalus Tasmanius*, Rich. Port Jackson.
 57. " *fuscus*, C. & V. Port Jackson. 2 spec.
 58. " *arenarius*, R. & O. Port Jackson.
 59. *Lepidotrigla papilio*, C. & V. Port Jackson. 3 spec.
 60. " *Mulballi*, Macl. Port Jackson.
 61. *Trigla kumu*, Q. & G. Port Jackson. 2 spec.

GOBIIDÆ.

62. *Gobius gobioides*, Ogilby. Clarence River. 2 spec.
 63. *Eleotris Australis*, Krefft. Clarence River. 3 spec.
 64. " sp. Manly Lagoon. 3 spec.
 65. *Callionymus calauropomus*, Rich. Port Jackson. 5 spec.
 66. " *curvicornis*, C. & V. Port Jackson.

BLENNIIDÆ.

- 66a. *Lepidoblennius geminatus*, Macl. Port Jackson. 5 spec.
 67. *Cristiceps aurantiacus*, Casteln. Port Jackson.
 68. " *argyropleura*, Kner. Port Jackson.
 69. " sp. Port Jackson.
 70. *Petroscirtes cristiceps*, Macl. Clarence River.

SPHYRÆNIDÆ.

71. *Sphyræna Novæ Hollandiæ*, Günth. Port Jackson.

ATHERINIDÆ.

72. *Atherina pinguis*, Lacép. Port Hacking. 3 spec.

MUGILIDÆ.

73. *Mugil grandis*, Casteln. Port Jackson.
 74. " *waigiensis*, Q. & G. Fraser Island.
 75. " *pettardi*, Cast. Port Jackson.
 76. " *peronii*, C. & V. Port Jackson. 2 spec.
 77. *Myxus elongatus*, Günth. Port Jackson. 2 spec.

POMACENTRIDÆ.

78. *Parma squamipinnis*, Günth. Port Jackson. 3 spec.

LABRIDÆ.

79. *Cossyphus unimaculatus*, Günth. Port Jackson
 80. " *Gouldi*, Rich. Port Jackson.
 81. *Lrbrichthys latielavivus*, Rich. Port Jackson. 2 spec.
 82. " *gymnogenis*, Günth. Port Jackson. 3 spec.
 83. " *nigromarginatus*, Macl. Port Jackson.
 84. *Coris lineolata*, C. & V. Port Jackson. 3 spec.
 85. *Heteroscarus Castelnau*, Macl. Port Jackson. 2 spec.
 86. *Odax Richardsonii*, Günth, ♂ ♀. Port Jackson. 2 spec.
 87. *Olistherops brunneus*, Macl., ♂ ♀. Port Jackson. 4 spec.

ANACANTHINI.

PLEURONECTIDÆ.

88. *Pseudorhombus Russellii*, Gray. Port Jackson. 5 spec.
 89. " *multimaculatus*, Günth. Port Jackson. 6 spec.
 90. *Ammotretis adspersus*, Kner. Port Jackson.
 91. *Solea microcephala*, Günth. Port Jackson. 5 spec.
 92. " *macleyana*, Rams. Port Jackson. 2 spec.
 93. *Lophonectes gallus*, Günth. Port Jackson. 8 spec.
 94. *Achirus pavoninus*, Lacép. Port Jackson. 2 spec.
 95. *Synaptura nigra*, Macl. Port Jackson. 6 spec.
 96. " *fasciata*, Macl. Port Jackson.

PHYSOSTOMI.

SILURIDÆ.

97. *Copidoglanus obscurus*, Günth. Port Jackson.
 98. *Cnidoglanis megastoma*, Rich. Port Jackson. 4 spec.
 99. *Arius*, sp. Fraser Island, Q.

SCOPELIDÆ.

SCOPELIDÆ.

100. *Saurus myops*, C. & V. Port Jackson.
101. *Aulopus purpurissatus*, Rich. Port Jackson. 2 spec.

SCOMBRESOCIDÆ.

102. *Belone Ferox*, Günth. Port Jackson.
103. *Hemirhamphus intermedius*, Cant. Port Jackson. 6 spec.
104. " *regularus*, Günth. Port Jackson. 5 spec.

CYPRINIDÆ.

105. *Carassius vulgaris*, Nordm. Nepean River. (*Introduced.*)

CLUPEIDÆ.

106. *Clupea hypselosoma*, Bleek. Port Jackson. 6 spec.
107. " *Novæ Hollandiæ*, C. & V. Hawkesbury River
108. *Elops saurus*, Linn. Port Jackson.

SYMBRANCHIDÆ.

109. *Chilobranchnus rufus*, Macl. Port Jackson. 2 spec.

MURÆNIDÆ.

110. *Anguilla Australis*, Rich. Hawkesbury River.
111. *Muræna afra*, Bl. Port Jackson. 3 spec.

PLECTOGNATHI.

SCLEBODERMI

112. *Monacanthus hippocrepis*, Q. & G. Port Jackson.
113. " *trachylepis*, Günth. Port Jackson.
114. " *megalurus*, Rich. Port Jackson. 4 spec.
115. " *ayraudi*, Q. & G. Port Jackson. 4 spec.
116. " *trossulus*, Rich.
117. *Ostracion lenticularis*, Rich. Port Jackson. 2 spec.
118. " " var. Port Jackson.
119. " *concatenatus*, Bl.

GYMNODONTES.

120. *Tetrodon hypselogenion*, Bleek. Port Jackson. 4 spec.
121. *Dicotylichthys punctulatus*, Kaup. Port Jackson. 2 spec.

CHONDROPTERYGII.

CARCHARIDÆ.

122. *Zygæna Leeuwini*, Griff., ♂ & ♀ jun. Clarence R. 2 spec.

NOTIDANIDÆ.

123. *Notidanus Indicus*, Cuv. Port Jackson.

SCYLLIIDÆ.

124. *Scyllium anale*, Ogilby. Port Jackson.
125. *Chiloscyllium furvum*, Macl. Port Jackson.
126. *Crossorhinus barbatus*, Linn. Port Jackson.

HETERODONTIDÆ.

127. *Heterodontus Phillipi*, Bl. Port Jackson.
128. " *galeatus*, Günth. Port Jackson.

RHINIDÆ.

129. *Rhina squatina*, Linn. Port Jackson.

RHINOBATIDÆ.

130. *Rhinobatus Bougainvillei*, M. & H. Port Jackson.
131. *Trygonorhina fasciata*, M. & H. Port Jackson. 2 spec.

TRYGONIDÆ.

132. *Urolophus testaceus*, M. & H. Port Jackson. 2 spec.

MYLIOBATIDÆ.

133. *Myliobatis Australis*, Macl. Port Jackson.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES AND TRUSTEES OF THE AUSTRALIAN MUSEUM,
Sydney.—Stuffed Fishes.

1. *Serranus dæmeli*, Günth.
2. *Arripis salar*, Rich.
3. *Haplodactylus lophodon*, Günth.
4. *Pagrus unicolor*, C. & V.
5. *Chilodactylus fuscus*, Casteln.
6. " *macropterus*, Rich.
7. *Prionurus microlepidotus*, Lacép.
8. *Caranx Georgianus*, C. & V.
9. *Temnodon saltator*, Linn.
10. *Oreynus* sp. (?)
11. *Mugil peronii*, C. & V.
12. *Cossyphus Gouldii*, Rich.
13. *Monacanthus ayraudi*, Q. & G.

AUSTRALIAN MUSEUM (Trustees of) AND COMMISSIONERS FOR NEW SOUTH WALES FISHERIES.—Photographs of N.S.W. Fish.

PERCIDÆ.							
Lates colonorum (<i>Günth.</i>) ...	...	...	...	...	...	...	691
Enoplosus armatus (<i>White</i>) ...	...	...	...	...	...	...	51
Neanthias Guentheri (<i>Cast.</i>) ...	...	...	...	...	...	...	872
Serranus sp. ...	...	...	...	...	...	...	702
Plectropoma nigrorubrum (<i>C. & V.</i>) ...	...	...	...	...	...	...	856
" annulatum (<i>Günth.</i>) ...	...	...	...	...	...	...	930
Glaucosoma scapulare (<i>Rams.</i>) ...	...	...	...	...	...	...	44
Therapon Cuvieri (<i>Bleek</i>) ...	...	...	...	...	...	...	899
" theraps (<i>C. & V.</i>) ...	...	...	...	...	...	...	904
Arripis salar (<i>Rich.</i>) ...	...	...	...	...	...	...	591
Histioporus labiosus (<i>Günth.</i>) ...	...	...	...	...	...	...	685
SQUAMIPINNES.							
Chætodon strigatus (<i>C. & V.</i>) ...	...	...	...	...	...	...	693
Chelmo truncatus (<i>Kner.</i>) ...	...	...	...	...	...	...	784
Scorpiæ æquipinnis (<i>Rich.</i>) ...	...	...	...	...	...	...	651
Scatophagus argus (<i>Linn.</i>) ...	...	...	...	...	...	...	718
" multifasciatus (<i>Rich.</i>) ...	...	...	...	...	...	...	739
MULLIDÆ.							
Hypeneus vlamingi (<i>C. & V.</i>) ...	...	...	...	...	...	...	667
SPARIDÆ.							
Pachymetopon grando (<i>Günth.</i>) ...	...	...	...	...	...	...	953
Girella simplex (<i>Richards</i>) ...	...	...	...	...	...	...	629
Haplodactylus lophodon (<i>Günth.</i>) ...	...	...	...	...	...	...	914
Pagrus unicolor (<i>C. & V.</i>) ...	...	...	...	...	...	...	14
Chrysophrys sarba (<i>Forsk.</i>) ...	...	...	...	...	...	...	694
CIRRHITIDÆ.							
Chironemus marmoratus (<i>Günth.</i>) ...	...	...	...	...	...	...	915
Chilodactylus vittatus (<i>Garr</i>) ...	...	...	...	...	...	...	699
" macropterus (<i>Rich.</i>) ...	...	...	...	...	...	...	711
" fuscus (<i>Cast.</i>) ...	...	...	...	...	...	...	912
Cirrhitichthys aprinus (<i>C. & V.</i>) ...	...	...	...	...	...	...	913
BERYCIDÆ.							
Monocentris Japonicus (<i>C. & V.</i>) ...	...	...	...	...	...	...	815
Trachichthys Australis (<i>Shaw</i>) ...	...	...	...	...	...	...	50
Beryx affinis (<i>Günth.</i>) ...	...	...	...	...	...	...	890
CYBTIDÆ.							
Pempheris compressus (<i>White</i>), upper; <i>P. lineatus</i> (<i>Ogilby</i>), lower ...	...	...	...	...	...	...	928
" macrolepis (<i>Macl.</i>) ...	...	...	...	...	...	...	32
ACANTHURIDÆ.							
Prionurus microlepidotus (<i>Lacep.</i>) ...	...	...	...	...	...	...	671
CARANGIDÆ.							
Caranx trachurus (<i>Linn.</i>) ...	...	...	...	...	...	...	893
" Georgianus (<i>C. & V.</i>) ...	...	...	...	...	...	...	590
Temnodon saltator (<i>Linn.</i>) ...	...	...	...	...	...	...	652
Pættus argenteus (<i>Linn.</i>) ...	...	...	...	...	...	...	662
Platax teira (<i>Forsk.</i>) ...	...	...	...	...	...	...	683
CYTTIDÆ.							
Zeus Australis (<i>Richards</i>) ...	...	...	...	...	...	...	40
SCOMBRIDÆ.							
Scomber colias (<i>Linn.</i>) ...	...	...	...	...	...	...	653
Cybium commersonii (<i>C. & V.</i>) ...	...	...	...	...	...	...	785
TRACHINIDÆ.							
Percis Coxii (<i>Ramsay</i>) ...	...	...	...	...	...	...	663
Sillago bassensis (<i>C. & V.</i>) ...	...	...	...	...	...	...	892
PEDICULATI.							
Antennarius striatus (<i>Shaw</i>) ...	...	...	...	...	...	...	697
COTTIDÆ.							
Platycephalus arenarius (<i>R. & O.</i>) ...	...	...	...	...	...	...	905
" cirronasus (<i>Richards</i>) ...	...	...	...	...	...	...	855
Lepidotrigla Mulhali (<i>Macl.</i>) ...	...	...	...	...	...	...	771
Trigla kumu (<i>L. & G.</i>) ...	...	...	...	...	...	...	688
CALLIONYMIDÆ.							
Callionymus calauropomus (<i>Richards</i>) ...	...	...	...	...	...	...	615
" curvicornis (<i>C. & V.</i>) ...	...	...	...	...	...	...	854
BLENNIIDÆ.							
Petroscirtes Wilsoni (<i>Macl.</i>) ...	...	...	...	...	...	...	895
Petraites heptæolus (<i>Ogilby</i>) ...	...	...	...	...	...	...	934
Cristiceps aurantiacus (<i>Cast.</i>) ...	...	...	...	...	...	...	774
" argyropleura (<i>Kner.</i>) ...	...	...	...	...	...	...	917
MUGILIDÆ.							

	MUGILIDÆ.	
Mugil grandis (Cast.)...	...	648
	CENTRISCIDÆ.	
Centriscus gracilis (Lowe), var. japonicus (Günth)	...	906
	POMACENTRIDÆ.	
Parma squamipinnis (Günth.)	...	889
Heliastes immaculatus (Ogilby)	...	916
	LABRIDÆ.	
Cossyphus Gonldii (Richards.)	...	41
Labrichthys gymnogenis (Günth.)	...	708
Coris rex. (R. & O.)	...	963
Heteroscarus filamentosus (Cast.)	...	951
Odax Richardsonii (Günth.)	...	
	PLEUROSECTIDÆ.	
Pseudorhombus multimaculatus (Günth.)	...	602
Ammotretis adpersus (Kner.)	...	857
Lophonectes gallus (Günth)	...	730
Solea Macleayana (Ramsay)	...	56
Achirus pavoninus (Lacep.)	...	956
Synaptura nigra (Macl.)	...	594
Plagusia unicolor (Macl.)	...	962
	SCOPELIDÆ.	
Aulopus purpurissatus (Richards)	...	898
	SCOMBRESOCIDÆ.	
Belone ferox (Günth.)	...	729
	CYPRINIDÆ.	
Carassius vulgaris (Nordm.)	...	952
Tinca vulgaris (Cuv.)	...	497
	CLUPEIDÆ.	
Clupea hypselosoma (Bleek.)	...	848
Etrumeus Jacksonensis (Macl.)	...	696
	MURENIDÆ.	
Anguilla Australis (Richards)	...	29
	SCLERODERMI.	
Monacanthus ayraudi (Q. & G.)	...	717
Ostracion lenticularis (Richards)	...	715
	GYMNODONTES.	
Tetrodon sceleratus (Linn.)	...	891
" hispidus (Linn.)	...	896
Orthogoriscus mola (Linn.)	...	49
	SIBENIDÆ.	
Ceratodus Forsteri (Krefft)	...	2
	CARCHARIIDÆ.	
Zygæna Leeuwini (Griff.), head	...	790
	SCYLLIDÆ.	
Scyllium anale (Ogilby)	...	958
Chiloscyllium ocellatum (Linn.)	...	954
	HETERODONTIDÆ.	
Heterodontus zebra (Gray)	...	957
" galeatus (Günth.)	...	950
	PRISTIOPHORIDÆ.	
Pristiophorus cirratus (Lath.)	...	786
	RHINIDÆ.	
Rhina squatina (Linn.)	...	39
	TRYGONIDÆ.	
Trygon pastinaca (Linn.)	...	627
Pteroplatea Australis (R. & O.)	...	955
	DICEBOBATIDÆ.	
Ceratoptera Alfredi (Krefft)	...	10

AUSTRALIAN MUSEUM (Trustees of) AND COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—
Marine Mammalia.

The Dugong. *Halicore Australis*.
Skeleton of a Dugong. *Halicore Australis*.
Baleen sp. *Balæna Australis*.
Tanned skin of a young Baleen Whale.
Do skins of *Delphinus* sp.

APPENDIX C.

COMMISSIONERS of Fisheries for New South Wales, 1885:—

James C. Cox, M.D., President.

E. P. Ramsay, F.R.S.E., &c. &c.,
J. R. Hill, Esq.,Frederick Thomas, Esq.,
A. Oliver, Esq., M.A.

Official Staff, 1885.

Lindsay G. Thompson, Secretary and Chief Inspector of Fisheries.

Edward J. Ellis, 1st Clerk.

J. D. Delany, Clerk.

J. F. O'Grady, Clerk.

W. A. Trengrouse, Draftsman.

C. D. St. Pinnock, „

L. G. Mann, „

W. Lannen, Messenger.

James Quinan, Inspector for Home Division of Fisheries.

Thomas Temperley, „ Northern „

George G. Benson „ Southern „

Andrew Gylor, Assistant Inspector of Fisheries, Manning River.

Thomas Mulhall, „ „ Sydney.

Henry Curan, „ „ Newcastle.

Peter Smith, „ „ Hawkesbury River.

Charles Gordon, „ „ Shoalhaven.

J. C. White, „ „ Port Stephens.

William Boyd, „ „ Lake Macquarie.

John D. Grant, „ „ Botany and George's River.

Richard Seymour, Assistant Inspector of Fisheries, Fish Market, Sydney.

W. N. Cain, „ „ Brisbane Water.

F. W. Smithers, „ „ Eden.

W. McGregor, Acting Assistant Inspector of Fisheries, Tweed River.

Thomas Stewart, „ „ Bellinger River.

W. J. Whaites, „ „ Nambucca River.

John Jamieson, „ „ Macleay River.

A. H. Kendall, „ „ Cape Hawke.

H. W. C. Windeyer, „ „ Port Macquarie.

Thomas Laman, „ „ Port Stephens Heads.

A. T. Black, „ „ Broken Bay.

Bourne Russell, „ „ Twofold Bay.

Angus Sutherland, „ „ Moruya.

George Glading, Boatman, Sydney.

Richard Hellings, „ „ Botany and George's River.

Frank Aldrich, „ „ Bateman's Bay.

J. F. Hespe, „ „ Clarence River.

D. W. Benson, „ „ Clarence River.

Inland Waters.

Osborne Wilshire, Assistant Inspector of Fisheries, Deniliquin.

Senior-constable Nelson, Acting Inspector of Fisheries, Bungendore, Lake George.

APPENDIX D.

RETURN showing the quantity of Fish exported from Moama to Melbourne during 1885.

	lbs.		lbs.
January	5,436	July	3,192
February	1,536	August	3,976
March	5,264	September	8,960
April	5,040	October	15,344
May	2,772	November	15,232
June	2,184	December	4,816

APPENDIX E.

RETURN of the number of Bags of Oysters received at Sydney from various places on the coast during each month of the year 1885, and the amount of Royalty collected thereon at the Custom House.

