

NOTES ON ANATIDAE SEEN ON WORLD TOUR

by Peter Scott

MAGPIE GEESE (*Anseranas semipalmata*)
GREEN PYGMY GEESE (*Nettapus pulchellus*)

(Near Darwin, Northern Territory of Australia)

From Darwin our destination was a forty-mile drive south towards Alice Springs, then twenty miles east to the floodplain of the Adelaide River.

Friday 9 November 1956

WE drove through mile upon mile of sparse eucalyptus forest with occasional Kites visible above the trees. At last over the corrugated road we came to the original homestead of Humpty Doo. Just beyond was the Government rice project, and a mile or two beyond it again the private enterprise project of Territory Rice Limited. But we forked off after the homestead in order to go down by a track which would show us our first Magpie Geese. The eucalyptus woods gradually gave way to Pandanus palms and then we were at the edge of a great open plain, with black, cultivated earth in the foreground and lush grass beyond. A couple of miles away was a low hill with scrub and trees on and around it, and various groups of trees were dotted about the plain. Just beyond the 'sea-wall', which encompassed the rice-fields, was a line of black-and-white



Magpie Goose (*Anseranas semipalmata*)

birds nearly half a mile away—our first Magpies—and in the tree where we stopped the land-rover were about a dozen white cockatoos—Little Corellas. Hanging on stakes around the small rice paddy were a Magpie Goose and half-a-dozen cockatoos which the crows were busily eating. Geese and cockatoos and finches are all pests to the rice-grower.

After lunch at the Territory Rice headquarters, we went again to the rice-fields. Here, Harry and Stephen¹ had put down bait for the geese, but the cockatoos were the only birds which had found it. We walked across the black, crumbling earth behind the flood-bank in order to get near to a group of 200 geese which were still close outside it. We took some film and some stills. Among the geese I could hear the chatter of Radjah Shelducks, familiar from the Orchard at Slimbridge. Here they are always called Burdekin Ducks, and there were three of them, two females and a male. The geese were not very wild but would not sit at less than about a hundred yards. Further on there were more geese, mostly a few hundred yards away. There was quite a large flock—known in Australia as a mob—which we later estimated at about 1000 and counted as 1002. Some of the geese were flying over the flood-bank to feed in the back fields, but only a small number, under 50. Nevertheless, the geese and their setting and movements were vaguely reminiscent of the Pinkfeet on the Wash—perhaps particularly at Terrington in the old days when they fed on the saltings.

We had been there for an hour or so, enjoying so many new birds, when suddenly the whole mob of geese rose and swirled in the air. Some of them came right over us and there were astonishing aerobatics. Whether an eagle was the cause we do not know, but it was a most exciting moment when they flew close overhead in a tight mass.

Later, Harry took us to another part of the river plain. This was unspoiled by the new rice-growing projects—so far. Here again was a great mob of Magpie Geese, perhaps 1500. Most of them were feeding in a black swamp close to the Pandanus jungle, across a sort of bay in the open plain. Hitherto we had been very much inclined to believe that these birds were, in fact, geese. So much of their behaviour seemed characteristically goose-like; their flock reactions, the way they 'decoyed' in and settled just like Pinkfeet, the V-formations in flight, the alarm notes in their language—everything seemed to indicate that *Anseranas* was a goose; not a screamer, nor a crane, nor a stork, but a goose. But now here was a new feature of its behaviour. The birds were still arriving at the feeding swamp, flying in parties from a temporary roost in the *tops of the eucalyptus trees*. Several hundreds were still perched there on the topmost branches. We wondered particularly about this behaviour when, a few minutes later, we saw a dingo coming along the edge of the forest. Here was a reason for the tree roosting, but then the dingo was introduced by humans (or so it is believed), no doubt thousands of years ago. But could the tree habit be of such recent origin? And then I remembered the newly hatched gosling which had gripped my finger with its long prehensile toes two months ago at Slimbridge. The tree habit is evidently of very long standing. But I still think that *Anseranas* is more of a goose than anything else—albeit an extremely aberrant one.

