

REPORT

ON THE

TAMBLEGAM PEARL OYSTER FISHERY.

THE Oyster found in the Tanglegam lake, and from which Pearls are obtained, is the *Placuna placenta*, "Vitre Chinoise" of some French writers, and the "Window Oyster" of English travellers in China,—the shells, from their semi-transparency, being used for windows. The *Placuna* belongs to the same family of Conchiferous Molluses as the edible Oysters of Europe and of this country. It has no resemblance (except slightly in the animal structure) to the shells of the Arripo Oyster *Meleagrina*. When full grown, the valves (shells) measure, at their broadest transverse diameter, from 6 to 7 inches; and their longest longitudinal diameter is about the same; some, half an inch more. They arrive at maturity sooner than the *Meleagrina margaritifera*, and like the Arripo Pearl Oyster, the young also have ova. I am not able from my own observation (having been only a few months engaged in these researches) to say, in how many years this Oyster arrives at perfection. But from the appearance of shells of all sizes, and the history of the Tanglegam Pearl fisheries since 1839, I should say, that in three years, this bivalve Molluse attains its adult age; and, that after that, it dies. It appears to thrive best in brackish water, but a large influx of fresh water (from rivers) kills them. Instances have been known, when a large number of young and old Oysters died in Tanglegam lake, during some

very rainy seasons, when the rivers which empty into the lake brought down an unusual quantity of fresh water. If ever the channel, which was once proposed to be cut through the neck of land which connects the lake with the Trincomalee harbour, is made, this cause of mortality will more rarely occur, perhaps never again exist.

From the flattened formation of the shells, Pearls are very liable to drop out when the animal reaches its full growth; I would therefore fix, as the best period for fishing, the time when the animal has closed its supposed two years' age, or when the shell measures from $5\frac{1}{2}$ to 6 inches in transverse diameter.

I have inspected the Tamblegam bank this week, and am sorry to report, that there is no prospect of even an average good fishery before the middle of 1859. The banks have been overfished. The Natcha Cooda bank is completely destroyed. The renter in 1856, left scarcely any Oysters behind, and this portion of the bank will, consequently, be unproductive for many years; possibly never again, unless Government should re-stock it.

Nothing could have been more prejudicial to the interests of the Government, than to have leased out the bank by the year. The Government Agents who could have acted so unwisely, as to lease out to native renters a small bank of Pearl Oysters for three consecutive years, without any stipulation as to the size of the Oysters to be fished, must have lost sight of the natural laws of reproduction and multiplication of species, known even to the Native divers. It is therefore very gratifying to observe, that the present Government Agent, Mr. Morris, takes great interest in my researches; that he is alive to the importance of the Naturalist's opinion, and has recommended that all young Oysters be thrown back into the lake; a measure which I had the opportunity of suggesting to His Excellency The Governor in March last, but

which, I believe, was only partially acted upon, during the last Pearl fishery at Arripo.

I watched the number of Oysters fished during the two days I was lately at Tanglegam (Keenear), and have to report, that there could not have been less than 30,000, on each day. More than two-thirds of this number were young, and had better have been left in the lake for another year or more. The renter is evidently making the most of the few months he has yet liberty to fish, or *rather ruin the bank*. The Tanglegam Wanniah, and all the divers, whom I questioned on the subject, stated, that in the early part of the present year more than 50,000 Oysters were fished daily. It is therefore impossible to arrive at any other conclusion, than that the former renters mis-represented the state of their finances, from the Pearl banks, when they got Government to remit some portion of the rent, and had the fishery re-sold for a smaller sum, to another native,—a relative, I am informed, of one of the original renters.

All Oysters are very prolific, and the *Placuna* is not an exception to the rule; for, at the lowest calculation, in three years, there must have been fished from this bank, upwards of 18 millions of Oysters, supposing that there were *only* 200 fishing days in each year. The renters' share must have been (allowing five shillings for each thousand Oysters) nearly £2250, from which, deducting the three years' rent, viz. £901, they must have derived a profit of at least £1250. To this profit must be added another source of gain, (a very ingenious one) from the divers' share of Oysters. The diver is allowed half the quantity fished, but he is not permitted *to sell* the Oyster at the best market, or to the highest bidder. He is obliged to open the Oysters when fresh, and sell to the renter all the Pearls, at a fixed rate, which the renter takes good care shall be below the market value. Any plan therefore, which may relieve the diver of this grievance, will, I am sure,

be thankfully welcomed by at least 200 individuals, whose chief means of living is by diving for Pearl Oysters.