Date.	Name of Place.	No. of Bags.	Total.	Amount of Royalty.	Total.	Date.	Name of Place.	No. of Bags.	Total.	Amount of Royalty.	Total.
1885.				£ s. d.	£ s. d.	1885.				£ s. d.	£ s. d.
Jan....	Port Stephens	357		53 11 0		Feb....	Port Stephens	410		61 10 0	
	Clyde River	339		50 17 0			Clarence River.....	159		23 17 0	
	Shoalhaven	204		30 12 0			Shoalhaven	129		19 7 0	
	Hawkesbury River..	163		24 9 0			Clyde River	110		16 10 0	
	Clarence River.....	149		22 7 0			Hawkesbury River.	101		15 3 0	
	Manning River.....	96		14 8 0			Moruya.....	53		7 19 0	
	Cape Hawke.....	28		4 4 0			Manning River.....	51		7 13 0	
	Pambula River.....	27		4 1 0			Laurieton	42		6 6 0	
	Laurieton	16		2 8 0			Cape Hawke.....	23		3 9 0	
	Moruya.....	15		2 5 0			Richmond River ...	12		1 16 0	
	Richmond River ...	9		1 7 0			George's River.....	11		1 13 0	
	Port Macquarie ...	8		1 4 0			Eden	8		1 4 0	
	Wagonga River ...	4		0 12 0			Brisbane Water ...	4		0 12 0	
			1,415		212 5 0				1,113		166 19 0

APPENDIX F.

RETURN showing the Revenue derived under the Fisheries Act during the year 1885.

	£	s.	d.	£	s.	d.
Fishermen's licenses	518	@	0 10 0	259	0	0
Do	156	@	0 5 0	39	0	0
Fishing-boat licenses	237	@	0 20 0	237	0	0
Do	58	@	0 10 0	29	0	0
Royalty on oysters raised from natural beds				1,920	3	0
Deposit on applications for leases for oyster culture				2,141	0	0
Sundries, including moieties of penalties, fines, and forfeitures recovered under Fisheries Act				363	1	0
				£4,988	4	0

APPENDIX G.

SCHEDULE of Applications for Leases of Shore for Oyster Culture.

	Yds.			Yds.	
John Holdom	100	Serpent River, Port Stephens	George Haiser	300	Currambene Creek, Wollomia
Do	800	No. 1 Point, Port Stephens	George Emmanuel	200	Bermague River
W. H. Sharples	200	Farm Cove Creek, Port Stephens	Do	100	do
Richard R. Armstrong	900	Wobbigong Creek, Port Stephens	Do	200	do
Do	600	do do	John Ruprecht	200	Manning River
James Hunt	1,000	Corrie Creek, Myall River	Henry Thompson	200	Port Stephens
Walter Thomas Coonan	1,000	do do	H. K. Harrison	200	Twofold Bay
F. H. Melmeth	200	Limeburners' Creek, Port Stephens	V. W. Seymour	200	Mooney Mooney, Hawkesbury River
Henry Woodward	500	Pelican Bay, Manning River	R. C. Rose	500	Newton Bay, Port Stephens
Peter Moore	500	Woniora, George's River	T. V. Want	300	Sutherland, Port Hacking
Joseph Southwell	500	Pelican Bay, Manning River	Thomas Hyde	500	Sutton, Port Stephens
James Evans	100	Pipeclay Creek, Karuah River	Do	300	Lemon-tree Point, Port Stephens
Do	200	Sawyer's Point, Port Stephens	Walter Foreman	100	Borang Lake
John A. Bettini	200	Cullendulla Creek, Clyde River	James Graham	100	Scott's Creek, Manning River
Do	100	Hawk's Nest, Clyde River	William Geo. Armstrong	300	Wobbigong Creek, Port Stephens
F. J. Fuller	400	Port Stephens	Laurens F. W. Armstrong	300	Corrie Bay, Port Stephens
Henry Woodward	300	Big Island, Clyde River	William M'Intyre	300	Brisbane Water
Alexander Engel	300	Port Stephens	Thomas Walker	400	Parramatta River
John Severs	200	Panbula River	Jessie Campbell Browne	600	St. Hubert's Isle, Brisbane Water
John Holdom	200	Port Stephens	Do	1,100	do do
Robert H. D. White	150	Salamanca Bay, Port Stephens	W. H. Sharples & Matherson	100	Fame Cove, Port Stephens
James D. Joass	300	Wurrung Island, Port Stephens	Do	200	do do
Do	300	do do	Do	200	do do
Frederick J. Gibbins	500	Mooney Mooney Creek, Hawkesbury River	Do	100	do do
William Geo. Armstrong	400	Karuah River, Port Stephens	F. A. Griffen	100	Limeburner's Creek
Thomas Wilson	600	Greenwell Point, Crookhaven	R. H. D. White	100	Port Stephens
Patrick Caffery	300	do do	W. E. Ireland	300	Goodwood Island, Clarence River
R. H. D. White	400	Connor's Bed, Karuah River	Walter Foreman	200	Horse Island, Tuross Lake
Joseph Jenner	100	Moruya River	Do	200	do do
Samuel Lilley	1,200	Wallis Creek	R. C. Rose	500	Wurrung Island, Port Stephens
James Kinnsaird	500	Port Stephens	George Witchard	410	South-west Arm, Port Hacking River
James Stanbury	300	Wollombolla, Crookhaven River	Do	400	Port Hacking
Samuel Lilley	500	Wallis Creek	Do	400	do
Do	250	Fame Cove, Port Stephens	Do	100	do
Do	250	do do	Do	500	do
William Ritchie and Henry A. Hoyer	1,000	Cuttagee Lake, Murrumbidgee	Do	200	do
Do	500	Dry River	George Haiser	200	Crookhaven River
R. C. Rose	600	Lake Channel, Clarence River	Henry Woodward	100	Berry's Creek, Shoalhaven River
James Graham	100	Gloucester, Manning River	Do	300	do do
George Wilcox	200	Cabbage-tree Island, Clarence River	William Shelley	100	Mullubula Point, Port Stephens
Henry Woodward	100	South Channel, Manning River	William Ringland	500	Cuttagee Lake
James Duncan	300	Port Stephens	Peter S. Newton	100	Manning River
Do	700	do	Albert Smart	200	Tuross Lake
John and Alexander Eyles	400	Richmond River	James Graham	600	Scott's Creek, Manning River
Patrick Caffery	600	Wollombolla, Shoalhaven	Mrs. Harriette Muston	1,000	Pendima Creek, Port Stephens
Robert Latta	300	East Nelligen, Clyde River	Beawick Bulmer	300	Low Island, Manning River
George Schmitzer	100	Manning River	Sydney H. Loten	600	Cabbage-tree Island, Manning River
Fred. J. Gibbins	300	East Bank, Richmond River	George Schmitzer	200	Mitchell's Island, Manning River
Robert Latta	300	Clyde River	Henry Woodward	100	Berry's Creek, Shoalhaven River
Alex. Wolsley Bowman	400	Myall River, Port Stephens	Do	200	do do
George Dent, junr.	100	Currambene, Jervis Bay	Do	150	do do
Patrick Graham	100	Manning River	Peter Thos. Johnson	800	Munnimurra River
Henry Woodward	300	Karuah River	R. H. D. White	100	Port Stephens
Do	1,000	Mosquito Point, Port Stephens	Do	200	do
P. B. Bettini	100	Moruya River	Do	100	do
Do	200	do	Do	100	do
Do	100	do	George Emmanuel	200	Bermague River
Do	100	do	Do	200	do
James Graham	100	Low Island, Manning River	Mrs. Harriet Muston	400	Port Stephens
John Lonesborough	500	Wollombolla, Shoalhaven	Joseph Blanch	500	Myall River, Port Stephens
Henry Alderton	300	Port Stephens	Robert Hunter	400	South Side, Wopengo Lake
W. H. Wells	200	Bullock Island, Hunter River	Do	300	Wopengo Lake
William Wells	400	Port Stephens	William George Armstrong	500	North Arm, Port Stephens
Albert Smart	100	Tuross Lake	Laarnes F. Armstrong	500	Karuah River
Peter S. Newton	100	Manning River	Do	300	Wurrung Island, Port Stephens
Joseph Haiser	400	Shoalhaven	William George Armstrong	100	North Arm, Port Stephens
			Richard R. Armstrong	100	Rocky Island, Port Stephens

APPENDIX G—continued.

	Yds.			Yds.	
Richard R. Armstrong	100	Rocky Island, Port Stephens	William Lavington	400	Bownda Lake
Do	100	A flat bed, near Tahlee, Port Stephens	Do	400	do
M. M'Mahon	600	Brisbane Water	Alfred Rogers	1,500	Broken Bay
William John Mudford	100	Scott's Creek, Manning River	William Marsh	200	Bunglo Creek
Heber Goring Loten	200	Cabbage-tree Island, Manning River	David Thompson	500	Taylor Bay
Do	100	do do	George Emmanuel	100	Bermagui River
John Holdom	100	Mangrove Island, Karuah River	Do	100	do
D. W. Benson	700	Woogoolga Creek	Do	400	do
Do	200	Bunglo Creek	Do	200	do
Do	200	Woogoolga Creek	Do	100	do
Peter S. Newton	100	Pebean Bay, Manning River	Tancred de C. Armstrong	200	Port Stephens
John Hedding Hunt	100	North Creek, Richmond River	Isaac Dobbins	100	Scott's Creek
James Barclay	200	Clyde River	Joseph Southwell	200	Pelican Bay
Louis Lovett	500	Bunglo Creek	A. P. Martin	400	Moonee Creek
John Bryer	400	Bherrewerre River	Do	500	Boambie Creek
W. H. Wells	100	Dunne's Island, Hunter River	Do	400	do
John Baxter	500	Currarong Creek	Do	700	Moonee Creek
Do	50	do	Do	500	Boambie Creek
William Osburn	300	Mangrove Creek, Manning River	Robert H. D. White	300	Salamander Bay
Mrs. R. J. Bate	400	Karuah River, Port Stephens	Thomas Lewis	400	Woronora Point
John Ruprecht	100	Manning River	Archibald Nicolls	600	Mooney Creek
Christopher F. Schmidt	100	Clyde River	Frederick J. Gibbins	700	Camden Haven
Wm. Shelley	100	Port Stephens	Lyon J. Marks	500	Kogarah Bay
James Evans	200	Sawyers Point	Do	500	Lady Robinson's Beach
C. De Mestre	30	Kurrawong Creek	Joshua Mosley	100	George's River
A. M. Champion	2,000	Weigoolgalo Creek	Fredk. J. Gibbins	400	do
C. De Mestre	100	Kurrawong Creek	Do	400	Hunter River
William Baxter	200	Currarong Creek	Hans Anderson	300	do
Do	200	do	Fredk. J. Gibbins	500	do
Joseph J. Lewis	200	Evans River	Hans Anderson	300	do
A. Gylor, junior	200	Scott's Creek	John A. Bettini	500	Clyde River
Peter Engstrom	300	Bermagui River	John Crumpton	500	Hawkesbury River
Do	200	do	John Gerald Cannon	500	do
Richard Flood	200	Myall River	John Wilson	100	Brisbane Water
John W. Bettini	400	Bateman's Bay	Do	100	do
Thomas Hyde	200	Port Stephens	George Connett	1,700	South Lake
John Fisher	300	Onions Point	J. M. Niebel	165	Middle Harbour
G. Haiser	150	Shoalhaven	Thomas O'Sullivan	83	Parramatta River
Do	200	do	Joseph Shephard, junr	100	George's River
Alexander Cautlay	100	Borang Lake	Hans Anderson	300	Hunter River
Samuel Holdom	200	Karuah River	William Engel	400	Swan Bay
Joseph Coote, senior	400	Minnumurra River	Stratis Andraulakis	300	Hunter River
Richard Ostern	300	Myall River	Do	600	do
John Cameron	300	Oxley Island	Peter Melvey	1,000	Browera Creek
John Noble	400	Long Bay	John Trainer	300	Hawkesbury River
Mrs. Jessie C. Brown	300	St. Hubert's Isle	William J. Bowles	500	do
James Marshall	300	Manning River	Archibald White	300	do
D. W. Benson	400	Woogoolga Creek	James Hickey	300	Corrigee Lake
James Hanley	100	Gore Bay	James Evens	200	Port Stephens
D. W. Benson	400	Bonville Creek	William Millard	200	Narrawillie Creek
Mrs. H. Muston	50	Port Stephens	James Dent	500	Jervis Bay
Fred. J. Gibbins	700	Clyde River	Fredk. J. Gibbins	500	Camden Haven
John Flett Louttit	100	Moruya River	Do	500	do
Gideon Mudford	100	Manning River	Robert Hardy	200	Brisbane Water
John Cobden Cain	100	Brisbane Water	Robert Latta	400	Clyde River
Manasseh Ward	300	Brisbane Water	Henrietta Shephard	100	George's River
James Hanly	100	Bellinger River	John Ward	200	Brisbane Water
Do	100	do	F. J. Fuller	400	Port Stephens
Do	100	do	George G. Gurr	1,200	George's River
George Rooke	700	Port Stephens	S. J. Shephard	100	do
Vincent William Seymour	200	Hawkesbury River	Henry Woodward	200	Clyde River
M. M'Mahon	300	Brisbane Water	Do	200	do
Alfred Rogers	500	Berowra Creek	F. H. Melmeth	200	Karuah River
John Dick	400	Hastings River	Henry Woodward	1,500	Crookhaven River
Andrew Murphy	500	Brisbane Water	Thomas Riley	100	Cockle Creek
John G. Lund	200	Brunswick River	William James Cole	500	Berowra Creek
Do	200	do	S. Cole	500	do
J. R. Hill	350	Rose Bay	Richard Lloyd	800	do
Charles Brice	500	Wagonga River	John Milton	200	Clyde River
George Maunsell	200	do	William Millard	200	Narrawillie Creek
Do	200	do	Do	200	do
Do	200	do	G. Dent, senr.	100	Flat Rock Creek
Do	200	do	Do	200	Caranus Creek
William Shelley	900	Port Stephens	John H. Hunt	100	Terranora Creek
John Longworth	200	Camden Haven	Do	100	do
George Schmitzer	100	Manning River	Do	100	do
Abram Windley	100	Tomago River	Do	100	do
Do	100	do	Do	100	do
Do	100	do	Do	100	do
Fredk. J. Gibbins	500	Hunter River	Do	100	do
Do	300	do	Do	200	do
Do	700	do	Archibald White	400	Hawkesbury River
Anderson Hans	900	do	S. Joseph Shephard	100	George's River
Abraham Emmett	300	Turoos Lake	Vincent William Seymour	200	Mooney Mooney Creek
Theodore T. Gurney	500	Middle Harbour	John Shephard	100	George's River
Do	450	do	Henry Woodward	500	Crookhaven River
Abraham Emmett	200	Turoos Lake	Do	100	Clarence River
Ernest Goring Loten	100	Manning River	James Ebens	200	Port Stephens
			Henry Woodward	400	Clyde River

APPENDIX G—continued.

	Yds.			Yds.	
Samuel Lilley	100	Port Stephens	John Comino	700	Bermagui River
John Lonesborough	200	Jervis Bay	Do	200	do
G. Haiser	800	do	Do	300	do
Do	400	do	Henry Engel	100	Serpentine River
Do	100	do	Do	100	do
James Barclay	200	Narrawillie Creek	R. H. D. White	700	Balberook Cove
Do	200	do	Do	300	do
James William Cole	400	Browers Creek	Patrick Murray	100	Gosford
James Joass	800	Karuah River	Robert Blanch	100	Port Stephens
G. Selfe and S. J. Shepherd	200	George's River	R. H. D. White	100	Salamander Bay
E. J. Coman	600	Wagonga River	James Marshall	200	Oxley
Martin Jordan	300	Hunter River	Walter Barnard and Thomas	1,450	Cann's Creek, Pittwater
Stratis Andraulakis	300	do	S. Huntly		
Henry Woodward	1,000	Ferningham's Island	Vincent William Seymour	200	Mooney Creek
Peter Clow	200	Wagonga River	William Engel	100	Serpent River
William Lavington	100	Bega River	Do	200	do
Stratis Andraulakis	300	Hunter River	W. H. Sharples and B.	100	Port Stephens
Do	400	do	Matherson		
John H. Hunt	400	South Bellinger River	Donnell Demetrius	100	Wagonga River
Do	100	do	Alfred Rogers	300	Hawkesbury River
Do	400	do	William Smith	300	do
Do	300	do	G. Haiser	200	Currumbene Creek
Henry Engel	200	Serpent River	A. Windley	100	Cullendulla Creek
Do	200	do	Peter Parke	400	Wooli Wooli River
Joseph Shephard, junr.	100	Port Hacking	James Cran	100	Brisbane Water
Ellen Lloyd	200	Brisbane Water	Samuel R. Smart	100	Tross Lake
Alexander Philp, senr.	600	Lake Channel	Edward Rose	100	do
Henry Woodward	800	Crookhaven River	N. J. Cusack	100	Clarence River
A. Philp, junr.	200	Lake Channel	Samuel Lilley	200	Port Stephens
John Paul	500	Quibray Bay	Do	500	Baroma Creek
Frederick J. Gibbins	800	Hunter River	Henry Woodward	1,200	Wollombi River
Samuel Lilley	100	Port Stephens	Do	1,100	do
R. H. D. White	100	do	Percy Wakefield	100	Nelson Lake
Demetrius Donnell	500	Wagonga River	Do	200	do
Thomas Mosley	100	George's River	Do	200	do
James Hanly	100	Bellinger River	Henry Woodward	400	Cape Hawke
Do	100	do	Do	500	Stinko Creek
Samuel Garrad	200	Narrawillie Creek	Do	400	Wallis Lake
Thomas William Garrad	200	do	Do	500	Stinko Creek
William Samuel Garrad	300	do	Frank Bertram	100	Evans River
Henry Woodward	300	Crookhaven River	William Smith	400	Mooney Creek
Do	100	do	Do	700	do
Frederick J. Gibbins	300	Clyde River	John Hedding Hunt	300	Terranora Creek
Do	300	do	Do	200	do
Do	1,000	do	Do	300	do
George Axam	200	Bettangabie Bay	Do	200	do
Do	300	do	Henry Thomson	500	Karuah River
Clive Belisario	800	Black Creek	Do	500	do
James Deamer	200	Dunn's Island	Vincent William Seymour	200	Mooney Creek
Vincent William Seymour	200	Mooney Mooney Creek	Do	500	do
James Joass	400	Warrung Island	Frank Parkyn	200	do
Francis Budd	200	Clyde River	Edwin Cain	200	Cullendulla Creek
Do	300	do	Peter Nelson	100	Brunswick River
David Tuck	200	Brisbane Water	E. J. Coman	200	Wagonga River
John Johnston	300	Wagonga River	F. J. Fuller	200	Port Stephens
James Hanley	200	Bellinger River	James Evens	500	do
Heber Barlow	100	Lake Birroul	W. H. Sharples	100	do
Thomas V. Want	100	Port Hacking	Thos. Hyde, junr.	100	do
Henry S. Mudge	200	Broadwater	F. H. Melmeth	400	do
George Haiser	300	Currumbene Creek	Thomas Crumpton	200	Hawkesbury River
Do	100	do	W. E. Ireland	200	Goodwood Island
G. P. Keon	100	Kiah River	Richard Lloyd	300	Mooney Creek
James Ross	200	Mooney Creek	T. S. Huntley, W. Barnard,	1,000	Pittwater
John Cameron	200	Oxley Island	and A. B. Wood		
Joseph W. Lloyd	100	Brisbane Water	T. S. Huntley, W. Barnard,	800	do
Nicholas Hanly	100	South Arm, Bellinger River	and A. B. Wood		
Do	100	do do	John Comino	500	Nelson Lake
Do	100	do do	Percy Wakefield	100	do
Edward Johnston	200	Brunswick River	Do	100	do
Do	200	do	R. H. D. White	100	Port Stephens
Albert Smart	200	Tross River	Do	100	do
Albert Edward Smart	100	Borang Lake	T. S. Huntley, W. Barnard,	150	Pittwater
George Watt	100	Brisbane Water	and A. B. Wood		
Bezwick Bulmer	100	Rhappingat Creek	T. S. Huntley, W. Barnard,	350	do
Joseph Blanch	200	Port Stephens	and A. B. Wood		
Do	200	do	Demetrius Donnell	200	Wonboyn River
Do	100	do	Arthur Wood	200	Pittwater
M. Shattles	200	Broken Bay	Herbert Valentino Haynes	200	Orogandiman Island
R. Lloyd	500	Mullet Creek	Do	100	North Arm, Clarence River
Do	300	Rabbit Island	Sidney Walter Haynes	200	Clarence River
Sydney Cole	500	Mullet Creek	Do	200	Orogandiman Island
William Sutton	200	Mooney Creek	A. M'Guire & W. Emerson	100	Goodwood Island
William Smith	200	do	William Osbourn	100	Manning River
F. H. Melmeth	200	Sawyers Point	James Ross	600	Mooney Creek
Do	200	Limeburners Creek	Timothy Wray	500	Pelican Island
R. H. D. White	100	Port Stephens	Arthur Hood Pegus	200	Yamba
Peter Melvey	400	Hawkesbury River	Edwin J. Banger	100	Port Stephens
Harry Rose	200	Mooney Creek	Do	500	do
William Sutton	200	do	Lilley Samuel	200	do
William Harrison	200	Hunter River	John Wilson	200	Mooney Creek

APPENDIX G—continued.