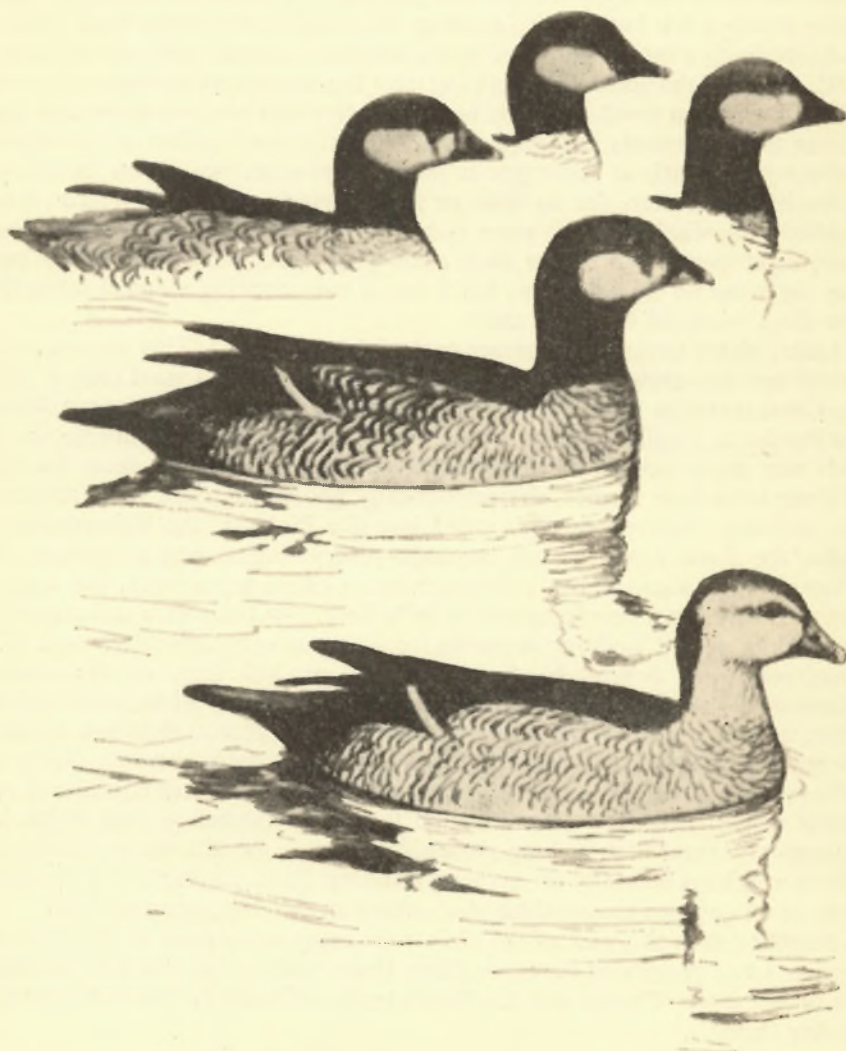
Farther out in this part of the plain were many more geese at the edge of a lagoon near a prominent dead tree. Here, Harry told us, was where he had made his record catch of geese with his 'boom trap'—350-odd at one shot—in order to ring them.

¹ Harry Frith, in charge of a special study of the Magpie Goose undertaken by the Commonwealth Scientific and Industrial Research Organisation, and his assistant, Stephen Davies.

Saturday 10 November

. . . After breakfast we set off on an excursion to a special creek, or billabong, on which Harry Frith promised we should find Green Pygmy Geese. It was a longish drive across a part of the plain which becomes impassable after a rain-storm. . . . For me this drive was enhanced by frequent views of a fine monitor which is known as a Goanna (clearly a corrupted form of Iguana). They were astonishingly swift over quite long distances, often 100 yards or more to the nearest cover. As we reached the creek there on the first patch of open water was a trio of Pygmy Geese. The first distant view of this little bird was disappointing. They sat alert and motionless watching our clattering approach in the land-rover. The male looked exactly like a minute Richardson's Goose.

We worked our way along the creek which was in most parts about 20 yards



Green Pygmy Goose (*Nettapus pulchellus*)

wide. There were a few geese at various points and three groups of 9 Pygmy Geese. In one part, sitting in the trees, were Cattle Egrets in full plumage with dark buff heads and backs. Four Spoonbills with black bills were feeding in the creek. After about three-quarters of a mile the creek gradually dried up. In the last major pool were 50 to 60 Magpie Geese, 9 Pygmy Geese and a pair of Australian Black Duck (*Anas superciliosa rogersi*). This was our first positive identification of Blacks. They were rather stained and looked very dark among the green floating leaves. The birds left this pool and we decided to build a hide at the foot of a bamboo bush by the water's edge. When it was complete, Phil and I climbed into it. Harry waded out in the black mud (in spite of alleged crocodile risks) to see how well we were hidden from the water.

Then began a tremendously exciting hour. The Magpie Geese came back, but failed to settle and went away on up the creek. Some of the Pygmy Geese settled short about 60 yards from us, but some spread on to us and even passed us and then swam back to our pool. At first they were nervous, but gradually they got used to the camera noise and settled down. They were in pairs mostly, some trios. They displayed continuously, the females tipping their heads like Tufted Ducks, the males less intensively doing the same. Males made little rushes at approaching pairs and were counter-attacked. There was a short display flight of about 6 feet performed by the male only. The female's chin-lifting was done while following the drake, and is clearly analogous to the sideways 'sicking' of Mallard and Goldeneye. The little birds spent more than half an hour within 50 feet, which meant that one or two filled the screen with a 6-in. lens. I saw a curious wing opening movement rather like the one in *Dendrocygna* which must be associated with heat and ventilation of the body. Finally Harry came and put them up and they flew off up the creek, turned and came back past us again. In flight they have a very prominent white patch on the secondaries. They are then very reminiscent of Goldeneyes. As they fly there is a delightful little high whistle which sounds most attractive as the flock goes by. We had a chance to observe the individual variations in bill colour and plumage. The bill is black with a pink nail, but some, if not all, have pink lower mandibles, and in one male the pink spread up half-way along the upper mandible. The top of the head is dark brownish-black and it is only the neck and back and wings that are bottle-green. The grey breast and flanks are disclosed at close range as superbly marked in bold vermiculations, making an almost marbled pattern. The flank feathers rise surprisingly high over the back; in one case a detached tongue of feathers *above* the speculum. The white of the belly encroaches on the breast and flanks in some individuals of both sexes.