Oysters of upwards of two years of age, (i. e. about six inches broad) are worth *at least* ten shillings a thousand, but if there is any competition, they may be sold for even fifteen shillings a thousand; for although the Pearls they produce are about two-thirds less in value than those from the Arripo Pearl Oyster, (*Meleagrina*), the quantity obtained in 1000 Oysters, is at least three times more than what is obtained in a similar number from the Arripo banks.

Upon these considerations, I have to submit for the future guidance of Government, the following proposals.

1st. That the banks be allowed to remain undisturbed for 18 months after the termination of the present fishery.

2nd. That future fisheries be conducted by Government Officers, and the Oysters sold to the highest bidder.

3rd. That the fishery be held only for two or three months in the year; say, April, May and June, and that a sufficient number of boats be employed daily, so as to have the matured Oysters fished during this period.

4th. That the banks be carefully watched, and placed under the immediate supervision of the Tamblegam Modliar, to whom a per centage might be promised on the net profits of each fishery which yields to Government more than £500. I suggest this per centage, well knowing, that any extra work thus thrown upon a native official, will be badly performed, unless paid for according to the value of his labour.

5th. That no Oyster under $5\frac{1}{2}$ inches broad, be allowed to be removed from the banks.

6th. That a fourth share of the Oysters fished be *bonâ fide* the divers' share, which they shall be at liberty to dispose of to the best advantage for themselves.

7th. That those parts of the Tamblegam lake which have been denuded of Oysters by overfishing, be re-stocked with

young Oysters, found in the shallow parts of the lake, or near its margin; which if left in their present position, are very likely to be elandestinely removed at night, although the banks may be strictly watched.

8th. That Government endeavour to fish up the Oysters by dredging, instead of the present pernicious method of divers walking over most parts of the bank, searching for them with their feet; by which means, they crush the young Oysters and destroy the spawn.

This Oyster, having no byssus, is not attached to any hard substance; nor is it cemented, like some of the edible Oysters, by the hinge, or by one of the valves, to any object, but lies either flat on the mud, or is fixed loosely in a semi-vertical position, with the wedge-shaped hinge buried in the mud. It follows, therefore, that they can be removed with great facility with the ordinary Oyster dredge.

The young Oysters taken up by the dredge can be returned immediately to the lake; or collected and then deposited in some suitable place, previously selected by the supervisor.

I have no doubt, in my own mind, that by proper supervision and care, the Tamblegam lake Oyster Fishery, may be made to yield in a few years, at least, £1,500 every second year. For the last 18 years, the average annual revenue to Government was only £344.

In order to secure this revenue for future years, it is necessary that the present renter's proceedings be watched; and, that he be obliged strictly to observe the condition of his bond, viz: "That the Fishery of the said Pearl banks shall be *carefully* and *providently* carried on by the Renter and others, his servants, so as to cause no *damage* or *injury* to the said Pearl Banks."

If, in the opinion of the Government, the above condition does not enjoin the renter to prevent divers taking up *young* Oysters, I think it will be worth while to pay him £50 or

more, and take his lease from him ; for, at the rate he is now fishing and bringing up daily 5,000 or 6,000 young Oysters, scarcely more than eight months old, and which cannot yield more than six-pence worth of Pearl in each thousand, even if they do that, the bank, which now promises to give a tolerably good fishery in June 1859, may, like the Natcha Cooda bank, be unproductive for many years. I would therefore suggest, that a Government Officer be immediately sent to the fishery to prevent further mischief being done.

I cannot help again observing in this Report, that it is worthy the attention of Government, to stock the various salt lakes of Ceylon with this species of Oyster. The lakes of Calpenty, Putlam, Batticaloa and Hambantotte, if stocked with the " Window Oyster," will yield a very handsome revenue. I have availed myself of the present opportunity to remove about 1,200 middle-aged Oysters (which the renter gave me) to *Yard Cove* in Trincomalie harbour, where the muddy bottom promises to be suitable for breeding them. But the experiment should be made on a larger scale, to test the full value of translating these Oysters to new localities ; this I am not able to do from want of funds to meet the necessary expenses. I have already, in my former Report on the Natural History of Pearl Oysters, reported, that some of the Oysters, which were placed in other parts of the sea in May last, are still living.

Trincomalie,
3rd October, 1857.

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M. D.