John Wilson	Yds. 300	Mooney Creek	Henry Woodward	Yds. 300	Bulgah Creek
Do	300	do	R. H. D. White	300	Port Stephens
A. Philp, junr., H. Philp, and Walter Black	600	Clarence River	G. Lance and C. Donald	500	Woolawarre Bay
William Woodward	200	Wherewerre Creek	Thomas Templeman	300	Buckenbowra River
Do	100	do	Peter Kruckow	300	Myall River
A. M. Harper	1,000	Woolawarre Bay	George Emmanuel	200	Bermagui River
Patrick Murray	100	Brisbane Water	H. Muston	500	Port Stephens
Do	200	do	Do	1,000	do
Nicholas Trengrouse	200	Orogandiman Island	Richard Hibbs	200	Hawkesbury River
W. Baxter	500	Cabbage-tree Creek	Do	300	do

APPENDIX H.

RETURN showing quantity, in Baskets, of Fish, brought to the Fish Market, Woolloomooloo, January to December, 1885.

Place.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Manning River							157						
Port Stephens	222	625	670	622	684	598	601	771	404	249	164	299	5,909
Newcastle and Lake Macquarie.	180	214	239	241	396	272	503	534	1,063	898	648	859	6,047
Tuggerah Lake					724	356	338	2		71	427	258	2,176
Broken Bay	320	620	585	425	396	299	457	447	409	360	285	335	4,998
Narrabeen	70	42	60	21						68			261
Port Jackson and tributaries.	263	365	319	231	132	130	190	153	124	346½	294	400	2,947½
Botany Bay	405	818	690	503	300	344	405	358½	355	433½	280	402	5,294
Wollongong	44	9	3	730	1,411	965	1,141	916	777	115			6,111
Shellharbour				38			297		45				380
Ulladulla			9	57	49	45	100	109	65	55			480
Shoalhaven	16		44	202	467	190		258		16	28	19	1,240
Jerris Bay				42	665	431	961	44					1,543
Bateman's Bay				14	29		40	45	15	8			151
Port Macquarie						11							11
Terrigal												16	16
Clarence River						99	270	153	10				532
Total	1,520	2,693	2,619	3,126	5,253	3,740	4,760	3,790½	3,327	2,620	2,126	2,588	38,162½
Condemned as unfit for food.	43 & 2 doz. schnp.	96½	51	15	38½	38	49	22	2	28	14	76	473 baskets and 2 dozen schnapper.
Seized under the Fish- eries Act.	8½	6	7	9	9	10½	9½	7	7	4	2½	3	83 baskets.
Prawns		2	1	2									5 "
Crayfish								7 doz.					7 dozen.
Jewfish and Kingfish		35	30 & 7							2		14	81 doz. & 7.
Mullet			255	2,815								39	3,109 doz.
Schnapper	40½	110½	135	178	189	132	80 & 9	42	37	22	34½	39	1,040 doz. & 3.
Teraglin		11	20	16	4					19	19	23	112 doz.
Lobsters	85	16		18	56	139	183 & 8	241	311	342	509	217½	2,118 dz. & 2.
Turtle	2	3	2										7
Salmon		8	80			39				45	903	170	1,245 doz.
Sweep		20	19	13	6								58 "

APPENDIX I.

RETURN showing range of Prices obtained at Fish Market for Fish sold, from January to December, 1885.

Name of Fish	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Schnapper, per dozen	12/6 to 24/	10/ to 22/	8/ to 16/	9/ to 27/	6/ to 29/	6/ to 11/	10/ to 25/	11/ to 36/	10/ to 30/	9/ to 35/	9/ to 60/	10/ to 40/
Flathead „	3/ to 9/	5/ to 6/	5/ to 9/	4/ to 6/	4/ to 5/	3/ to 11/	4/ to 12/	3/ to 13/	5/ to 14/	3/ to 12/	3/ to 13/	4/ to 15/
Mullet, per heap	7/ to 9/	3/ to 8/	4/ to 10/	3/ to 8/	4/ to 9/	3/ to 7/	4/ to 8/	4/ to 9/	3/ to 8/	4/ to 8/	4/ to 9/	4/ to 9/
Garfish „	5/ to 7/	7/ to 10/	7/ to 11/	6/ to 17/	4/ to 10/	4/ to 9/	5/ to 10/	4/ to 10/	4/ to 11/	6/ to 10/	9/ to 18/	7/ to 14/
Blackfish „	4/ to 7/	4/ to 9/	6/ to 9/	6/ to 7/	4/ to 10/	4/ to 6/	3/ to 7/	3/ to 6/	4/ to 9/	4/ to 7/	4/ to 10/	5/ to 8/
Travelly „	3/	4/	6/	2/	.....	2/	3/	3/ to 6/	4/ to 6/	5/ to 6/	4/ to 7/	4/ to 8/
Tailers „	4/	4/ to 5/	3/	2/	2/ to 3/	2/ to 4/	3/ to 5/	5/	4/ to 7/	4/ to 6/	4/ to 6/	4/ to 5/
Yellowtail „	6/	5/	4/	4/	.....	.....	.....	.....	7/	7/	2/ to 6/	4/
Bream „	7/ to 14/	4/ to 12/	11/ to 13/	9/ to 11/	5/ to 11/	5/ to 9/	5/ to 10/	6/ to 11/	7/ to 20/	8/ to 20/	8/ to 21/	12/ to 40/
Whiting, per dozen	3/ to 6/	3/ to 6/	3/ to 7/	2/ to 7/	3/ to 6/	2/ to 7/	3/ to 7/	2/ to 6/	2/ to 8/	2/ to 6/	2/ to 6/	3/ to 12/
Kingfish, per half dozen	6/	7/ to 14/	6/ to 12/	4/	3/	4/ to 9/	.....	.....	.....	.....	.....	4/
Jewfish, per dozen	12/ to 37/	12/ to 40/	10/ to 42/	12/ to 38/	9/ to 44/	12/ to 33/	10/ to 36/	9/ to 40/	12/ to 46/	9/ to 96/	12/ to 60/	9/ to 50/
Lobsters „	20/	20/ to 25/	.....	18/ to 20/	10/ to 12/	10/ to 13/	18/ to 20/	8/ to 20/	12/ to 20/	10/ to 20/	8/ to 13/	10/ to 17/
Mixed, per heap.....	20/	8/	10/	10/	11/	11/ to 12/	10/ to 15/	10/ to 14/	11/ to 13/	5/ to 18/	5/ to 21/	5/ to 25/
Squire, per dozen .....	.....	3/ to 5/	4/ to 5/	4/ to 6/	5/ to 6/	3/ to 5/	5/ to 10/	4/ to 5/	5/ to 9/	5/ to 9/	5/ to 18/	5/ to 8/

January 8, one Turtle—Port Stephens, £3 10s

APPENDIX J.

ANNUAL REPORT, HOME DIVISION OF FISHERIES, FOR 1885.

Mr. Assistant Inspector Mulhall's Report to The Chief Inspector of Fisheries.

Sir,

Sydney, 31 August, 1886.

I have the honor to furnish you with my report as to the state of the fisheries of the Home Division for the year 1885.

Port Jackson.—I visited the Fish Market regularly all the year, from 4 a.m. and 5 a.m. until 7 a.m. each morning, excepting Sundays, and found there a very fair supply of fish. The quantity of fish varies as to the state of the weather—particularly after bad weather they are to be seen in great quantities; and this is owing to them being driven down out of the creeks by the boisterous weather.

I have also attended at the wharves regularly during the year to look at the quantity of oysters that was arriving, and examine them as to the size.

I also wish to report having visited the different places regularly in my district, and during the closed months remaining out often till late at night. I also found small fish in abundance all around the heads of the bays. During the year it has been my business to select fish for preserving and painting, I believe, for the Exhibition at home in England; also selecting some for the Sydney Museum.

In the month of October I went to Wollongong for a short time to inspect the lake there and report on it.

The following is a return of the oysters taken from the oyster-beds of New South Wales for the last three months of 1885—namely, October, November, and December:—

They are as follows:—

	Sydney.	Elsewhere.
Brisbane Water	66	4
Hawkesbury	906	...
Shoalhaven	311	13
Port Stephens	738	11
Manning	154	...
Clarence	387	19
George's River	70	...
Bateman's Bay	380	...
Hunter River	135	160
Moruya	97	...
Cape Hawke	103	...
Richmond	51	1
Port Macquarie	32	...
Bellinger	47	...
Bermagui	10	...
Merimbu'a	7	...
Eden	51	...
Wogonga	34	...
Total No. of bags	3,584	208

As to the oysters about the harbour, I wish to state they are almost exhausted, which I believe is owing to the picnic parties, who destroy the rocks.

Mr. Assistant Inspector Grant.

In reference to Botany, I wish to state that the Assistant Inspector there reports very favourably for the last three months of the year of 1885—namely, October, November, and December. He visits regularly the different places in his district, and reports fish sometimes plentiful, and other times scarce, of course owing to the state of the weather. The blubber has been troublesome; and this hinders the fishermen hauling their nets.

Mr. Assistant Inspector Smith.

October, November, and December.

In reference to the Hawkesbury River, I wish to state the reports I have received from the Assistant Inspector there are not very favourable in regard to the fish; as, from his reports, I learn that fish of all kinds have been very scarce in the closed as well as the open waters for those months.

There are eighteen men at work and seven boats in his district.

As regards the oysters in the Hawkesbury River, from the Inspector's report I learn that the oysters during those last three months of 1885 were very scarce, both rock and dredge. The deposits of young oysters were healthy and plentiful; also, I observe from his report, that marketable oysters were scarce. The Assistant Inspector appears to attend strictly to his duties.

Mr. Assistant Inspector Cuin.

From the Assistant Inspector of Brisbane Water I receive very good reports; and from them I learn that he attends regularly at the wharves in his district to see to the oysters that are shipped from there; also, he visits frequently the fishing-places in his district; also, he is employed measuring leases sometimes. As to the quantity of fish there, they vary, as in other places—sometimes great, and at other times small quantities. The number of men employed fishing there was six, and boats three.

Mr. Assistant Inspector Gordon.

In reference to Shoalhaven, I wish to state, for October, November, and December, that very little fish could be brought from there to Sydney, owing to the heat of the weather; and from the Inspector's report I learn that it is used for local consumption, and a quantity sent on to Kiama. The number of men employed fishing there were ten, and boats three. During the hot months some of the fishermen have to give up work. He appears to keep a very good look-out in his district.

Mr.

Mr. Assistant Inspector Curan.

In reference to the Hunter District, I wish to state, for the months of October, November, and December, that, from the Inspector's reports, the fish have been very plentiful, particularly in October. There appears to be a great deal of prawn-catchers, and a number of baskets are regularly sent to market. The blubber, I believe, was troublesome down there, which hinders the fishermen hauling their nets.

The number of fishing-boats there is thirteen, and twenty-nine men.

The number of boats catching prawns are twenty-five, and fifty men.

As to the oysters in the Hunter, from the report I learn that there were no oysters on the deep-water beds; and as to the young oysters, there are a good few on the rocks and the foreshore.

Mr. Assistant Inspector Boyd.

From the reports received from Lake Macquarie for those three months, namely, October, November, and December, I wish to report that fish appears very plentiful down there, particularly mullet and salmon, which are making great destruction among the small fish. Blubber seems to be troublesome down there; and particularly about this time of the year it begins to appear.

I wish to state, in reference to the fisheries of the Home Division, the reports received from there are generally very favourable, as all the Assistant Inspectors seem to be attending to their duties in a satisfactory manner, because there are no complaints from anywhere.

I wish to add, in reference to the two boatmen, Hellings and Glading, that they have during the year assisted me in my duties.

I have, &c.,

THOMAS MULHALL,
Assistant Inspector.

APPENDIX K.

ANNUAL REPORT, NORTHERN FISHERIES DIVISION, 1885.

Inspector Temperley's Report.

Oysters.

THE oyster-bearing portions of the north coast have been worked during the year chiefly under occupation licenses, boat licenses having run out during 1884, and been entirely discontinued.

The inlets which have been worked, the quantities taken, and the royalty payable thereon, are as follows:—

River.	Quantity to Sydney.	Quantity locally consumed.	Royalty
	Bags.	Bags.	£ s. d.
Clarence River	1,915	93	301 4 0
Manning River	492	15	76 1 0
Cape Hawke	293	.....	43 19 0
Richmond River	121	15	20 8 0
Bellinger River	47	.....	7 1 0
Port Macquarie	84	17	15 3 0
Evans River	30	55	12 15 0
Tweed River	Nil	.....	.....
Camden Haven	No returns	.....	.....
	Total number of bags.....	3,177.	Total royalty..... 476 11 0

It will be noticed that by far the greatest quantity has been taken from the Clarence River, which produced nearly twice as much as the whole of the remaining inlets, the bulk of the Clarence oysters being produced from the House Bed, which, after a two years' rest, was in excellent condition, and still remains in good order, after 1,012 bags had been taken from it within the year.

The Manning River, which contributed, among the northern rivers, the greatest quantity last year, fell off considerably, and produced only 492 bags, against 1,226 for the previous year, the defection being mainly due to the over-dredging it received under the licensed dredgers in 1884.

The working of the oyster-beds during 1885 is in several respects in marked contrast with the treatment which they received under the licensing system of previous years.

In the first place, the oysters have been sent to Sydney with uniform regularity, and not, as on previous occasions, rushed in in glut quantities, with alternative intervals of scarcity. Thus the Clarence River, when opened to dredgers in 1883, was worked by sixty-four boats, which dredged, although limited to two days' work per week, 1,000 bags within the month, and so reduced the beds in four months as to necessitate their being closed.

The same river, opened under leases, or, what is temporarily equivalent, occupation licenses, has produced not less than 135 bags, and not more than 215 bags, during each out of eleven of the past twelve months.

Apart from the advantages of regular supply, the natural beds now have their cullings properly replaced and uniformly spread, instead as of heretofore being thrown in pile-heaps. The same self-interest which, despite the most vigilant supervision, led licensed dredgers to put under-sized as well as mature oysters into their bags now prompts the lessees to replace them on the bed.

But by far the greatest recommendation to the present leasing system is the encouragement the secure tenure gives the lessee to improve the oyster-bearing ground. Let it be noted that during the whole period of the licensing boat system the work of removing bank oysters into deep water, which had been carried out on a few of the validated leases, was entirely discontinued, and not the slightest effort made to improve the natural beds. In marked contrast to this, and during 1885, the lessees on the Richmond River, Clarence River, Manning River, at Cape Hawke and Port Macquarie, and on the Bellinger River, stocked the deep-water beds with quantities of immature foreshore oysters. In one instance, on the Richmond, the lessees incurred considerable expense in laying a quantity of small ballast-stone and covering it with shells as a foundation

foundation for an oyster-bed, while on the Clarence River a quantity of oyster-shells have been brought from Sydney and replaced upon the beds.

In the main portion of the Clarence River, which had not been known from prior to 1885 to produce oysters in marketable quantities (the natural beds being confined to the Lake Channel), a good oyster-bed was formed on one lease, and forty bags were shipped from it during the year.

While security of tenure has thus resulted in an amount of what may be termed semi-oyster cultivation, that is the planting out of immature naturally-grown foreshore oysters, thorough cultivation, by providing for the attachment of spawn, has not yet been properly attempted. There is no doubt but that it will be done, and before long some practical method will be adopted to attach the quantities of spawn which float away and waste every season for the want of suitable attachment.

On the Clarence and Richmond Rivers the oysters spawned freely in February, but in the Manning River and others of the southern inlets in this division the spawning season was indifferent.

Fish.

Fishing operations on the north coast continue, as heretofore, to be confined chiefly to the limited supply of local wants and to the production of small quantities of salt fish, the latter work being mostly carried on by Chinamen, who send away, consigned to their own countrymen, quantities of the finest whiting and other fish. A few of our own fishermen occasionally take up the work, but generally with indifferent result, though in one instance on the Richmond River salt fish was for a time regularly sent to Fiji.

During the winter months, June, July, and part of August, fresh fish was sent to Sydney from the Clarence, Manning, Macleay, and Hastings Rivers, the returns being good, and the fishermen only regret that the opportunity did not continue.

10 April, 1886.

THOS. TEMPERLEY,

Inspector, Northern Fisheries.

APPENDIX L.

ANNUAL REPORT ON SOUTHERN FISHERIES FOR THE YEAR 1885.

Sir,

Bateman's Bay, 12 April, 1886.

I have the honor to forward my report on the Southern Fisheries for the year 1885.

The fisheries between St. George's Basin, to the north, and Wagonga River, to the south, are under my personal supervision, and embrace the following oyster-bearing waters, on which applications have been made, under the Oyster Fisheries Act of 1884, to lease Crown Lands for oyster culture:—Narrawillie Creek, Durras Lake, Cullendulla Creek, Clyde River and tributaries, Tomago River, Moruya River, Turross Lake, and Wagonga River.

Narrawillie Creek.—During the year eight applications for leases, representing an area of 1,700 yards, were received by me from the Fisheries Department to report on, making a total of 2,200 yards applied for under the Oyster Fisheries Act, 1884. These applications embrace all the available ground suitable for oyster culture. It will be satisfactory to the Commissioners to hear that all of the applicants, although holding their ground on sufferance, are laying down oysters and otherwise improving the areas applied for. The applicants have availed themselves of the permission granted by the Commissioners by shipping about eighty bags of oysters during the year. Considering there were some hundreds of bags of oysters laid down on these beds when inspected by me in July last, the most of them were then of marketable size, and that so few have been shipped since, leads me to believe that the applicants for Narrawillie Creek have applied in good faith, and intend cultivating oysters in a systematic manner.

