

PARADISE DUCK (*Casarca variegata*).

Paradise duck are slowly gaining ground, but none were hatched artificially last season. One clutch of seven were hatched naturally on the lake-shore and brought up by the parent birds in the lakelets in the Gardens, where they still frequent, and form a great source of interest to visitors.

BREEDING-SANCTUARIES.

Important assistance in the work of breeding will be derived from the recent declaration of several breeding-sanctuaries in the district. These now include Lake Okareka, Lake Okataina, Okere Falls neighbourhood, the southern shore of Lake Rotorua, and Lakes Rotoaira and Rotokawa in the Taupo District. The most important is the southern shore of Lake Rotorua, as this includes the areas frequented by the birds which are living in a semi-domestic state in the Gardens, and which will yield a most valuable supply of eggs for artificial breeding for distribution purposes.

RABBIT-POISONING.

One of the most serious causes of the destruction of the pheasants encountered in the district is the custom of laying poison for rabbits. As long as this is done systematically it will be impossible to stock the district with game. The relative importance of breeding game and of destroying rabbits is for other authorities to estimate, but it would appear possible to destroy the rabbits just as effectually, and with much greater certainty as to the result, by offering a reward for their scalps and encouraging sportsmen to shoot them, and trappers to build up an industry by opening up a market for rabbits. Such methods would be much more remunerative to the district, and would not be so cruelly fatal to the interests of a sport on which, to a considerable extent, the success of Rotorua as a tourist resort depends.

GUN LICENSES.

The greatest difficulty met with in ranging is the young fellow who is out with a gun evidently intent on killing whatever comes in his way, but who, when challenged to produce his license, declares that he is looking only for rabbits. Even if he has a pheasant in his bag he can usually slip it out of sight before being accosted by the Ranger. As long as there is no restriction on the carrying of firearms, this will always remain a serious loss of revenue, and a serious cause of the wanton destruction of the game, as well as of risk of life and limb. If, instead of a license to shoot certain game for a fee of £1 per annum, a license at the same fee to carry a gun could be made compulsory in all places, except on a person's own lands, it would react largely in the interests of true sport, and would reduce the number of gun accidents to a very large extent by keeping guns out of the hands of irresponsible boys. In a tourist district such as this, very little opposition would be raised to such a provision, except from those who are desirous of indulging in illegal or unjustifiable shooting. The farmers themselves are with us to a man in the protection of the game on their lands, and co-operate heartily in every possible direction.

TROUT HATCHING AND DISTRIBUTION.

Very active and successful work has been accomplished in this direction during the year. The hatchery erected last year by the Public Works Department on the Waikuta Stream, four miles from Rotorua on the Tauranga Road, was taken over by this Department on the 21st May, and Mr. E. F. Rutherford immediately took charge. The stream at this spot is most suitable for hatching purposes, rising direct as it does from natural springs a few yards above, thus insuring a uniform flow, uniform temperature, and freedom from floods and contamination. The temperature of the stream is 53° Fahr., giving excellent results. At this low temperature hatching is slow, the period of incubation being thirty to thirty-six days, as compared with twenty to twenty-four days in the ordinary drainage streams at 58° to 60° Fahr. This long period of incubation results in much healthier fish, and gives better opportunities for proper attention and transport as eyed ova when required.

The hatchery herewith shown in the photograph is a very suitable building, 18 ft. by 29 ft., containing six hatching-boxes each 15 in. wide, 7 in. deep, and 12 ft. long, giving a total capacity of half a million ova at each filling.

The Waikuta Stream itself is too small to carry good stock fish. For this purpose the Fairy Stream, a mile nearer Rotorua, was selected, and half a dozen stripping-traps formed. Stripping was commenced on the 24th June, and continued at intervals up to the 13th September. During this period of twelve weeks 1,500,000 ova were taken, which filled the hatchery three times. Of these, 94 per cent. were successfully hatched, and distributed as follows:—

July	26, Puarenga Stream above Whakarewarewa Geysers	...	25,000
"	29, Tahunaatara Stream	...	50,000
"	30, Lake Okataina	...	50,000
"	31, Whirinaki Stream	...	50,000
August	1, Lake Rotoma	...	50,000
"	6, Wanganui River at Taumarunui	...	50,000
"	6, Ongarue River (various points)	...	100,000
"	10, Oraka Stream	...	50,000
"	10, Pokaiwhenua Stream	...	50,000
"	14, Mangaharakeke Stream	...	50,000
"	22, Taringamutu Stream	...	100,000
"	20, Toripatahi Stream	...	30,000
"	28, Mangakaha Stream	...	40,000