

a young duck, but I think it quite likely that the young ducks found in rat-holes in the gardens were only dead ones that they had collected.

For the first few weeks the young wild ducks appear to live wholly on live or drowned flies and moths and tiny water insects, with perhaps some vegetable matter, but certainly no seeds or grain, because there are none at that season. An eddy or backwater in a stream is their favourite feeding-place, and it stands to reason that if we keep a lot of big ducks in the breeding-ponds to eat all the tender things the young ones are likely to starve or be poisoned with unsuitable food, to say nothing about the big ones' jealousy and probable violence.

It seems also that there is a broad rule among animals demanding plenty of exercise for breeders, because the want of this will account for the many hard-working wild creatures that refuse to breed in captivity. Therefore the drakes should be allowed to fly a little if possible, and to fight as much as they please, so long as they do not trespass on the young ones' feeding-grounds.

When grasshoppers were plentiful, and before the advent of ferrets, I knew a pair of paradise ducks to rear twelve young ones. I think that when they are about three months old they would thrive on grain, and a little later would be able to take care of themselves among the big ducks, and would not need the pond to themselves all the year.

In conversation with Mr. Russell, we were agreed that paradise ducks are quite content on grass far away from the water, where they often hatch their young ones, as if they knew that they would be better out of the water until they were well able to run; so that our plan of asking them to hatch on the edge of a pond may not be nearly so intelligent as that of the ducks, because we do not know so much about the conditions they require.

The following notes on the paradise duck are from the pen of Mr. Richard Norman, of Albert Town, and appeared in the *Otago Witness* on the 11th December, 1890:—

"The paradise duck is more properly a goose than a duck, as it takes more after the former than the latter. They used to breed in this neighbourhood some years ago, but as the 'paleface' has changed the order of things they have retired into the back country. In the early days grass was good, and the fine tender grasses were abundant, so that they had plenty of green food. Grasshoppers of many different colours and other insects were abundant, so that they could always get plenty of food. The sheep, the rabbit, the sparrow, and the imported birds have changed all this. In the Matukituki Valley, which is similar to the condition of things as they existed here years ago, perhaps a couple of dozen pairs breed every year. I obtained a couple of young ones before they were able to fly, when they are always called 'flappers,' to send to the Dunedin Botanical Gardens. I thought them the most innocent creatures that could be imagined, with their mild gentle eye, and plaintive quacking and frightened manner, and the entire absence of any attempt to use their beak and wings. Of this pair Mr. McBean, the curator, has a fine duck, which is there much better off than in its wild state. Any one living near a railway-station who can procure a pair of 'flappers' should send them to the Gardens, where they would be highly prized and well taken care of. They get remarkably tame if they are taken in hand when they are ducklings. They show much attachment to their home. When the writer's father and mother lived at Pembroke (then known as Roy's Bay) thirty years ago they reared a brood of young ones which became so tame that they proved a nuisance, and were always coming into the houses. They would follow my mother about everywhere. At last they were sent to the Wanaka West station by water, twelve or fifteen miles away. A few days afterwards the biggest drake swam back. He could not fly, as they had been pinioned. He was complacently waddling up the track to the house when a man who came there that day shot him, not knowing that he was a tame one.

"The paradise duck should make a valuable addition to our poultry-yards, and unless this means is adopted for preserving the species it will become very scarce in a few years, perhaps extinct. People think because they see a few hundred in a stubble paddock or in a small valley that they are as thick as 'leaves in Vallombrosa,' when the fact is they have congregated there from a very large surrounding area.

"As the birds in New Zealand have not been subjected to countless ages of persecution, amounting almost to extermination, they are comparatively tame, and not cunning enough to successfully combat all the arts and wiles of their new enemies bent on their destruction. Some of the species must become extinct before the remainder have adapted themselves to the new order of things. The ferret, with its sharp claws and teeth and villainous beady eyes, is the worst foe of the lot, and more destructive than the whole of the other enemies combined. In many cases the shooting season begins too early. In late summers and fine open winters the paradise duck rears a second brood, or, at least, breeds late in the autumn; and when sportsmen come round with breechloaders and pour a perfect fusillade of leaden hail into a flock, many young ducks, which are not strong of wing, sometimes barely able to fly, come to grief at once. The spirit of destructiveness in Englishmen is so strong that it is no wonder that the Frenchman witheringly remarked that when they had nothing to do they would go out and 'kill something.'"

IMPORTANCE OF ISOLATION.

In 1898 Mr. W. W. Smith wrote: "After some years of experience in breeding paradise ducks I find it is very important to isolate them before the nesting instinct develops for the season. If success is to follow they should be placed in a large, sunny enclosure, away from public gaze or interference. They should also be supplied with little stone caves, or cool shelter-places, formed by placing a few large stones in heaps, in which they readily lay their eggs. In their natural state they almost invariably nest in crevices of rocks, or under large stones in the valleys of the upper reaches of the rivers. In captivity they lay better by adding a little clean, fine bonedust to their food. Pollard mixed into a dryish paste, with which the bonedust is easily