Durras Lake.—Applications have been made, under the Oyster Fisheries Act, 1884, for areas amounting to 3,600 yards. 2,100 yards have been recommended by the Commissioners to be granted, the applicants for the remaining portion having withdrawn their applications. Durras Lake was at one time considered by oystermen as one of the best waters in the Southern District for oyster culture, and was remarkable for the perfect shape which oysters removed to it from other waters attained in a short space of time. In consequence of the mouth of the lake having been closed for over two years, the accumulation of mud, slime, and weeds has quite destroyed the natural oyster-beds, and there is no spot available for laying down. Mud-oysters are found in great numbers, but are of no marketable value, as they only live a few hours after being taken from the water. No oysters have been shipped during the year.

Cullendulla Creek.—300 yards have been applied for during the year, making a total of 4,200 yards since the passing of the Act. Applications representing 2,100 yards have been withdrawn, and 1,900 yards have been recommended to be granted by the Commissioners. Very few oysters are to be seen on the mangroves which line the foreshores, and some time will elapse before it recovers the skinning received in former years. Sixty-one bags of oysters were shipped during the year.

Turross.—During the year 2,100 yards have been applied for under the Oyster Fisheries Act, 1884. Forty-three applications have been received for areas amounting to 16,650 yards, reports on which have been forwarded by me to the Fisheries Department. With the exception of Messrs. Foreman and Smart, none of the applicants have done anything to improve their holdings. This may be accounted for in a great measure by the uncertainty existing in the minds of many of the applicants with reference to the leases being granted. 444 bags of oysters were shipped during the year.

Wagonga River.—Applications for 3,200 yards have been received during the year, making a total of 21,060 yards applied for under the Act. Several of the applicants have improved their holdings by laying down young oysters on ground suitable for their development. Oysters have been shipped during the year, but I am not aware of the exact number of bags, as particulars of these shipments, in accordance with the 42nd Regulation, are forwarded direct to the Collector of Customs by the consignors.

Moruya River.—This river is under the charge of Acting Assistant Sutherland, who also supervises the shipments of the Turross oysters. He informs me that during the year he has measured and marked the areas applied for, in accordance with the instructions received from the Chief Inspector. He states that none of the applicants have as yet done anything to improve their areas. Twenty-six bags were shipped during the year.

Tomago

Tomago River.—Three applications for a total area of 300 yards were received during the year. 2,500 yards have been applied for since the passing of the Act. There are very few oysters at present in this creek, but with care and attention it could be made to produce sufficient to return handsome profits to the oyster culturists. Nothing has been done by the applicants to improve their areas beyond laying down a few mangrove oysters on their foreshores. No oysters have been shipped during the year.

Clyde River and Tributaries.—Since the 21st July, 1884, on which date the present Oyster Fisheries Act came into operation, 86 applications, representing an area of 49,486 yards of foreshore, have been forwarded to me from the Department of Fisheries to report on. Eighteen applications for a total of 6,786 yards were applied for during the past year. Many of the applicants are residents of the Clyde River who have been engaged in the oyster and fishing industry for years, and are just the right class of men to become pioneers in the business of oyster culture. Several have started to improve the areas for which they have applied, and hold on sufferance, by laying down oysters, and fixing spat-collectors in the shape of freestone and swamp-oak; others appear to rely solely upon the natural producing powers of their extensive holdings. 1,263 bags of oysters were shipped during the year.

EXTRACTS FROM INSPECTORS' DIARIES FOR THE YEAR 1885.

January.

Assistant Inspector Smithers.—Reports having measured areas applied for at Broadwater.

Acting Assistant Inspector Sutherland.—Large shoals of fish, apparently salmon, to be seen moving along the coast in a northerly direction.

Inspector Benson.—Measuring and reporting on areas applied for at Tuross. Inspected oyster-beds at Cullendulla Creek and Square Head. Reporting on areas applied for on the eastern shore of the Clyde River.

February.

Assistant Inspector Smithers.—Measuring and reporting on areas applied for at the Murrah River, Cuttagee Lake, and Bermagoe River. Visited the Nellica and Kiah Rivers.

Acting Assistant Sutherland.—Large numbers of young mullet, bream, black-fish, and gar-fish in the Moruya River this month.

Inspector Benson.—Measuring and reporting on areas applied for at Durras Lake and Cullendulla Creek. Inspected oyster-beds at Buckenbowra River and Mogo Creek.

March.

Assistant Inspector Smithers.—Measuring and reporting on areas applied for at Cuttagee Lake. Visited and inspected Wallaga Lake, Bermagoe River, Nelson Lake, Middle Lake.

Acting Assistant Sutherland.—There have been large numbers of schnapper caught at Moruya Heads during the month. Measured and reported on areas applied for on Moruya River.

Inspector Benson.—Measuring and reporting on areas applied for at Wagonga River, Tomago River, and Square Head. First shoal of sea-mullet entered Clyde River.

April.

Assistant Inspector Smithers.—Visited Panbula River and Broadwater. Oysters in good condition on Kiah River oysters dying, caused by river sanding up. At Green Cape fishing leather-jackets very numerous; cray-fish plentiful; schnapper scarce.

Acting Assistant Sutherland.—There are not many mature fish to be seen in the river. Fair quantities of young fish, principally mullet and black-bream. Oysters in good condition, but beds poorly stocked. None of the applicants for leases have done anything to improve their areas.

Inspector Benson.—Reported on Pelican Island beds. Inspected areas which have been applied for, and on which oysters have been bedded by the applicants on the Clyde River.

May.

Assistant Inspector Smithers.—Measured and reported on areas applied for at the Bermagoe River. Visited Bittangabee. Oysters in splendid condition. Wonboyn River oysters towards falls in good condition, those towards mouth of river poor. Panbula River oysters appear to be falling off in condition.

Acting Assistant Sutherland.—I have to report having examined the oyster-beds in the river, and find them very poorly stocked. Young oysters are beginning to show. Procured and forwarded to Sydney oysters for Indian and Colonial Exhibition.

Inspector Benson.—In Sydney, certifying to the position of areas which have been applied for in the Southern Division of Fisheries for oyster culture.

June.

Assistant Inspector Smithers.—Measured and reported on oyster reserve applied for by the inhabitants of the district of Bermagoe. Measured areas applied for at Wapenga Lake. Procured and forwarded to Fisheries Department oysters for Indian and Colonial Exhibition.

Acting Assistant Sutherland.—As regards oysters, things are in their normal state, no one improving or working areas applied for. Large numbers of whiting and mullet have been in the river lately, presumably driven in from sea by the bad weather.

Inspector Benson.—Measured and reported on areas applied for at Tuross. Inspected and reported on the Pages Islands. Inspected and reported on a reserve applied for by the inhabitants of Moruya.

July.

Assistant Inspector Smithers.—Inspected oysters from Wonboyn River; found them in good condition. Procured oysters for Indian and Colonial Exhibition. A great scarcity of fish this month.

Acting Assistant Sutherland.—Dense shoals of perch and salmon in river; also large numbers of whiting. The perch are high up the river, and apparently spawning. No schnapper to be caught outside.

Inspector Benson.—Measured and reported on areas applied for at Narrawilla Creek and Clyde River. Procured exhibits for Indian and Colonial Exhibition.

August.

Assistant Inspector Smithers.—Visited the Kiah River. Measured areas applied for at Nellica and Broadwater. In Sydney certifying to the position of areas applied for in the waters under my supervision for oyster culture.

Acting Assistant Sutherland.—I have nothing fresh to report; the fish that are to be seen in the river are of the same kinds as stated in my report of July.

Inspector Benson.—Visited Moruya River and inspected an area applied for by P. Bettini; against the granting of a lease for which Mr. Ziegler had petitioned the Commissioners. Measured and reported on areas applied for at Cullendulla Creek.

September.

Assistant Inspector Smithers.—Measured areas applied for at Borunda Lake, Bega River, Cuttagee Lake, and Bermagoe River.

Acting Assistant Sutherland.—There have been fair numbers of mullet and bream caught in the river during the month.

Inspector Benson.—Measured and reported on areas applied for at the Wagonga River and Tomago River, marking boundaries which have been recommended to be granted at the Clyde River with the broad-arrow.

Acting Assistant Russell.—The whalers caught four whales in the bay this month. For forty years there has only been one case of a whale having a calf in her belly after being killed. I think they slip them in their struggles for life. I think this is the case from the fact of nearly all the cow whales having young calves on their return from the north.

October.

Assistant Inspector Smithers.—Laid up during the month with a bad leg, caused by a kick from a horse.

Acting Assistant Sutherland.—Trevally have been seen on the river, a fish which has been a stranger here for many years. Great scarcity of schnapper outside.

Inspector Benson.—Marking starting-points of areas which have been recommended to be granted at Cullendulla Creek, Tomago River, and Durras Lake.

November.

Assistant Inspector Smithers.—Measured areas applied for at Nelson Lake, Bermagoe River, and Cuttagee Lake. Marking starting-points of areas applied for at Bermagoe River, as instructed.

Acting Assistant Sutherland.—During the month I have marked starting-points of areas applied for on the Moruya River, as instructed by the Chief Inspector.

Inspector Benson.—Visited saw-mills to see what steps had been taken by the proprietors for preventing sawdust getting into river. Reported Francis Guy for allowing sawdust to get into the Clyde River. Prepared and forwarded a tracing of all hauling-grounds on the Clyde River.

December.

Assistant Inspector Smithers.—Started for Bittangabee in launch; sea too rough to get in. Visited the Wonboyn River. On leave of absence from the 16th to end of month.

Acting Assistant Sutherland.—There is nothing fresh to report from this station this month. Fish are plentiful, but only captured for local wants, as consignments cannot be sent to Sydney in marketable condition.

Inspector Benson.—Measured and reported on areas applied for at the Wagonga River and Tuross. Marked boundaries of areas which have been recommended to be granted on these waters. Procured and forwarded to the Fisheries Department sharks' and rays' oil for the Indian and Colonial Exhibition.

RETURN of Oysters shipped to Sydney, for the year 1885, of which I have been advised.

Name of Place.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Royalty.	From where shipped.
Clyde River	306	73	192	69	86	71	19	49	53	53	177	115	1,263	£ 189 9 0	Bateman's Bay
Tuross	10	54	50	29	35	21	26	55	65	44	35	20	444	66 12 0	Moruya Heads
Moruya River	5	...	...	...	21	...	...	...	...	...	...	...	26	3 8 0	Moruya Heads
Cullendulla Creek	4	7	10	8	7	3	...	2	...	...	12	8	61	9 3 0	Bateman's Bay
Total.....	325	134	252	106	149	95	45	106	118	97	224	243	1,794	269 2 0	

Particulars of Oysters leaving Narrawilla Creek and Wagonga River are wired direct to Collector Customs, Sydney, by the consignors.

Mr. Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 26 February, 1886.

I have the honor to forward for your information the enclosed report showing the state of the different oyster-bearing waters in part of my district, from which it will be seen that there are a great number of rivers and lakes, but at present not much taken notice of as oyster-bearing waters; although no oysters are to be seen in several of the places, it does not necessarily follow that nothing could be done to make them fit for oyster culture.

Nagho River some years back was well supplied with oysters. Where oyster-beds were then, the same spaces now are nothing but sand-flats; yet I am of opinion that oysters might still be found higher up the river if appliances could be got there to test it.

Meruca Creek at present time has a fair supply of oysters in it. It cannot be called one of the best places for oyster-culture, as there is not sufficient laying-down ground, being mostly bold water at the foreshores.

The same might be said of the Wonbloyn River, which produces about the finest oysters in the Colony, but yet deficient in laying-down grounds. Nearly the whole of the foreshores of this river have been applied

applied for, but up to the present none of the applicants have made the slightest effort to promote the increase of oysters. Some years ago mangroves grew at this river, but at present not one to be seen; while the mangrove grew it appears that the oysters took well to them.

Bittagata Creek.—Very little laying-down ground; great wash at times in from the ocean, coming up to where oysters end, about 1,000 yards, making it risky to lay down; oysters there in fair condition.

Kiah River.—A small portion only of which being fit for oyster culture, heavy sand-flats being the chief obstruction. I am of opinion that the cultivation of mangroves should be carried on upon the flats and marshes, in order to try if oysters could not be made grow upon what are now very barren wastes.

Myrial Inlet.—In every way adapted for oyster culture, but nothing has been done towards improving it by the applicants; three years ago there was much less mud and sand than there are there at present, covering up numbers of oysters.

Twofold Bay.—A few small oysters upon the rocks, and somewhere in the bay there is a bed of mud oysters, which I am unable to find—only finding the mud-oyster thrown up on the beach after a heavy sea.

Curallo Lake.—This lake years ago produced great quantities of oysters, which were all taken out by some speculators and sent to Melbourne, since which no oysters appear to have grown. Certainly the mouth of the lake since then is nearly always closed.

Pambula River.—No doubt one of the finest breeding rivers in the Colony, oysters growing very fast, and plenty laying-down ground; nearly all the foreshores applied for, applicants doing but little to improve their holdings.

Merimbula Lake.—Very few oysters indeed.

Bournda Lake.—Excellent place for culture; splendid rubble bottom; mouth being closed; at present place full of neck.

Wallagoot Lake.—Large lake containing few oysters; never been on lake in boat; cannot really say what it contains.

Bega River.—Producing good oysters; not much fit for oyster culture, there being so little laying-down ground.

Nelson Lake.—Could be made the producer of vast quantities of oysters; plenty of mangroves; the applicants doing but little to improve their holdings.

Middle Lake.—No oysters to be seen.

Wapengu Lake.—The shores of which are very well covered with mangroves, but very few oysters attaching thereto; a very great place for whelks, upon which oysters appear to be attaching themselves.

Murrah River.—Contains but little oyster-bearing grounds; no mangroves; one applicant.

Cuttagee Lake.—Contains no mangroves, as far as I am aware of; mouth of lake closed for some time past; oysters large; very little young stuff; several applicants; nothing done to improve their holdings.

Bermagui River.—Has several applicants for areas for oyster culture, and have taken up all the foreshores which could produce oysters; oysters growing mostly on mangroves; some very large mangrove marshes here, but still containing few oysters; very little done by applicants to increase supply of oysters.

Wallagha Lake.—This lake is very large indeed, but, as far as I am aware of, does not contain oysters, yet years ago, when mouth was constantly open, it produced quantities of oysters; plenty of laying-down ground.

Not being acquainted with waters north of this to the end of my district, viz., Wogonga River, I cannot speak of the different places between.

It will be seen that the applicants do but little towards oyster culture. They appear to be waiting for nature to do all for them.

I have, &c.,

F. W. SMITHERS,

Assistant Superintendent.

Names of Rivers or Lakes.	Number of bags taken from each, approximately.	Number of applicants for areas.	When oysters in good condition.	Could oyster-culture be carried on with success?	Are mangroves growing?	Are Oysters more plentiful on rocks or mangroves?	Is mouth of this place open?	If closed, is it so all year round?	Could mouth be kept open?	Do applicants appear to try and improve their areas?	Do applicants use spat-collectors?
Tagha Lake	0	0	...	Doubtful...	No	.....	No	No...	Plenty rain	.....	.....
Nagha River	2	0	...	Think so...	No	.....	No	No...	Plenty rain	.....	.....
Rocky Creek	0	0	...	Doubtful...	No	.....	No	No...	Plenty rain	.....	.....
Minmo Creek	0	0	...	To a small extent.	No	.....	Yes	No...	.....	No	No.
Wonboyn River	26	10	...	Yes	No	Rocks	Yes	...	.....	No	No.
Bittagata Creek	0	3	...	Hardly	No	Rocks	Yes	...	.....	No	No.
Kiah River	0	5	...	Very little	No	Rocks	Yes	...	.....	No	No.
Nellica River	0	3	...	Yes	No	Rocks	Yes	...	.....	No	No.
Twofold Bay	0	1	...	No	No	Rocks	Yes	...	.....	No	.....
Curallo Lake	0	0	...	Yes	No	.....	No	Yes	Plenty rain	.....	No.
Pambula River	0	16	...	Yes	Few only	Rocks	Yes	...	.....	Very little	No.
Merimbula Lake	0	1	...	Very little	Few	.....	Yes	...	.....	No	No.
Bournda Lake	0	2	...	Yes	No	Rocks	No	No...	Yes	No	No.
Wallagoot Lake	0	1	...	Yes	No	Rocks	No	No...	Yes	No	No.
Bega River*	0	5	...	Very little	No	Rocks	No	No...	Yes	No	No.
Nelson Lake	0	8	...	Yes	Yes	Mangroves and rocks.	Yes	...	.....	No	No.
Middle Lake	0	0	...	Don't know	No	.....	No	Yes	Hardly	.....	.....
Wapengu Lake	0	6	...	Yes	Yes	Mangroves	Yes	...	.....	No	No.
Murrah River	0	1	...	Very little	No	Rocks	Yes	...	.....	No	No.
Cuttagee Lake	15	5	...	Yes	No	Rocks	No	Yes	Hardly	No	No.
Bermagui River†	0	11	...	Yes	Yes	Mangroves	Yes	...	.....	No	No.
Wallagha	9	1	...	Yes	No	.....	No	No...	Yes	No	No.

* Impossible to tell what oysters Lavington gets; no royalty paid.

† Cannot tell what oysters are sent away; never get returns from Sydney.

Mr. Assistant Inspector Smithers to Mr. Inspector Benson.

Eden, 27 February, 1886.

Sir,

I have the honor to write, for your information and guidance, a short report concerning fisheries in this district. I must say justly, I regret exceedingly to state that fish have been very scarce indeed during the latter part of 1885, the falling off in the supply having gone on gradually since the dry weather set in, and more so since the leather-jackets have become nothing short of a pest. Although shoals of fish are seen making north or south, but not in quantities or size to those seen in 1884. In that year leather-jackets were not so numerous. I have most particularly noticed that all the lakes, especially those closed to the sea, abound in fish, yet the fish in those lakes are not fit to be sent away, being very fat and soft, not keeping above a few hours. I might mention that since fishing is of little use now, as men go out day after day not catching enough fish even to eat, even the flat-head which were so plentiful, are now equally scarce to other fish. Schnapper, which Twofold Bay was famous for, are as scarce. Proof for six months: Two whaling crews camped at one of the finest schnapper grounds known never caught above one dozen fish, and that was only on one occasion, and they were fishing almost day after day, leather-jackets being the only fish there. All the places I know along the coast are the same, that is to say on the coast grounds. There is only one place I am aware of where fish were caught in quantities; that is, two lots of whiting at Panbula River.

It is very seldom I ever see a net hauled in the bay here, men not caring to use their nets. In former years, previous to 1884, a vast quantity of fish could have been caught anywhere here or along the coast. A resident of thirty-four years standing states he never knew fish so scarce or leather-jackets so bad. I could not recommend anyone starting fishing as an industry here till either the weather changes or the leather-jackets disappear.

As a proof dry weather affects fish, I may state that there is always a quantity of fresh water coming into the Wouboyn River and it has a great quantity of fish in it, and had all the dry weather, especially towards head of river. The leather-jackets even came into this river, but not to the extent that they did when no fresh water was coming down.

Therefore, in conclusion, I say that I attribute the scarcity of fish,—first, to dry weather, second, to leather-jackets, which have overrun the feeding-grounds as rabbits do a cattle run, eating everything before them.

I have, &c.,

FRED. W. SMITHERS.

1886.

APPENDIX A.

COMMISSIONERS of Fisheries for New South Wales, 1886:—

James C. Cox, M.D., President,
 E. P. Ramsay, F.R.S.E., &c., &c.,
 J. R. Hill, Esq.,
 A. Oliver, Esq., M.A.,
 Frederick Thomas, Esq., resigned 11th June, 1886, succeeded by
 S. H. Hyam, Esq., M.L.A., appointed same date.

