

decay had already begun, although not to be detected by the eye. The Commissioners were further aware, from their own experience as well as from that of all pisciculturists in Europe, that a considerable deduction has always to be made on account of imperfect fecundation, against which no care or skill can fully provide.

Among the ova imported by the Commissioners in 1864, it was found that 16,000 were thus barren, and out of our recent importation 10,000 at least have been ultimately found to be in the same condition. The number of ova, therefore, received at the ponds, capable, under any circumstances, of producing living fish, was reduced to 30,000. From these 30,000 ova that had travelled over half the circumference of the globe before they reached our ponds, and had been unnaturally immersed in their little wooden prisons for 104 days, we have obtained about 7,000 healthy young fish, consisting of 6,000 salmon and 1,000 sea trout,—a number not only large in itself, but representing a percentage not very far short of that attained at Henningen, the best conducted fish-breeding establishment in the world, where the ova are received without having passed through any of the perils and disasters to which these had been exposed.

It will have been observed that, while only about 3,000 fish were produced from the importation of ova in 1864, more than double that number have been hatched from about the same number of ova received on the last occasion, although fourteen days longer on shipboard. This discrepancy in the results of the two undertakings, and the greater success of the last, are probably in a great measure due to the lighter packing of the moss in which the ova were embedded, and to some improvements in the ice-house; to both of which Mr. Youl was led by his previous experience. A portion of this higher success is also to be attributed to some alterations in the hatching boxes at the ponds, consisting chiefly of the substitution of a finer for a coarser gravel, by which the ova were prevented from ever sinking out of view, enabling Mr. Ramsbottom at once to remove all that died, and became a source of danger to the living during the process of hatching. The temperature of the water also, which was several degrees lower in the month of May last than during the same season in 1864, had no doubt a favourable influence on the result.

The young salmon and salmon-trout have already in a great measure been freed from their umbilical appendages, and have become vigorous and active fish. The mortality since the process of hatching was completed has been of the most trivial amount.

The Commissioners regard the salmon-trout as an acquisition especially valuable. These fish nearly approach the true salmon in the size to which they attain, as well as in their qualities as an article of food; and it is now a well-ascertained fact that they will thrive and multiply their numbers in fresh water without visiting the sea. The Commissioners, therefore, entertain no doubt that they will be as successful in acclimatizing this valuable fish as they have already been in the case of the brown trout. The number of these last, hatched from the ova imported in 1864, were for some time estimated not to exceed 150, but were afterwards, when captured and accurately counted, found to approach to double that number. Of these, about forty were set at large in the Plenty in April, 1865, and the rest retained in the pond as a breeding stock, where they have thriven without interruption, and have attained a size and weight exceeding the standard which the trout usually reaches at the same age in the rivers of Great Britain. For several months past it has been anticipated that some of these fish would spawn during the present winter season. This expectation has now been fulfilled, and the Commissioners have the pleasure of reporting that a considerable number of ova have already been secured from a few of the trout, and that others are on the point of spawning.

The Commissioners cannot say with any certainty what will be the number of ova which the present season may yield, but from so small a body of fish in the first year of their spawning the produce will necessarily be limited. They hope, however, to be enabled to furnish an immediate supply to the Council of the Victorian Acclimatization Society, and to the association lately formed at Launceston for procuring the early stocking of the rivers in the northern division of the Colony, who have given a guarantee that suitable preparation shall be made for the safety and due hatching of the ova that may be intrusted to them.

The Provinces of Canterbury and Southland, in New Zealand, from both of which pecuniary contributions have been received in aid of the undertaking, as stated in their last Report, have a just claim to share in the benefit of our success, which the Commissioners gladly acknowledge, and which it will be their anxious desire to satisfy at the earliest possible opportunity.

At Christchurch a pond and hatching boxes have long since been constructed under the superintendence of Mr. Johnson, Secretary to the Acclimatization Society of that place. This gentleman has further offered to come in person to this Colony for the purpose of receiving and conveying to Christchurch such supply of ova as the Commissioners may be able to furnish, and which it will afford them much gratification to provide during the present season, if the numbers of ova at their disposal should prove sufficient.

The claims of other localities will be attended to as rapidly as possible, according to the means which may be at the command of the Commissioners.

In another year a much increased number of ova may be expected from the same fish; and in the meantime other centres of supply will have been established, from which ova or fry may be distributed in all directions.

It may be expected, according to the preponderance of authority on that long-disputed question the duration of the stay of the salmon in the sea, that the fish produced from the hatching of 1864 will return to the neighbourhood of their birthplace towards the end of the present year, when their arrival will be anxiously looked for as the happy consummation of this great enterprise.

The English trout may be now regarded as established in our rivers beyond all risk of failure; and the Commissioners entertain a confident belief that the young salmon already set at large in the Derwent, with the still larger number which they have lately succeeded in hatching and are now thriving in the ponds, would suffice for the ultimate stocking of our waters with this still more valuable fish. At the same time, their opinion that this great work should never be regarded as fully accomplished until the fish have returned from the sea, and provided the means of further propagation, remains unchanged. They therefore very earnestly recommend that they should be authorized and