Official Staff, 1886.

Lindsay G. Thompson, Secretary and Chief Inspector of Fisheries.

Edward J. Ellis, 1st Clerk.	G. F. Hainsworth, Clerk.
J. F. O'Grady, Clerk.	L. G. Mann, Draftsman.
C. D. St. Pinnock, Clerk.	L. F. Mann, "
J. D. Delany, Clerk.	W. Lannen, Messenger.

James Quinan, Inspector for Home Division of Fisheries.
 Tho. Temperley, " Northern "
 George G. Benson " Southern "

Andrew Gyler, Assistant Inspector of Fisheries,	Manning River.
Thomas Mulhall,	Sydney.
Henry Curan,	Newcastle.
Peter Smith,	Hawkesbury River.
Charles Gordon,	Shoalhaven.
C. H. Otway,	Port Stephens.
William Boyd,	Lake Macquarie.
John D. Grant,	Botany and George's River.
D. W. Benson,	Lake Illawarra.
Richard Seymour,	Fish Market, Sydney.
W. N. Cain,	Brisbane Water.
F. W. Smithers,	Eden.
William McGregor, Acting Assistant Inspector of Fisheries,	Tweed River.
Thomas Stewart,	Bellinger River.
W. J. Whaites,	Nambucca River.
John Jamieson,	Macleay River.
A. H. Kendall,	Cape Hawke.
H. W. C. Windeyer,	Port Macquarie.
Thomas Laman,	Port Stephens Heads.
A. T. Black,	Broken Bay.
Bourne Russell,	Twofold Bay.
Angus Sutherland,	Moruya.
George Glading, Boatman, Sydney.	
Richard Hellings,	" "
Frank Aldrich,	Botany and George's River.
J. F. Hespe,	Bateman's Bay.
J. Massingham,	Clarence River.
F. Young, Engineer, Sydney.	

Inland Waters.

Osborne Wilshire, Assistant Inspector of Fisheries, Deniliquin.
 Frederick Nelson, Acting Inspector of Fisheries, Bungendore, Lake George.

APPENDIX B.

RETURN showing the quantity of Fish exported from the Murray River to Melbourne, January to December, 1886.

	lbs.		lbs.
January	2,464	July	1,232
February	3,360	August	1,008
March	2,128	September	4,548
April	4,816	October	7,224
May	1,344	November	12,320
June	1,456	December	4,928
			46,828

APPENDIX C.

RETURN showing quantity, in bags, of Oysters, taken from Tidal Waters in the Colony, January to December, 1886:—

Place.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Tweed River				25	38	31	31	18	38	24	30		235
Richmond River									111	34	42	41	228
Clarence River	232	196	288	226	29	46	116	167	167	135	118	152	1,922
Bellinger River	8	28			16	17	12	5	13	12	21	26	158
Port Macquarie		20			19	13				2			54
Manning River	48	113	62	90	43	30	45	26	32	35	27	80	631
Cape Hawke	61	29	14	12		11	8	18	38	32	25	32	280
Port Stephens	379	218	227	318	268	267	301	213	180	257	298	297	3,223
Hunter River	209	98	139	96	69	68	84	53	56	42	29	11	954
Hawkesbury River	353	158	118	177	266	243	270	198	182	229	204	285	2,683
Brisbane Water	35	30	26	15	22	16	12	6	15	34	37	51	299
George's River	26	3	3	4		1	26	17	23	11	6	29	149
Port Hacking							15	3	4	3	1	5	31
Shoalhaven	273	123	172	95	84	66	76	96	52	57	62	168	1,324
Jervis Bay		8	2										10
Clyde River	274	203	214	185	148	48	29	26	48	123	59	112	1,469
Moruya River	38	41	32	14	32	30	39	81	14	25	19	33	348
Wagonga River	105	46	23	14	10	13			10	8	4	6	239
Pambula River				10	20	28	35			15	9	16	133
Twofold Bay	12	17	24	32	22	15			3		19	4	148
Womboysne River					26	4	22	14	16			11	93
Minnamurra River				1	3	2	3	1		2	2	10	24
Nelson Lake						17	30	22	11	12			92
Kiah River										22	16	9	47
Total	2,103	1,331	1,344	1,314	1,115	966	1,154	914	1,013	1,114	1,028	1,378	14,774

RETURN showing quantity, in bags, of Oysters, received at Sydney from places outside the Colony, January to December, 1886.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Queensland	478	373	216	277	249	155	269	204	449	929	523	594	4,716
New Zealand									60				60
New Caledonia						70	10		50				130
Total	478	373	216	277	249	225	279	204	559	929	523	594	4,906

RETURN showing Amount of Royalty collected on Oysters, January to December, 1886.

Month.	No. of Bags.	Royalty.	Month.	No. of Bags.	Royalty.
January	2,103	£ s. d. 315 9 0	August	914	£ s. d. 137 2 0
February	1,331	199 13 0	September	1,013	151 19 0
March	1,344	201 12 0	October	1,114	167 2 0
April	1,314	197 2 0	November	1,028	154 4 0
May	1,115	167 5 0	December	1,378	206 14 0
June	966	144 18 0	Total		£2,216 2 0
July	1,154	173 2 0			

APPENDIX D.

RETURN showing the Revenue derived under the "Fisheries Act" and "Oyster Fisheries Act" during the year 1886.

FISHERIES ACT.		£ s. d.	£ s. d.	£ s. d.
Fishermen's Licenses, yearly	604 @ 10/-	302 0 0		
Do half-yearly ..	180 @ 5/-	45 0 0		
Fishing-boat Licenses, yearly	263 @ 20/-	263 0 0	347 0 0	
Do half-yearly	21 @ 10/-	10 10 0		
			273 10 0	
OYSTER FISHERIES ACT.				610 10 0
Royalty collected on oysters taken from leased areas	14,774 bags @ 3/-		2,216 2 0	
Deposits on applications for leases for oyster culture			996 0 0	
Dead Fees	510 @ 20/-		510 0 0	
Transfer fees	14 @ £2		28 0 0	
Rent on leased areas			2,645 5 2	
Fines and forfeitures recovered for offences under both Acts				6,395 7 2
				73 6 0
				£7,089 3 2

APPENDIX E.

RETURN showing quantity, in baskets, of Fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour	398	386	739	660	463	148	133	84	211	318	195	273	4,008
Botany	388	391	859	1,044	1,560	436	584	373	339	389	368	446	7,177
Broken Bay	407	369	443	241	335	352	432	323	467	460	618	602	5,049
Bateman's Bay					85		25	13	25				148
Jervis Bay	8				143	104							255
Terrigal Lake							71	12					83
Tuggerah Lake	28					8	428	365	294				1,121
Port Stephens	279	387	504	538	1,019	513	374	382	183	306	225	200	4,890
Narrabeen										221	141	22	384
Wollongong	114	610	684	589	1,000	666	806	479	329	361	306	88	6,032
Ulladulla				26	90	218	303	61	18	13			729
Newcastle												2	2
Shoalhaven				24	202	176	187	320	75	122	40	10	1,156
Lake Macquarie	989	832	691	745	1,285	1,048	1,159	1,204	1,311	1,461	785	1,229	12,739
Clarence River						229	510	119					858
Shellharbour	69	16									224	258	567
Port Kembla					40								40
Manning River						19	98	117	84	5	13	9	345
Total	2,680	2,991	3,920	3,867	6,222	3,917	5,108	3,832	3,336	3,656	2,915	3,139	45,583

RETURN showing quantity, in dozens, of Schnapper brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour	1½						2	1		1		1	6½
Botany		12½	4	10½	20	16½	22½	28½	1½	8	18	23½	174½
Broken Bay	13	32½	45	29½	159½	64½	116½	62½	24½	38½	28½	34½	649
Bateman's Bay							6						6
Terrigal Lake		3						10					13
Port Stephens		3									3		6
Wollongong					9				2		21		32
Ulladulla							8	8					16
Shoalhaven						4	5			15			24
Lake Macquarie						5						8	13
Long Reef	14	16	1	1	5	½	58	23½	26		27	18½	190½
Total	28½	67	50	41	202½	90½	218	133½	54	62½	97½	85½	1,130½

RETURN showing quantity, in dozens, of Mullet brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Botany		220	800										1,020
Broken Bay			40										40
Total		220	840										1,060

RETURN showing quantity, in dozens, of Jew-fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour												6	6
Botany													½
Broken Bay					2								2
Terrigal		1											1
Port Stephens						1½							1½
Lake Macquarie								1				6½	7½
Long Reef			1										1
Total		1	1		2½	1½		1				12½	19½

RETURN

RETURN showing quantity, in dozens, of King-fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour	5	...	14	..	4½	...	8	...	...	8	...	56½	96
Botany .....	...	...	...	...	...	...	...	...	...	9	...	34	43
Broken Bay .....	...	2½	1	1	...	...	...	...	...	...	...	...	4½
Long Reef	2	2	...	...	...	...	6	...	...	...	...	20	30
Total	7	4½	15	1	4½	...	14	...	...	17	...	110½	173½

RETURN showing quantity, in dozens, of Salmon brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour	55	170	10	...	...	...	...	...	...	275	...	...	510
Botany .....	...	...	...	...	...	...	...	...	...	...	...	150	150
Total	55	170	10	...	...	...	...	...	...	275	...	150	660

RETURN showing quantity, in dozens, of various Large Fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour	6	...	...	...	...	6
Botany	8	...	...	...	1	2	4½	15½
Broken Bay	5	1	...	...	1	...	5	...	...	11	...	23
Jervis Bay	13	13
Long Reef	7	...	...	...	6	3	3	12	...	8	21	60
Total	12	1	...	...	15	3	14	12	1	21	38½	117½

RETURN showing quantity, in dozens, of Crayfish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Bateman's Bay .....	...	...	...	...	...	...	...	15	4	...	...	...	19
Port Stephens	32	...	4½	...	...	121	551	175	446	513	573	259	2,674½
Wollongong .....	...	...	2	...	...	...	...	...	...	...	...	...	2
Ulladulla .....	...	...	10½	...	...	38	15	...	...	...	...	...	63½
Shoalhaven .....	...	...	...	...	4	...	...	...	...	...	...	...	4
Total	32	...	17	...	4	159	566	190	450	513	573	259	2,763

RETURN showing quantity, in baskets, of Prawns brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour	1	...	...	...	2	...	...	...	32½	34	94	163½

RETURN showing quantity, in baskets, of Fish seized under Fisheries Acts, January to December, 1886.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
2	7	1	5	7½	5½	4	.....	.....	2½	1½	1½	37½

RETURN showing quantity, in baskets, of Fish condemned unfit for food, January to December, 1886.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
117	44	24½	270½	39	54	163	2	12	38	275½	98½	1,138

RETURN showing Range of Prices obtained for Fish sold in the Fish Market, Woolloomooloo, January to December, 1886.

Name of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Schnapper, per dozen	7/ to 87/	7/ to 156/	8/ to 102/	9/ to 96/	9/ to 64/	5/ to 65/	3/ to 60/	2/ to 68/	3/ to 75/	3/ to 60/	3/ to 60/	3/ to 66/
Flathead	2/ to 24/	2/ to 36/	3/ to 24/	3/ to 36/	2/6 to 30/	3/ to 30/	2/ to 36/	2/6 to 30/	2/6 to 56/	2/ to 44/	2/ to 36/	1/ to 36/
Whiting	2/ to 24/	2/ to 13/	2/6 to 15/	2/6 to 13/	2/ to 9/	2/ to 9/	1/ to 9/	1/6 to 8/	1/9 to 13/	2/ to 9/6	1/ to 13/	1/ to 9/
Flounder	2/ to 14/	2/6 to 15/	2/ to 15/	1/6 to 15/	2/ to 15/	2/ to 16/	2/ to 16/	1/ to 16/	2/ to 17/	1/ to 14/	1/ to 13/	1/ to 15/
Kingfish	7/ to 42/	5/ to 36/	9/ to 86/	3/ to 15/	6/ to 24/	9/ to 24/	1/ to 15/	7/ to 60/	9/ to 12/	9/ to 36/	6/	3/ to 8/
Jewfish	5/ to 104/	5/ to 120/	7/ to 168/	7/ to 120/	9/ to 108/	8/ to 108/	8/ to 96/	5/ to 84/	7/ to 96/	6/ to 90/	3/ to 108/	3/ to 84/
Groper	12/ to 18/	9/ to 15/	12/ to 18/	9/ to 15/	12/ to 18/	9/ to 30/	12/ to 48/	15/ to 18/	.....	6/ to 24/	18/ to 24/	18/
Teraglin	5/ to 21/	4/ to 24/	9/ to 15/	5/ to 16/	5/ to 18/	8/ to 14/	9/	.....	7/ to 18/	18/	8/ to 16/	5/ to 14/
Naunagai	3/	.....	8/ to 18/	.....	5/ to 9/	4/ to 9/	3/ to 9/	3/ to 6/	6/	.....	7/	3/ to 9/
Salmon	1/9 to 5/	1/ to 9/	5/ to 9/	2/ to 8/	1/ to 5/	1/3 to 6/	2/ to 10/	1/ to 9/	1/6 to 9/	2/ to 8/6	3/ to 9/	1/ to 6/
Mullet (sea)	2/ to 14/6	2/6 to 9/	1/ to 10/	2/ to 9/	2/ to 15/	4/ to 12/6	2/6 to 14/	4/ to 9/	4/ to 10/	3/ to 12/	3/ to 12/	4/ to 12/
Rock Cod	2/ to 7/	2/6 to 6/	3/ to 18/	3/ to 9/	2/6 to 7/	3/6 to 8/	3/ to 7/	3/ to 7/	2/6 to 6/	3/ to 5/	3/ to 5/	2/ to 7/
Eels	2/ to 30/	5/ to 24/	5/ to 30/	6/ to 30/	6/ to 30/	6/ to 30/	6/ to 21/	6/ to 24/	5/ to 24/	5/ to 24/	4/ to 30/	3/ to 24/
Bream, per basket	5/ to 122/	5/ to 58/	9/ to 50/	9/ to 60/	8/ to 32/	9/ to 34/	3/ to 34/	6/ to 36/	7/ to 33/	7/ to 66/	4/ to 42/	3/ to 60/
Garfish	15/ to 46/	8/ to 32/	6/ to 28/	11/ to 31/	9/ to 22/	7/ to 30/	2/6 to 25/	3/6 to 33/	7/ to 25/	8/ to 36/	7/ to 30/	6/ to 27/
Pike	.....	.....	.....	.....	.....	.....	.....	.....	1/6 to 2/6	.....	.....	.....
Blackfish	3/ to 32/	2/ to 20/	4/ to 19/	5/ to 35/	4/ to 18/	6/ to 19/	2/ to 24/	3/ to 24/	5/ to 21/	2/ to 27/	2/ to 29/	1/ to 40/
Silverbelly	5/ to 25/	5/ to 15/	6/ to 15/	4/ to 25/	7/ to 13/	5/ to 12/	2/ to 10/	4/ to 14/	4/ to 12/	5/ to 12/	3/ to 17/	4/ to 19/
Tarwhine	.....	.....	.....	9/ to 11/	8/ to 10/	.....	4/ to 13/	.....	8/	.....	.....	.....
Salmon Trout	.....	8/ to 12/	5/	8/	4/	.....	.....	9/	.....	.....	.....	.....
Mullet (sand)	3/ to 42/	2/ to 40/	3/ to 30/	5/ to 32/	4/ to 19/	4/ to 20/	2/ to 20/	3/ to 21/	6/ to 32/	2/ to 34/	3/ to 23/	1/ to 35/
Travally	6/ to 25/	5/ to 11/	5/ to 25/	6/ to 16/	5/ to 18/	3/ to 14/	2/ to 12/	4/ to 15/	5/ to 15/	3/ to 16/	2/ to 14/	2/ to 14/
Tailor	3/ to 30/	3/ to 18/	5/ to 18/	3/ to 21/	4/6 to 17/	5/ to 18/	2/ to 16/	2/ to 18/	4/ to 18/	3/ to 18/	2/ to 16/	2/ to 23/
Crayfish, per dozen	10/ to 30/	.....	15/ to 29/	.....	14/	8/ to 21/	7/ to 16/	15/ to 22/	6/ to 20/	8/ to 14/	6/ to 10/	6/ to 24/
Crabs	2/ to 7/	3/ to 5/	2/ to 8/	2/6 to 8/	3/ to 8/	3/ to 15/	2/ to 6/	2/6 to 6/	2/ to 6/	2/ to 9/	2/ to 5/	2/ to 5/
Prawns, per bushel	18/ to 180/	10/ to 40/	10/ to 38/	12/ to 40/	10/ to 30/	.....	.....	.....	.....	15/ to 35/	10/ to 35/	5/ to 45/

2

RETURN showing amount realised for Fish sold at the Fish Market, Woolloomooloo,
January to December, 1886.

	£	s.	d.		£	s.	d.
January	2,316	2	0	August	2,708	9	0
February	2,435	17	9	September	2,839	8	0
March	2,795	15	0	October	3,061	18	3
April	2,840	17	6	November	2,391	3	3
May	3,554	17	0	December	2,638	0	6
June	3,050	5	6				
July	3,699	5	0		£34,331	18	9

APPENDIX F.

APPLICATIONS for Leases for Oyster Culture received in 1886.

Name of Applicant.	Yards.	Locality.	Name of Applicant.	Yards.	Locality.
Harper A. M.	1,000	Woolowarre Bay	Murray Jno.	100	Brisbane Water
Murray Patrick	100	Brisbane Water	Do	100	do
Do	200	Riley Island	Murray Patrick	100	do
Trengrouse Nicholas	200	Orogandiman Island	Do	100	do
Baxter W.	500	Cabbage Tree Creek	Black Walter	500	Sandon River
Woodward Henry	100	Bulgah Creek	Cusack N. J.	400	do
Do	300	do	Do	200	do
White R. H. D.	300	North Arm, Port Stephens	Griffiths W.	1,000	do
Lance George and Campbell Donald	500	Woolowarre Bay	Jones Jacob, and Ward Jno.	1,500	Woolowarre Bay
Templeman Thomas	300	Buckinbowra River	Do	1,500	do
Do	200	do	Philp Alex., junr.	100	Sandon River
Kruckow Peter	300	Myall River	Woodward H.	300	Salt-pan Creek
Emmanuel George	200	East Bank, Bermagui River	Do	100	do
Muston H.	500	North Arm, Port Stephens	Do	400	do
Do	1,000	do do	Do	500	do
Hibbs Richard	200	Hawkesbury River	Do	400	do
Parkyns Frank	200	Mooney Mooney Creek	Do	200	Broughton Creek
Hibbs Richard	300	Hawkesbury River	Shattel H.	200	Browera Creek
The Holt-Sutherland Co.	200	Woronora River	Munkton W.	200	North Arm, Port Stephens
Do	1,800	Como, George's River	Do	100	Port Stephens
Hanly Nicholas	100	South Arm, Bellinger River	Callaghan Jas.	200	Pumpkin Point
Knight Thomas Wynn	1,000	Woolowarre Bay	Pegus A. Hood	200	Sandon River
Lilley Samuel	200	Port Stephens	Meldrum Robert	300	Mamboo Island
Do	500	North Arm, Port Stephens	Cliff J. N.	1,980	Pitt Water
Settrac Alfred, senr.	200	Cockle Creek	Lonesborough Jno.	100	Shoalhaven Bight
Riley W.	100	Kincumber, Brisbane Water	Coote W.	500	Crookhaven River
Peoples W.	300	Clarence River	Hanly Nicholas	100	South Arm, Bellinger River
Watson Jane	200	North Arm, Clarence River	Do	100	do do
Latta W.	1,000	Clyde River	Do	100	do do
Woodward Henry	500	Scott's Creek	Riley W.	100	Brisbane Water
Do	400	Mangrove Island	Sharpe & Mackinnon	300	North Creek, Richmond River
Do	400	Manning River	Woodward H.	300	Crookhaven Heads
Tuck David	300	Brisbane Water	Do	200	Crookhaven
Wilson John	100	Mooney Mooney Creek	Williams Jno.	500	Hawkesbury River
Nicoll Archibald	200	do	Gardiner S. H.	500	Quibray Bay
Johnston E.	100	Brunswick River	Towns G.	400	Dempey Island
Do	300	do	Bettini J. W.	100	Tomakin River
Taylor Robert	100	Woy Woy Creek	M'Shane Francis	300	Ballina
Do	100	do	Jones Thos.	300	do
King Rev. Hulton S.	100	Patonga	Shattel H.	300	Browera Creek
Peoples W.	200	Clarence River Heads	Do	300	do
Curtin Daniel	300	Brisbane Water	Caffrey Patrick	200	Curley's Bay
Griffin Frank A.	600	Limeburners' Creek	Millard W.	200	Conjola Lake
Wells Jas.	100	Brisbane Water	Follügg Jas.	500	North Arm, Clarence River
Bayliss F.	100	do	Wells Jas.	100	Brisbane Water
Dwyer E.	100	do	Gibbins F. J.	700	Stockton
Kempnich Jos.	300	Woombah	Cain Chas.	100	East Gosford
Otton H.	100	Wapongo Lake	Johnston E.	300	North Arm, Brunswick River
Do	300	do	Do	300	do do
Do	500	do	Woodward H.	200	Clyde River
Templeman W.	200	Congo Creek	Haiser G.	500	Shoalhaven
Taylor R.	100	Woy Woy Creek	Do	300	Crookhaven River
Baxter W.	200	Cararua Creek	Do	300	do
Smith & Brett	100	Tweed River	Melmeth F. H.	200	Mosquito Swamp
Do	200	do	Do	100	Newton Bay
Do	100	do	Do	100	Karush River
Muston H.	300	Karush River	Wood A. B.	800	M'Carr's Creek
Wilson Jno.	100	Brisbane Water	Byles G. & Wall Jas.	900	Hawkesbury River
Melvey Peter	300	Hawkesbury River	Woodward H.	700	Wallia Lake
Thompson H.	500	Port Stephens	Engel W.	300	Little Branch, Port Stephens
Lonesborough Jno.	100	Jervis Bay	Murray Jno.	100	Gosford
Haynes Sidney W.	500	Clarence River	Comino Jno.	600	Baronda Lake
Haynes H. Valentine	400	do	Seymour V. W.	100	Mooney Mooney Creek
See Samuel	400	do	Do	100	do
Do	400	do	Philp A., junr.	100	Sandon River
Wilson Jno.	300	Mooney Mooney Creek	Coote W.	200	Comarong Bay
Woodward & Templeman	200	Moruya River	Bondfield S. J.	100	Sandon River
Do	100	do	Loyde R.	200	Kangaroo Point
Do	200	do	Rose Harry	100	Peat's Ferry
Do	100	do	M'Rac Myles	1,700	George's River
Do	500	do	Severs Jno.	200	East Bank
Bettini Jno. W.	100	Congo Creek	Do	200	Kiah River
Waugh Jno.	400	Terranora	Comino Jno.	200	East Bank
Alick Chas.	800	Cowan	Harmston M. D.	100	Cudgerie Creek
Johnson Jas.	600	Browera Creek	Do	500	do
			Do	500	do

APPENDIX F—continued.

Name of Applicant.	Yards.	Locality	Name of Applicant.	Yards.	Locality.
Harmiston M. D.	100	Pimlico Island, Richmond River	Melmeth F. H.	100	Wilholm Island
Wakefield Percy	100	Baronda Lake	Mosa Thos.	100	Evan's River
Crompton Jno.	600	Berowra Creek	Gibbins F. J.	500	Spit Island
Murray Jno.	100	Brisbane Water	Do	200	Dunn's Island
Riley W.	100	do	Do	800	Dempsey Island
Gibbins F. J.	300	South Channel, Hunter River	Do	500	Hunter River
Bailey S. B.	1,000	Carr's Creek	Mudford W.	200	Scott's Creek
Parkyns Frank	100	Mooney Creek	Bowles W. J.	400	Hawkesbury River
Wells Geo.	200	Terranora	Comino Jno.	100	Baronda Lake
Do	100	do	Do	500	do
Do	100	do	Do	100	do
Nicoll Archibald	200	Mooney Creek	Do	500	do
Toomey Jno.	400	Mangrove Creek	Ritchie W.	100	Murray
Hanley W.	600	Boambie Creek	Gibbins F. J.	100	Dunn's Island
Gibbins F. J.	300	South Channel, Hunter River	Do	500	Newcastle
Do	400	Newcastle	Rae Jos.	300	Browera Creek
Engel W.	600	Serpent River	Marshall Jas.	100	Scott's Creek
Cohen & Fremlin	045	Hastings River	Jones J. E.	200	Richmond River
Do	200	do	Ross J. E.	200	Mooney Mooney Creek
Concannon Patrick	500	Quibray Bay	Johnson Jos.	300	Salt-pan Point, Pittwater
Rose Jos.	200	Mooney Mooney Creek	Colville Thos.	100	Karuah River
Hips Samuel	300	Porto Bay	Butcher E.	500	Wonboyne River
Ireland W. E.	200	Goodwood Island	Do	200	do
Murray Patrick	200	Gosford	Do	200	do
Do	100	Brisbane Water	Severs Jno.	400	Yowaka Creek
Muston Harriet	400	North Arm, Port Stephens	Do	100	Panbula River
Joass Jas.	200	do do	Do	100	do
Wilkinson Lancelot	400	do do	Do	500	do
Thompson Henry	200	Bulgah Creek, do	Do	100	do
Joass Jas.	500	North Arm, do	Do	100	do
Do	200	do do	Do	300	do
Emerson Jno.	200	do do	Do	300	Panbula Lake
Do	200	do do	Casey Dennis	200	Flying Fox Island
Do	600	do do	Wray Timothy	400	Snowy Beach, George's River
Do	300	do do	Do	300	Burrameer Bay, Port Hacking
Cohen Philip	1,000	Limeburners' Creek	Do	800	Gymea Bay, do
White R. H. D.	300	Fame Cove	Do	300	Bald-face Head, do
Do	200	Port Stephens	Poole W. T.	200	Limeburners' Creek
Cole J. W.	300	Mooney Mooney Creek	Wray Timothy	500	Ewey Bay, Port Hacking
Smart S. R.	100	Tuross River	Do	300	do do
Coote W.	500	Smith's Creek	Do	200	North-West Arm, Port Hacking
Stevens W.	400	Hawkesbury River	Wakefield Percy	200	Nelson Lake
Woodward H.	400	Karuah River	Do	100	do
Baxter W.	200	Shoalhaven	Lewis Chas.	200	Marramarra Creek
Comino Jno.	100	Baronda Lake	Bettini J. W.	100	Mogo Creek
Do	400	do	Do	100	Cullendulla Creek
Langley R.	300	Terranora Waters	Smith Jno.	500	Middle Island, Port Stephens
Woodward H.	200	Merica Creek	Do	1,000	Collet's Point, do
Woodward H.	200	Merica Creek	Clement W.	300	North Creek, Richmond River
Cox Jno.	500	Hawkesbury River	Woodward H.	600	South Arm, Brunswick River
Do	500	do	Do	600	North Arm, do
Witt W.	100	Nankeen Island	Do	400	do do
Cole Sydney	200	Mooney Mooney Creek	Canty Stephen	300	Wagonga River
Williams Chas.	400	Hawkesbury River	Johnston E.	300	Bonville Creek
Pegus A. Hood	100	Candole Creek, Sandon River	Seymour V. W.	100	Mooney Mooney Creek
Ostern R.	200	Jerusalem Bay	Southwell Jos.	200	Mangrove Island
Do	500	Smith's Creek	White R. H. D.	200	Corebat Island, Karuah River
Coote W.	200	Shark Point, Hawkesbury River	Jobson T. R.	100	Pelican Bay, Mitchell's Island
Do	100	Jerusalem Bay, do	Woodward and Templeman	100	Moruya River
Holdom John	500	Karuah River	Gyler A., jun.	300	Manning River
Settrea Alfred	100	Cockle Creek	Smith J. H.	200	Pelican Bay
Taylor R.	200	Woy Woy Creek	Woodward H.	100	Brisbane Water
Windley Abraham	100	Moruya River	Melit F.	300	M'Carr's Creek
Do	100	Louitt's Creek	Machardy Malcolm C.	200	do
Wakefield Percy	100	Nelson Lake	Richardson W. W.	500	Gunnamatta Bay
Sutton W.	100	Mooney Mooney Point	Burns P.	100	Brisbane Water
Colville Thos.	100	Port Stephens	Toomey Jno.	200	Hawkesbury River
Callaghan Jas.	200	Fox Island	Cole Jas. W.	100	Mooney Mooney Creek
Holdom Jno.	400	North Arm, Port Stephens	Wilson Jno.	100	Brisbane Water
Holdom Samuel	100	do do	Shoemith W. H.	100	Manning River
Brown R. J.	400	Sandon River	Do	100	do
Do	200	do	West G. W.	300	Ballina
Wakefield Percy	100	Nelson Lake	Severs D.	200	Panbula Lake
Bettini J. W.	100	Clyde River	Crompton Jno.	200	Browera Creek
Evens Jas.	100	North Arm, Port Stephens	Osbourn W.	200	Manning River
Holdom Samuel	100	do do	Do	100	do
King H. S.	100	Woy Woy Creek	Coote W.	200	Cowan Creek
Cox Jno.	200	Mangrove Creek	Stenhouse M. and F. G.	100	Brisbane Water
Do	500	do	Canty Steven	200	Wagonga River
Smith Jno.	400	North Arm, Port Stephens	Curtin D.	50	Cockle Creek
Ritchie Alex.	100	Oxley, Lutherie Bay	Simpson W.	100	Smith's Head, Port Hacking
Martins Sarah	200	Richmond River	Archer Jno.	200	Evans River
Callaghan Michael	100	Flying Fox Island	Lonesborough Jno.	300	Crookhaven River
Callaghan Jas. H.	100	Little Fox Island	Keating Rev. T. W.	200	Kincumber
Smith Jas.	200	George's River	King Rev. H. S.	200	Woy Woy Creek
Smith W.	100	Port Hacking River	Doherty Jas.	300	Panbula River
Brown Joshua	100	George's River	Bertram F.	100	Evans River
Smith W.	400	do	Witt W.	100	Nankeen Island
Colbron S.	100	Kyle's Bay, George's River	Thom David	100	Commerant Island
Do	100	Great Turreill Point, Port Hacking	Pospichal F. and West C.	1,000	Nambucca River
George M. H.	100	Saltwater Creek, Panbula River	Do	200	do
Do	400	Panbula River	Griffiths W.	300	Candole
Wakefield Percy	100	Nelson Lake	Gorrick J. A.	100	Platt's Channel

APPENDIX G.

Inspector Temperley's Report on Northern Division of Fisheries.

17 February, 1887.

THE production of oysters in the Northern Division for 1886, as shown in the tabulated return appended, amounts to 3,962 bags, and the total royalty to £594 6s.

No less than 1,625 bags, or nearly one-half of this total, was procured from the Clarence River, and was obtained from the natural deep-water beds of that river—not as in the case of many other rivers, from shallow foreshores alone. Large as this quota is from the Clarence, it is less by nearly 300 bags than that of the previous year, the output being 2,008 bags for 1885.

With this deficiency in the yield of the Clarence River, it is somewhat remarkable that the total yield of the Division for 1886 should be 800 bags greater than the total for either 1884 or 1885, making an increase in the supply from inlets other than the Clarence of nearly 1,100 bags for 1886 above that of the previous year.

This increase may chiefly be accounted for as follows:—The number of inlets from which oysters have been procured is greater than any previous year, leases having been taken up and worked in remote places which had not previously contributed to the oyster supply, the places referred to being the Sandon River, Brunswick River, Wooli Wooli River, and Weegoolgah, while the Tweed River and the Bellinger, both of which had not been worked for some time, have had their oyster bearing areas rendered available chiefly by the establishment of direct steam communication with the metropolis.

The produce, however, of these additional sources would not have supplied the deficiency which increasing demand causes in the yield of the natural oyster beds, but that the lessees in many of the rivers had improved their leases by stocking them with immature foreshore oysters. They had availed themselves of the Regulations which provided for the removal of foreshore oysters for restocking purposes under spat licenses, and in several instances taken up foreshore leases for the sole purpose of procuring spat for laying down elsewhere.

This semi-ostriculture is the outcome of the secure tenure which is now given to lessees under the present Fisheries Act. It has been carried out to a greater or less extent on the Richmond River, Manning River, Cape Hawke, Evans' River, Port Macquarie, and other inlets of minor class.

Where these foreshore oysters have been put down on exhausted natural beds, the work has generally but not always been attended with success. Where the efforts have been experimental—made on untried areas—the results have varied from total failure to partial, and in some instances, complete success.

This requirement of spat on the part of lessees is increasing, while the natural supply is limited and is diminishing, and it is a matter of certainty that before long thorough oyster culture, including the artificial attachment of spawn, which hitherto in this Colony has not advanced beyond trifling experiment, will require to be extensively resorted to if the capabilities of the oyster-bearing areas are to be made equal to the demand which an ever increasing consumption makes upon the oyster production of the Colony.

The work of improving the oyster leases during the year was considerably affected and their productiveness to some extent interfered with by two disturbing causes. One of these was the unusually large amount of rain that fell in the northern part of the coast during the last half year. The other was a destructive agent in the form of a fine seaweed of a reddish brown colour that was washed into the inlets in January, and lay and decomposed upon the oysters in such quantities as to destroy them. This was especially the case in the Evans River, where numbers of fish as well as oysters were destroyed by the same weed.

In other inlets, viz., Port Macquarie, Cape Hawke, and the Manning River, where the oysters below half tide were reported to have died at the same time, it is believed the mortality was due to the same cause.

Oyster spawning is not known to have occurred during the year but in few inlets, and to a moderate extent. Those on the upper natural beds of the Clarence spawned in April, and the shallow water oysters in the lower part of the same river during the early part of December.

In the Richmond River the oysters spawned moderately at the latter end of November.

Fish.

Concerning fish, there are no particulars of interest to note differing from preceding years. There is the usual abundance of fish in all the inlets, and they are interfered with in the summer months only to provide limited local requirements and a moderate amount of salt fish for shipment—the latter being principally the work of Chinamen.

As to the shipment of fresh fish, a number of fishermen on the Clarence River prepared to work for Sydney markets in the winter months; and they would, had the winter been an ordinary one, have had profitable employment, but the season was not a good one for their work. It was mild, wet, and variable in temperature; and it several times happened that quantities of the fish were condemned, either in transit or on arrival in Sydney. This uncertain supply, it is believed, will not long remain in the present unsatisfactory condition, the dairy produce of the north coast having increased to such an extent as to necessitate the establishment of steam communication that includes refrigerating chambers. This want is about to be supplied and, when established, will be available for the transmission of fresh fish, and will give a large impetus to net fishing both on the Clarence and Richmond Rivers.

It is known that there are some fine prawns both on the Clarence and Richmond Rivers, but whether they are to be found in such quantities as to pay for working, is a question which has not yet been satisfactorily tested.

With reference to cormorants, there have been no claims made for rewards for their destruction.

THOS. TEMPERLEY,
Inspector Northern Fisheries.

Assistant Inspector Jamieson's Report on Macleay River Fisheries.

Sir,

Macleay River, 5 March, 1887.

I have the honor to report the state of the Macleay River fisheries for the year 1886.

The Macleay River, during the year, has had a very good supply of fish, principally whiting, silver bream, flathead, garfish, and black fish. For the last three months of the year, from five to seven cases of whiting and bream have been shipped here for Sydney every week, packed in ice and saw-dust. No oysters for shipment on this river. Some years back the flood-waters destroyed all the oysters in the river, and since then no one has cultivated any.

I have, &c.,

JOHN JAMIESON,
Assistant Inspector of Fisheries, Macleay River.

Assistant Inspector Whaites' Report on Fisheries, Nambucca River.

Sir,

Nambucca River, 21 February, 1887.

I have the honor to report that the oyster beds of this river were not worked or disturbed during the year 1886. Not being able to secure an oyster dredge, I am unable to give the beds a good testing, but obtained a few oysters with a polo split in the end in December last; they were quite milky, it being apparently the spawning season. I find that mud has settled on the beds, and am of an opinion that the beds would be much improved by working.

The mullet season was only a moderate one, commencing middle of April and lasting to end of May. Other kinds, such as whiting, bream, flathead, garfish, are moderately plentiful and in good order. Inspected several nets, and found them in accord with regulations.

I have, &c.,

W. J. WHAITES,
Assistant Inspector of Fisheries.

Acting Assistant Inspector Windeyer's Report on Port Macquarie Fisheries.

Sir,

Port Macquarie, 12 February, 1887.

I have the honor to furnish a general report of the condition of Oysters and Fisheries of Port Macquarie, for the year 1886.

Fishing operations during this year have not been very extensive, three men with two boats have netted about an average of fifteen baskets per week. These for the most part have been dried for exportation to Sydney, and have consisted principally of whiting of very large size, which have been most abundant during the year. The sea mullet, flathead, bream, and black fish, have been very abundant, and though few large shoals have been observed, the supply of fish in the harbour has been practically unlimited.

Large quantities of schnapper have been caught. I have on previous occasions directed attention to the vast extent of prolific schnapper grounds on this coast, which I think will, in conjunction with the harbour fishing, form the base of very extensive fishing operations at no very distant period.

I regret that the culture of oysters has not proved very successful, though apparently all the conditions have been favourable. I may, however, observe that the operations conducted by only two lessees have been on a very limited scale, and are perhaps not a fair criterion of the eligibility of this locality for oyster culture. The natural beds, as far as I have been enabled to ascertain, are still bare, and show no signs of recuperation. This, I believe, is occasioned by the long continued absence of floods in the river, causing the rocks, stones, pebbles, and cultch, that formed the bottom of the beds, to be covered by slime, militating against the catchment and lodgment of spat. Sixty-one bags oysters were obtained, and royalty collected in 1886.

I have, &c.,

HENRY W. C. WINDEYER,
Acting Assistant Inspector Fisheries.

Assistant Inspector Gyler's Report on Manning River Fisheries.

Sir,

Croki, Monday, 3 January, 1887.

I have the honor to submit the following report of the present state of the natural oyster beds in the Manning River.

I have carefully watched and examined most of the natural oyster beds on the various parts of this river, and I find that there are not the slightest prospects of any of these beds being improved by laying spat or young oysters on any of the beds which have a depth greater than from 2 to 4 feet of water at low water.

1. All or most of all the beds which have had oysters laid on them in a depth from 6 to 20 feet of water, after being laid down from six to twelve months, have died.

2. They have either been covered with mud or sand or died from some other cause unknown to me or any of the oystermen on this river.

3. I have come to the conclusion, by the above facts, that we want a good flood to clear the bottom of the river, to clean the beds of any pollution which may exist on them.

4. Oysters in deep water should begin to show signs of spatting; but at present there is not the least sign, as there are very few to spat from.

5. There have not been thirty bags of natural bed oysters shipped during the last twelve months, most of the oysters shipped were bank or mangrove oysters, which have been laid down in shallow water from 1 to 3 feet at low water.

6. By the above facts it is useless for any of the lessees to lay oysters on the deep water beds, as I know of several lessees who have laid down oysters in deep water and received no returns for their labour.

Mr. Woodward had about 400 bags of bank and mangrove oysters laid on one of our best beds, called the "Bar Bed," depth of water from 15 to 25 feet; after being down from twelve to eighteen months, I, on examination, found that about five out of every six oysters were dead when dredged up, in fact I do not think that Mr. Woodward got more than thirty bags of the whole of that bed. I could note other like instances with the same result, only they were not so largely tried.

7. After twenty-seven years experience in oyster dredging and of inspection, I have come to the conclusion that it is useless to try and improve our natural deep-water beds at present, as we shall have to wait for nature to help us in the above matter.

Trusting the above will be satisfactory.

I have, &c.,

ANDREW GYLER,
Assistant Inspector.

APPENDIX H.

Assistant-Inspector Mulhall's Report on Home Division of Fisheries.

4 March, 1887.

THE Inspector reports that in January, 1886, fish were very scarce all over the district, from Middle Harbour to Hen and Chicken Bay; further up on Homebush Flats there was some difference, fish being much more plentiful. Since that time they appear to have steadily increased in all parts of the harbour, and in December last fish were more plentiful, especially mullet, than they have been known to be for some years.

In this account I except bream and whiting, because they have not been allowed to come to perfection owing to the sunken nets which are now used all over the harbour.

Schnapper also are very scarce all along the coast, but, in my opinion, fishermen seek them too far seaward instead of close in shore, where they are to be found.

Prawns have been very plentiful, there was never known such a season for them before, both in regard to quantity and size.

I attribute the great increase of fish in the harbour to the strict watch I and my assistants have kept on the closed waters.

The months for the spawning are March and April, and September and October, and having many waters closed during some of this time, a good protection has been afforded to the young fish. I advocate a permanent closing of the heads of the Port Jackson waters, because I believe it would cause a continual stream of fish to be working out of those places into the body of the harbour, which would almost supply all Sydney.

During the summer months this year there has been a large quantity of fish, principally from distant places, condemned at the fish-market as unfit for food.

The oysters about the harbour are almost exhausted, scarcely one to be seen, owing, I believe, to picnic parties, but in Middle Harbour there are quantities on the rocks; but they are very small and quite unmarketable.

I have, &c.,

THOMAS MULHALL,
Assistant Inspector of Fisheries for Sydney.

Assistant Inspector Smith's Report on Net and Line Fisheries, Hawkesbury River.

Sir,

Hawkesbury River, 14 February, 1887.

In compliance with your request of the 9th instant, to send you a report on the fisheries of the Hawkesbury River for the year 1886, I hasten to comply therewith.

The fisheries of the Hawkesbury River may be classed into two distinct occupations, viz., the net and line fishing and the oyster fisheries.

With your permission I will first deal with the net and line fishing.

Net fishing is carried on all through the year in the lower Hawkesbury River, Pittwater, and Cowan Creek, the fishermen having secured the service of a steamboat to convey their fish to market in a sound state, otherwise it could not be done in the summer months.

Of the quantity of fish having been sent to market during the year 1886 I am unable to give you the correct information, nor yet the number of fishermen employed; sometimes boats are here this week and gone the next.

The principal class of fish which resort these waters are several varieties of mullet, bream, jewfish, flathead, perch; and in the lower part of the river also soles and flounders, blackfish, whiting, and garfish.

The supply during the past year, and indeed since the railway works started, has been a serious falling off in quantity.

The continuous blasting operations carried on at the railway works has certainly been the means of driving the fish away from their usual haunts.

The general habitat of shoals of large mullet is about 50 miles up river, far removed from all noise; but will occasionally be driven down river by freshets and also in the spawning time—March and April—when they move about in large shoals, returning up river generally in May.

Of young fish, I may state that I very seldom see any in the lower part of the river, their habitat being generally the upper parts of the river and quiet bays and creeks, and a weedy bottom being particularly favourable.

Considerable line-fishing has also been done with jewfish, and occasionally a schnapper.

The waters of Cowan Creek, being like the ocean, clear and salt, are a favourable resort for schnapper, shoals of bream, and numerous other fish. During the last spring and summer shoals of schnapper, of many tons weight, were seen in Cowan Creek, their tails out of water, having probably come into the river to spat. I may here observe that when in this state they will not take bait. Cowan Creek and the lower Hawkesbury are also, particularly in the summer months, infested with sharks.

Of

Of the nets chiefly used in the Hawkesbury, I may state that, in the general absence of garfish (except in the lower part of the river), a long hauling net is used, with 2½ inches in the hunt and 3 inches in the wing; and I may safely state that the non-destruction of small fish in this river will bear very favourable comparison with any river. Meshing nets of 4-inch are also used.

As there is very little use for garfish nets none are kept, except an occasional prawn net of the prescribed dimensions.

I have, &c.,

P. SMITH,

Assistant Inspector.

Assistant Inspector Smith's Report on Hawkesbury Oyster Fisheries.

Sir,

Hawkesbury River, 14 February, 1887.

I would most respectfully beg to hand you the Report on the Oyster Fisheries of the Hawkesbury River for the year 1886.

The Oyster-culture Fisheries in the Hawkesbury River during the year 1886 have been only moderately successful, although the quantity shipped to market may seem a satisfactory figure.

Quantity shipped to market during the year 1886, 2,502 bags; royalty payable thereon, £338 16s.

Of the abovenamed quantity the greater part are natural rock oysters, and the artificial layings (the real oyster culture) amount to only a very small percentage. The cause for this small amount of culture oysters having reached the market may be found in the fact that the laid oysters were not sufficiently advanced to be considered marketable, the lessees having found by experience that it requires two years or more, according to the strength of the water, where laid, and quality of spat.

I beg also here to observe, that a large number of leases have been applied for, and granted, which are in no way suitable for oyster culture, either for suitability of bottom or strength of water.

These leases were applied for mainly for what rock oysters were on them, and as these are not sufficient to pay the yearly rent in time to come, I expect to see lots of them forfeited. And it is also a fact, and may not be generally known, that the leases and waters most suitable for oyster culture are altogether devoid of young oysters, and have to depend for a supply of spat on leases down river, or Crown land.

From my reports at different times you will gather that a disease showed itself in the oysters in December, 1886, whereby the greater part of artificial layings were carried off.

I have not the least hesitation in saying that this is a severe blow to oyster culture, particularly at the present time. It is sad to see fine oysters, which have laid for over two years, and probably would have been in the market ere long, all dead. It is also curious to note the disease,—I have seen a portion of shore where all were dead, and not 20 yards away with scarcely any dead.

In the infected locality natural rock oysters have also suffered, but not to such an extent as the artificial layings.

As to the cause of the disease, the general opinion is that the great quantity of congewoi which has covered the shores has been the cause. I may here state that the disease has never been seen here like this, but I believe that the disease was here last summer on a small scale, for I have seen patches of dead oysters, for which at that time I could not account, but which I have no doubt now were destroyed by the same cause.

I beg also to state that natural rock oysters (which I trust may not be regarded as oyster culture) have also become much scarcer, in fact, are getting scarcer every year, and scarcely any laid oysters can be alive. I expect that the supply available for market will, at the end of 1887, not nearly reach the above figures.

And in view of the welfare of oyster culture in years to come, it would be well to bear in mind the many difficulties a lessee has to contend with—too numerous to mention here—that the Crown may take a more liberal view, particularly of the supply of spat to a *bonâ fide* lessee, else I fear that oyster culture will not even get a footing, and in a few years will be a thing of the past.

I have, &c.,

P. SMITH,

Assistant Inspector.

Acting Assistant Inspector Cain's Report on Oyster Fisheries, Brisbane Water.

Sir,

Gosford Fisheries Office, 8 January, 1887.

I feel very much pleased in having to report to the Department the progress in the cultivation of the oysters for the last twelve months. When I was first appointed, 9th of December, 1884, there could not be found in the river twenty bags of oysters fit to be forwarded to the market. In the year 1886 there has been about 300 bags forwarded and accounted for.

And I feel confident every year the river will increase in the shipment of oysters. This river has proved itself to be a most suitable place for the cultivation of oysters within the last two years. Floods in this river do not destroy the oyster cultivation like other rivers, where wholesale destruction of the oysters is caused by the freshes.

There are some thousands of yards of foreshore to be taken up in Woy Woy Creek, but it will not suit at present to take these foreshores up on account of so many railway labourers about.

I have, &c.,

W. N. CAIN,

Acting Assistant Inspector.

Assistant Inspector Curan's Report on Fisheries, Hunter River.

Sir,

Fisheries Office, Newcastle, 11 February, 1887.

I have the honor to report on the state of the Hunter River beds for 1886. There are no oysters on any of the beds; they have all been destroyed by a small red worm. The only oysters alive in the Hunter River are a few on the mangroves, and on the rocks. 683 oags of oysters were taken from the shores

shores above low water mark during the year. I think the late heavy freshes in the Hunter will kill the worm; if it does the oysters will settle on the beds again and grow.

Fish have been very plentiful in the Hunter River in the summer months, but were very scarce in the winter.

Prawns also have been plentiful during the last few months of the year, especially in Fullerton Cove. Some boats caught as many as four and five baskets in one haul, each basket holding from 60 to 80 quarts, but as there was very little demand for them in Sydney, they were allowed to send only one basket a day for each boat.

I have, &c.,

HENRY CURAN.

Assistant Inspector Otway's Report on Fisheries at Port Stephens.

Sir,

Limeburners' Creek, Port Stephens, 14 February, 1887.

In accordance with your instructions I beg herewith to forward report of state of the fisheries in this district for the information of the Commissioners, up to above date.

It will, of course, be in the recollection of the Department that previous to May, 1886, I had no knowledge of the fisheries of this district, and that I accordingly speak only from that time.

I can safely say that in the months of May, June, July, and August, the appearance of any fish in the upper waters of the harbour was only distinguished by its absence. In the lower portion of Port Stephens towards the heads I several times inspected the fishermen's boats alongside the "Kingsley," when they were shipping their fish. On each occasion I found the fishing-boats well filled with various kinds of fish—principally garfish and whiting, and later on, crayfish; these were all in good condition. Most of these fish, however, came from outside the heads. In the upper waters of this harbour there has been no net fishing whatever, and, as the Department is aware, on the 29th August last a proclamation was issued closing nearly the whole harbour to net fishing. After the month of August, and as the days got longer and warmer, the mullet began to make their appearance everywhere; and about Christmas were in swarms in all small creeks. Four jumped into my boat one night. I think they are now returning as I do not see nearly so many.

My chief business has been with the oyster industry. Up to a few weeks ago that was in a most thriving condition, the dredgers which up to Christmas time were being sent to market being remarkably fine and in good condition. I am sorry to say, however, that a change has come quite suddenly upon this branch of the fishing industry. I had the honor to report, quite recently, for the information of the Commissioners, of the existence of a disease among the oysters, similar to that which affected those in the Hunter River, and eventually cleared the beds there. I am now collecting particulars, and all the information I can, with regard to it, and shall duly forward same.

I have, &c.,

C. H. OTWAY,

Assistant Inspector.

Assistant Inspector Grant's Report on George's River and Botany Fisheries.

Sir,

17 February, 1887.

I beg to offer the following as regards the fisheries of my district.

I can positively say that I have never known the river be in such a prosperous state with fish as it is now, and has been for the last twelve months. In previous years fish could not be caught in such numbers as were caught last year, and where there was one private party fishing two or three years back there are twenty fishing at the present time, and each of these parties catch 10 per cent. more fish now by the line than were ever caught in previous years. I may also state that the numbers of licensed fishing-boats and fishermen in this district have doubled.

A boat proprietor at Como, George's River, informs me that the parties who take his boats never got so many fish by line as they catch at the present time; he also says that closing the river for six months in the year has caused the improvement. I have seen on different occasions fishing parties having as many as ten or twelve dozen red bream, besides whiting and flathead, in their possession, as the result of a day's sport, and principally all caught above the railway bridge. Black bream, blackfish, and mullet are also in abundance in the closed waters. A person cannot judge by what quantity of fish is caught in Botany Bay and about the mouth of the river, because one day fish would be plentiful about the said places while on the next there would be none, which is caused by the different species of fish travelling; in fact there being so many fishing boats confined only to Botany Bay and the mouth of the river the fish have no chance to accumulate on the flats.

As relates to the oyster fishery of my district, I beg to state that the river is in a very poor state. Spawn or spat last year was more plentiful than it has been for the last three years; still it has not made any improvement, as the public consume them as soon as they are in the shape of an oyster. Many of the lessees have laid oysters down on their areas, but only cultivate to a small extent, as the public will go on the said areas and eat their oysters in spite of them; in fact the lessees inform me it is impossible for them to improve their areas to any great extent until they are assured of having their leases granted.

I have, &c.,

J. D. GRANT,

Assistant Inspector of Fisheries for George's River and Botany.

Assistant Inspector Benson's Report on Lake Illawarra Fisheries.

Sir,

Brownsville, 14 February, 1887.

I do myself the honor to submit the following report on the fisheries in my district, from 1st January to 31st December, 1886:—

Lake Illawarra.

Is exceedingly prolific in fish, but oysters are very scarce, in fact none are visible, although old residents state that there have been good beds in this lake, which have been either worked out or covered over with sand.

This

This lake has contributed very largely to the metropolitan fish supply, 4,591 baskets being shipped respectively from Wollongong and Shellharbour during 1886 (for Sydney).

The local supply for the year has been very small, averaging about one basket a week. The fishermen will not take the trouble to hawk fish, preferring to ship them direct to Sydney; they also state that they receive better prices for their fish in the Sydney market than they could get by retailing them in this district.

The supply of young fish in this lake is very abundant, the tributaries and bays adjoining are swarming with young fish, varieties consisting of mullet (hardgut), garfish, flathead, black bream, tailor, whiting, tarwhine, and blackfish.

The tributaries and bays adjoining, and the entrance to the lake, being closed from net-fishing for a period of twelve months, dating from the 1st February, 1886, there is no doubt that the judicious closing of these portions of the lake has been to a great extent, if not altogether, conducive to this supply of young fish.

There have been during the past year two breaches of the Fisheries Act committed; in both cases the parties concerned were severely punished; in the first instance about 1,000 yards of net were forfeited, and in the other case severe fines were inflicted. There is no doubt that, before my arrival in this district, the facilities for using and working excessively long and illegal nets for meshing were very great, and that such nets were used with impunity by the fishermen. But my arrival here, and being constantly on the lake, and examining each boat, has put an end to this pernicious practice.

The entrance to the sea of the lake, which has been sanded up for the last ten months, has to a great extent prevented the free ingress of fish into the lake. In heavy weather the seas break over this bar, and quantities of fish gain access to the lake, which have no doubt been a great addition to and kept the supply of marketable fish up in the lake.

Appended to this report is a return showing the quantities for each month of baskets of fish shipped to Sydney *via* Wollongong and Shellharbour for 1886.

Minumurra River.

Fishing operations during the year in this river have been confined to a few fishermen at work, mostly for local consumption.

This river contains a good supply of mangrove and cobbler peg oysters, and a fair quantity of deep-bed oysters. The oysters are in good condition, and spatting will shortly commence. No mortality exists among the oysters in this river.

From the beds in the river there have been taken during the past year 35 bags, or 105 bushels; the total amount of royalty being £5 5s, collected in Sydney.

In connection with this river no breach of the Fisheries Act, so far as it relates to oysters, has been committed during the year.

I have, &c.,

DAVID W. BENSON.

APPENDIX I.

Inspector Benson's Report on Southern Division of Fisheries.

Sir,

Bateman's Bay, 7 February, 1887.

I have the honor to forward my report on the Southern Fisheries for the year 1886.

During the year leases for oyster culture, under the Oyster Fisheries Act, 1884, have been granted in nearly all of the oyster-bearing waters of the Southern Division. I enclose a brief report on that portion of the fisheries lying between St. George's Basin and the Wagonga River, such portion being under my special supervision, assisted by Acting Assistant-Inspector Sutherland, stationed at the Moruya River, and Acting Assistant-Inspector Hespe, stationed at the Clyde River, whose duties are confined to those rivers. I also enclose a report from Assistant-Inspector Smithers on the fisheries lying south of the Wagonga River.

From my own and Mr. Smithers' reports it will be gathered that the majority of the lessees are not paying that attention to their oyster beds which it was reasonably expected they would do. All they seem to care about is to get as many marketable oysters off their beds as they possibly can, leaving none for breeding purposes, and thus almost completely annihilating the source of spat. During the last three years, I have never seen so little spat and brood in the southern waters as at present, and I believe this to be attributable in a great measure to the greed and negligence of the lessees. Their idea of oyster-culture seems to be confined to laying down oysters taken from the rocks and mangroves on to fattening grounds for a few months, and then sending them to market. Happily, however, there are exceptions to this almost general rule. As instances of this, I may mention leases held by Messrs. Woodward, Gibbins, Templeman, and Barclay, at the Clyde River, where the lessees by exercising a little common sense, and working in a systematic manner, have received a fair return for their outlay, and have at the same time improved their holdings considerably. On these leases oysters are not considered marketable until they arrive at maturity; oysters in considerable numbers are always left on the beds for spatting; care is exercised in culling, all undersized oysters being carefully returned to the beds; war is continually waged against the enemies of the oyster, especially the star-fish, hundreds of them being destroyed during the year; the beds are carefully watched and mud, weeds, &c., where possible removed. At the Tuross, Wagonga, and Moruya Rivers nothing has been done in the way of improvement, and from Mr. Smithers' report it appears that the leases in the waters under his supervision have been equally neglected.

From my observations, I believe that it is only necessary for the lessees to exercise a little judgment to ensure success for this new industry. All of the southern rivers are suitable for the breeding, growth, and fattening of oysters; consequently the chief object of the lessee should be to make every provision for securing spat for the purpose of laying down on fattening beds. This could be easily accomplished by placing spat collectors in the shape of stone or wood on those beds which are not provided with

with them by nature, and by leaving mature oysters in sufficient numbers on the beds and foreshores so as to ensure a supply of spat.

Trusting that during the coming year the lessees may awaken to the importance of this new industry, and throw more energy into their undertaking,

I have, &c.,

GEORGE G. BENSON,
Inspector, Southern Fisheries.

Clyde River.—During the year, forty leases, representing an area of 21,600 yards, have been granted under the "Oyster Fisheries Act of 1884." Most of the lessees are persons who have been engaged in the oyster fisheries for many years, and have therefore the advantage gained by experience to guide them in making this new industry a success. For the year, 1,308 bags of oysters were sent to market, most of which were obtained from the mangroves during the year 1884, and laid down in water varying from 3 to 16 feet in depth. Many of the oysters laid down on what at the time was a clean hard bottom have been destroyed by the accumulation of mud and weeds, and many were buried by the lessees in endeavouring to secure them with a dredge. It is now the general opinion that, in order to carry out a proper supervision, oysters should not be laid down on beds where the water exceeds 3 feet in depth at low tide, when they would be easy to inspect, and weeds, mud, &c., could be removed at a small cost; the oysters could also be gathered by hand, and a great saving of labour effected. I regret having to report a very limited supply of spat and brood showing on the foreshores generally, but more especially on those leases from which all available oysters have been removed either for market or laying down, leaving none for producing spat. Some of the lessees evidently rely on nature to do everything for them, and at the same time, show a perfect ignorance of nature's laws. I have noticed that on leases where fair numbers of mature oysters have been kept continually on the beds, the foreshores are well covered with spat. The divers on the deep beds state that young oysters in large numbers are showing on the rocks and cultch. Messrs Woodward, Gibbins, Templeman, and Barclay, are the only lessees on the Clyde River who have, up to the present, worked their leases in a systematic and fair manner, by sending only mature oysters to market, laying down spat collectors, and always keeping a good stock of mature oysters on their beds for breeding purposes.

Wagonga River.—Only one lease for 300 yards has been granted, but there are still many applications to be dealt with. The foreshores of the river, which are narrow, have been well stripped of all oysters approaching a marketable size. The bed of the river outside of low water mark is composed of mud; beyond laying down a few oysters, and sending them to market when of a legal size, nothing has been done in the way of improvement. Particulars of oysters shipped from this river have to be sent direct to the Collector of Customs, Sydney.

Narrawallee Creek.—Six leases have been granted on this creek during the year, for a total area of 1,400 yards, and there are still several applications to be dealt with. The lessees, who are mostly farmers, have secured as a partner a thoroughly practical man, who has shown great judgment in the management of the beds. Only mature oysters are sent to market; a fair quantity of oysters are left on the mangroves for the purpose of spawning, and consequently the foreshores, which are chiefly mangroves, are well stocked with young oysters, which are taken and laid down on fattening ground as soon as they arrive at an age when no injury can be caused by removing them. In places where there is no natural spat, collectors, oak and stone, have been placed, and are now fairly covered with spat. From what I could see of the beds during my visit in September last, I believe there must be over 600 bags laid down, many of which are of marketable size. It will be pleasing to the Commissioners to hear that all of the lessees on this creek are working their areas in a systematic manner, and seem determined to give ostreiculture a fair trial. I must express satisfaction at finding the creek so much improved after the bad treatment received at the hands of licensed dredgers in 1883. One hundred bags of oysters have been shipped during the year. Particulars of these shipments are wired direct to the Collector of Customs, Sydney, by the lessees.

Turoos.—Nine leases, for a total area of 2,200 yards, have been received by me for delivery to the lessees. Only 144 bags of oysters were shipped during the year. In the month of September, in consequence of a strong easterly gale, the mouth of the river was closed by a bank of sand 260 yards in width. The water in the river and lake is now four feet above high-water mark, rendering it impossible for the lessees to procure oysters either for market or laying down. Several unsuccessful attempts have been made by the lessees, assisted by the Messrs. Mort, of Bodalla, (portion of whose property is under water) to open it. Beyond laying down oysters on their foreshores, lessees have done nothing in the way of improvement. I have observed very little spat during the year; and Smart, who is an old resident of the Turoos, states that he never remembers such a bad year for spatting.

Moruya River.—Acting Assistant Inspector Sutherland is in charge of this river; he also supervises all shipments of oysters from other waters, shipped at Moruya. He reports two leases having been granted during the year. 141 bags of oysters have been obtained, 135 bags of which were shipped to Sydney, and 6 sold for local consumption. Nothing has been done to improve either the leases or areas applied for. The foreshores of this river are narrow and unsuitable for oyster culture.

Cullendulla Creek.—Four leases have been granted during the year to Edwin Cain, who has marked the boundaries of the areas leased in accordance with the Act. Several other applications made by the same lessee for areas in this creek have still to be dealt with. The foreshores, with the exception of a few patches of hard ground, are lined with mangroves, and show little signs of improvement, which is to be accounted for by the scarcity of oysters for spatting purposes. The lessee continues to lay down oysters on the hard ground, and seems determined to do his best in making the enterprise a successful one. He has shipped 23 bags of good oysters during the year.

Tbmaga River.—One lease of 500 yards has been granted during the year to Abraham Windley, who has laid down about 100 bags of mangrove oysters on a hard bottom and in deep water. John Lewis, who is an applicant for several areas, and the holder of a permit, has also laid down a large quantity of mangrove oysters, which are showing good growth, and are now in splendid condition. Nothing has been done in the way of improvement beyond laying down the oysters, and very little spat is showing on the foreshores. 112 bags of oysters have been sent to the Sydney market during the year; 94 of which were shipped at Bateman's Bay, and 18 at the Moruya River.

EXTRACT FROM INSPECTOR'S DIARIES FOR THE YEAR 1886.

January.

Assistant Inspector Smithers reports having returned from Sydney on the 9th of the month. Inspected Naghi River and Merrica Creek and found both waters closed at mouth. Observed fish in great numbers. There are no oysters in Naghi Creek; those in Merrica Creek are in fair condition. At Eden the bay is full of kingfish.

Acting Assistant Inspector Sutherland reports being absent from his station during the first two weeks of the month. All sorts of fish very scarce in river, and outside schnapper are also scarce. Inspected and passed 38 bags of oysters from Tuross Lake. No licensed fishermen on river.

Inspector Benson.—Inspecting areas applied for at Clyde River and tributaries, and Cullendulla Creek. Measuring areas applied for at the Clyde River. Visited and inspected Durras Lake.

February.

Assistant Inspector Smithers reports having measured areas applied for at Nelson Lake, Bermagui River, Wapengo Lake and Bittangabee. Found Spero Mackri taking oysters from Crown lands, and reported it to the Secretary of the Fisheries Department. Reported Lavington for taking oysters from Crown lands at Bowinda Lake and paying no royalty.

Acting Assistant Inspector Sutherland.—Have observed mullet and whiting in considerable numbers in river. Inspected and passed 27 bags of oysters from Tuross Lake; also 14 bags from Moruya River.

Inspector Benson.—Inspected leases and areas applied for at Clyde River and Cullendulla Creek. Delivered leases Nos. 586, 106, 111, 137, 90, 585.

March.

Assistant Inspector Smithers.—Visited and inspected Panbula River, Wonboyn River, Bittangabee Creek. Found the oysters at Wonboyn in splendid condition, and the river alive with fish. At Eden the schnapper are plentiful, but leather jackets so numerous that it is impossible to get through them with the bait.

Acting Assistant Inspector Sutherland.—Shoals of fish, apparently whiting, moving along the coast, also shoals of sea mullet moving in a northerly direction. Inspected 27 bags of oysters from Tuross and 7 bags from Moruya River.

Inspector Benson.—Visited Moruya River, measured areas applied for at Congo Creek. Cautioned Goodin against discharging sawdust into the Moruya River. Inspected fishermen's licenses and nets. Delivered leases Nos. 104, 187, 803, 273, 34, 398, 674.

April.

Assistant Inspector Smithers.—Visited Kiah River, Wonboyn River, Panbula River. Oysters in good condition. At Eden schnapper are plentiful, and large shoals of sea mullet in bay.

Acting Assistant Inspector Sutherland.—Measured areas applied for at Moruya River, and sent reports to Fisheries Department, Sydney. There are three licensed fishermen employed on river all using garfish nets. Noticed shoals of travally off Moruya Heads. Inspected 8 bags from Tuross, 4 bags from Moruya River; 33 baskets of fish shipped to Sydney.

Inspector Benson.—Measured areas applied for at Tomaga River and Clyde River. Visited and inspected Candlegut Creek. Delivered leases Nos. 316, 1,311, 1,155, 275.

May.

Assistant Inspector Smithers.—Visited Wonboyn River, Merrica Creek, Wapengo Lake. Noticed large increase of oysters at Merrica Creek. Measured areas applied for at Nelson Lake.

Acting Assistant Inspector Sutherland.—Have observed large numbers of mullet, bream, and whiting in river. Inspected and passed 8 bags of oysters from Tuross, 6 bags Moruya River, 10 bags Tomaga River; 15 baskets of fish shipped.

Inspector Benson.—Inspected leases granted and applied for at Clyde River, Buckenbowra River, Cullendulla Creek. Delivered leases Nos. 1,317, 1,318, 193, 1,146, 58, 337, 438.

June.

Assistant Inspector Smithers.—Visited Broadwater, Panbula River, and Nellica. Measured areas applied for at Kiah River.

Acting Assistant Inspector Sutherland.—Shoals of mullet, whiting, and bream moving up river. Inspected and passed 13 bags of oysters from Tuross, 13 bags Moruya River; 1 bag local consumption; 24 baskets of fish shipped.

Inspector Benson.—Inspecting leases granted at Clyde River and tributaries. Visited and inspected Moruya River, Tuross Lake, Wagonga River, and Birroul Lake. Delivered leases Nos. 337, 501.

July.

Visited Broadwater, Bittangabee, Nellica River, Wonboyn River, and Merrica Creek. Observed numbers of oysters dead at Nellica, evidently killed by the late fresh.

Acting Assistant Inspector Sutherland.—Shoals of mullet, bream, and whiting in river. Inspected and passed 10 bags of oysters from Tuross, 23 bags Moruya; 1 bag used for local consumption; 84 baskets of fish shipped.

Inspector Benson.—In Sydney on three weeks leave of absence. Inspected leases granted at Clyde River and tributaries. Delivered lease No. 846.

August.

Assistant Inspector Smithers.—Visited Murrah River, Cuttagee Lake, Wapengo Lake. Measured areas applied for at Nelson Lake and Broadwater. At Eden—fish very scarce, especially schnapper.

Acting Assistant Inspector Sutherland.—Observed mullet, whiting, bream, and garfish in river. There are now four licensed fishermen at work on river. Inspected and passed 19 bags oysters from Moruya River, 9 bags Tuross, 8 bags Congo Creek; 1 bag local consumption; 46 baskets of fish shipped.

Inspector Benson.—Visited and inspected Durras Lake, Tomaga River, and Cullendulla Creek. Inspected leases at Clyde River. Delivered leases Nos. 804, 714, 93, 583.

September.

September.

Assistant Inspector Smithers.—Inspected area applied for at Kiah River by Eden Progress Committee. Visited Murrah River, Panbula River, Bega River. Measured areas applied for at Nelson Lake.
Acting Assistant Inspector Sutherland.—Observed mullet, whiting, bream in river. Examined and passed 2 bags of oysters from Tuross, 11 bags Moruya River; 17 baskets of fish shipped.
Inspector Benson.—Visited and inspected Conjola Lake, Narrawallee Creek, and Clyde River.

October.

Assistant Inspector Smithers.—Visited Merimbula and Nellica River. I have noticed during the month a larger number of young fish than I have seen during the last three years.
Acting Assistant Inspector Sutherland.—Observed blackfish, mullet, bream in river. Inspected and passed 14 bags of oysters from the Moruya River, 8 bags Tomaga River; 18 baskets of fish shipped.
Inspector Benson.—Visited and inspected leases, and measured areas applied for at Wagonga River and Tuross Lake. Delivered leases Nos. 695, 707, 806, 459, 676, 723, 667, 1,350.

November.

Assistant Inspector Smithers.—Visited Merimbula Lake, Kiah River, and Panbula River. Great havoc is caused amongst foreshore oysters at Panbula by picnic parties. Measured areas at Broadwater. At Eden large numbers of kingfish in bay.
Acting Assistant Inspector Sutherland.—Observed mullet, whiting, bream, in river. Inspected and passed 19 bags of oysters from Moruya River; 1 bag used locally; 16 baskets of fish shipped.
Inspector Benson.—Visited and inspected Durras Lake and Tomaga River. Inspected leases and areas applied for at Clyde River and Cullendulla Creek. Delivered lease No. 801.

December.

Assistant Inspector Smithers.—Visited Bega River, Nelson Lake, Bermagui River, Wagonga River, Cuttagee Lake. Seized 11 bags of oysters at Bittangabee, and sent them to Sydney as instructed.
Acting Assistant Inspector Sutherland.—Large shoals of salmon entered Moruya River. Inspected and passed 5 bags oysters from Moruya River; 2 bags used for local consumption.
Inspector Benson.—Visited and inspected Moruya River, Tuross River, Tomaga River. Inspected leases at Clyde River and Cullendulla Creek. Delivered leases Nos. 1,383 and 1,427.

GEORGE G. BENSON,
 Inspector, Southern Fisheries.

Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 1 January, 1887.

I have the honor to forward you a report on the fisheries in the district of which I have the charge. I cannot report any increase of oysters by the fall of spat. I have failed to observe in any of the waters even a fair fall of spat. Panbula River, one of the best spat producing waters, has produced less spat during the past year than I ever noticed before. The blame must be put upon the shoulders of the leaseholders or permit holders under Fisheries Act, for they remove for market all oysters as soon as they are up to ring measurement, and of course in many cases before the oyster has come to maturity. If, therefore, the parent oyster be thus taken away, how can a supply of spat be obtained? We might as well sell all the fowls in our poultry yard as soon as they come to maturity, and then expect to have eggs to keep up our stock. Again, the lease applicants, with but few exceptions, make no provision whatever to gather spat, and then their cry is that oyster culture will not pay. I can only ask if agriculture would pay if it were treated in a like way.

The only approach to oyster culture which I have noticed is the transference of small shore oysters to deeper water till they are marketable. In regard to applications for oyster culture areas, I have noticed several areas in this district on which no culture was intended, the idea has been simply to pay the rent, get all the marketable oysters off and have done with it. In such cases the law does not reach the offender.

There has been a great increase in the number of whelks in some of the rivers, principally in the Nullica River. Assuming the spat supply sets in well during the present year, there will no doubt be a large supply of whelk oysters.

I call special attention to the destruction of mutton fish. This fish is not protected, and the Chinamen are fast destroying its existence on the coast line. This fish is dried and exported to China; one shipment alone weighed nearly half a ton, and sold in Sydney at 1s. 3d. per pound before shipment to China.

At the commencement of the year applications for oyster areas were numerous, but towards the end became gradually less. I look forward to an increase in the supply of oysters during the present year—there will be an increase in the supply of oysters—and also to oyster culturists taking a little more interest in their work and endeavouring to save all the spat by using collectors.

I have, &c.,

FREDK. W. SMITHERS.

Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 1 January, 1887.

I beg to forward a short report concerning fish in the Eden District for the past year.

But little interest is manifested in the fishing industry. There are but few men with licenses here, and they have got disheartened with their work, as they frequently find it impossible to get rid of their fish, as there are no less than three private nets in use in this place owned by fourteen persons, and when they get a fair supply presents are made; this must do the licensed men harm. There is but little inducement to fishermen to ply their calling. I have noticed more young fish in these waters during the last year, especially up the rivers, and in all the lakes to Wagonga River. At the mouths of some of the lakes (which are closed to the sea during heavy weather) there may be seen tons of fish of all sizes trying to get out as the seas come over into the lake. The water in most of the lakes is only about half salt, and it is in these places where there appears to be the great quantity of young fish. The shoals have not been

so large as hitherto passing north and south. It is most singular that last year the whales were scarce and so were the shoals of fish. Schnapper has again been very scarce. I cannot account for such scarcity. I particularly notice red bream (young schnapper) are but seldom caught anywhere within miles of Eden. Whiting have been very scarce; perch (sea) very scarce. There were also bonito, black bream, travally, tailor, and blackfish, which were the most plentiful of all our long list of fishes. I am happy to state that the leather-jackets have almost entirely deserted us. I have not tried for schnapper well off shore as I have not the means to do it.

I may just mention that I have ridden alone 1,579 miles during the past year while on duty and found, as a rule, things tolerably right.

I have, &c.,
FREDK. SMITHERS.

APPENDIX K. Report on Inland Fisheries.

Assistant Inspector Wilshire's Report on Fisheries of Murray River and Tributaries.

Sir,

Deniliquin, 11 February, 1887.

In submitting my annual report for the past year on the fisheries in my district, I have the honor to announce that a decided increase of fish is discernible in all the rivers and creeks about here, and excellent sport has been obtained by the inhabitants of the district with lines during the past few months. In fact more fish have been caught by the townspeople than there have been for years.

This I attribute to the seizure and confiscation of several large bag nets, and to my carefully guarding against any being used during the fishing season, and also to the destruction of cormorants or shags since the 1st January, last year, to date. I have given receipts for no less than 3,829 heads of these destructive birds, and now small fish in thousands can be seen in all the rivers, creeks, and lagoons about here.

There are about twelve men engaged in fishing in this district, most of whom reside in Victoria, and it is with these men that I have the greatest difficulty in repressing illegal netting.

The principal species of fish in these waters are Murray cod, trout, gold and silver perch, silver and black bream; and a fair amount of all these fish have been caught with gill nets and lines during the past year.

The rivers are now falling so fast that few nets are being used, and most of the fishermen are using night lines; these lines are stretched right across the rivers, with ten or a dozen hooks on them, but as they only catch the large cod they are rather a benefit than otherwise.

I have endeavoured to prevent illegal netting all I could, but I have great difficulties to contend against, owing to the peculiar nature of the rivers and creeks here during flood time, and that is the time the most netting is done.

I respectfully enclose some suggestions for your consideration, which I think are really necessary for the protection of the fisheries here, and, if introduced into an amended Act, would, I believe, give general satisfaction to the people of the district. At present they derive no benefit whatever from the fish caught here, all of which are sent to the Melbourne markets.

I have, &c.,
OSBORNE WILSHIRE,
Assistant Inspector.

Suggestions for the protection of the Murray Fisheries, by Assistant Inspector Wilshire:—

1. That power be given to close from net fishing all waters within the counties of Cadell, Townsend, and Wakool, for a period not exceeding two years.
2. All fishermen to hold a license, as well as having their boats licensed.
3. No bag nets to be allowed.
4. No nets to be of less mesh than 4 inches.
5. No nets to be set within 14 feet of each side of water edge.
6. No nets to be set within 500 yards of each other.
7. Netting to be prohibited in all lagoons.
8. No nets allowed to be doubled or set together. (See No. 6.)
9. A spawning season to be proclaimed, and no netting allowed during that time.

Acting Assistant Inspector Nelson's Report on Lake George Fisheries.

Sir,

Bungendore, 8 December, 1886.

I beg to report that independent of my constant visits to Lake George, I have during the last week made a special inspection of the Lake George fisheries.

I find a large quantity of fine codfish being caught for sale by the fishermen holding licenses (three), and others are contemplating starting from the first of the new year.

Although the waters of the lake have receded very much through the late dry seasons yet the fish are in fine condition and healthy.

I am glad to be able to say the late rains have almost brought the lake up to its usual level, and the creeks are now running bank high into the lake. I had great difficulty in returning home this morning.

The nets used by the fishermen are of the proper size.

It has been reported to me that some of the fishermen are in the habit of placing their nets across the mouths of the creeks running into the lake. I have kept strict watch over them but have not been able to catch them at present.

One difficulty I have to contend with is that I have no boat to get about the lake and into the mouths of the creeks. If you had a cheap boat, or even a second-hand one, to send me for this purpose, it would enable me to put a stop to illegal netting at once.

I also beg to suggest that, if procurable, a few bream and perch be sent to be placed in the creeks and lake, which should be closed against net fishing for twelve months.

I have, &c.,
FREDK. NELSON,
Actg. Asst. Inspector of Fisheries.