One curious feature is the prominence of the wing-tips when folded. They cross to an extreme degree and give a most characteristic appearance. The face pattern of the males is variable, some having an entire white cheek to the bill, others (more common) having a dark line downward and slightly forward from the eye; and one had nothing but a small lozenge of white on the cheek, just like a Canada Goose.

At close range one could no longer be disappointed by these lovely little birds. They were as beautiful as their scientific name suggests.

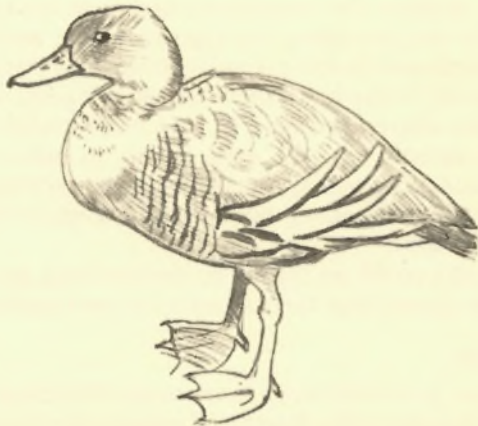
Sunday 11 November

. . . Our plan was to go farther afield to try to see Whistling Ducks. There was a lagoon beyond Beatrice Hill—Beatrice Lagoon—lying farther north where a mob of *Dendrocygna arcuata*, the Wandering Tree Duck, might be expected

to be found. . . . This was the hottest day since our arrival and by now it was noon. We had driven past some of the geese and now we came to an arm of the lagoon which had a fine concentration of birds. . . . Beyond and among the geese were some ducks; lots of Burdekins, a few Blacks and some Tree Ducks which we took to be Wandering, but they were distant and the heat-haze shimmered. There were also many Stilts, and in one place a Glossy Ibis. Eventually Stephen put up the main lot of the geese, 1500 in the air at once. . . . After lunch under a shady tree, we had another look at the ducks which had accumulated in the lagoon, and I found a small party of Grey Teal (*A. gibberifrons*) which were at once identifiable when one saw them with Black Ducks in company. There were also 36 Burdekin Ducks. Further up the lagoon were a lot more Blacks and Grey Teal. In silhouette the Grey Teal looked like little Pintails, and even the Blacks looked lean and pointed of tail so that I thought for a moment I had found some Pintails. . . . On the way back to Humpty Doo we drove into Pandanus jungle so thick that we had no choice but to retrace our track, and finally we decided to go back all the way by the track we had come out on. 'Who knows,' we said, 'maybe we shall see something nice on the way!' And so it was—for we came to a small lagoon which somehow we had missed on the way out. It was covered with geese which were feeding on both banks, but down at the water's edge there were lots of Tree Ducks: so far from being the expected Wandering, they were all Plumed. I counted 130 and there were more in dead ground. Harry said this was unexpected, although he had once seen *eytoni* there before. For a while we watched them from a couple of hundred yards, and then decided to go down and build an impromptu 'humpy' (Australian for hide). So we walked behind the truck as it went down to a small tree at the edge of the billabong. Here we broke down enough branches to hide Charles Lagus and me, climbed inside and let the truck drive away. An hour later we emerged with what should be some adequate film of these decorative birds.

Monday 12 November

We had spent the night in Darwin so as to fly in a chartered 'plane early next morning to locate and count the geese and to visit the famous Mission Station at Oen Pelli.



Plumed Whistling Duck (*Dendrocygna eytoni*)

Wandering Whistling Duck
(*Dendrocygna arcuata*)



. . . At 7.15 we were at the airport and soon after were boarding a De Haviland Dragon. I swung the props for the pilot, and we were off. The plan was to fly low over certain parts of four or more rivers and estimate the numbers and distribution of the Magpie Geese, and then fly on to Oen Pelli (the beautiful lagoon) for lunch, and return by way of other known goose concentrations, particularly one called Goose Camp.

The low flying was immensely interesting and enjoyable. The goose flocks looked wonderful rising below us in the sunlight. The buffaloes sniffed at us with laid-back horns and we could identify every reasonable-sized bird we had seen during the previous days, and saw several more, including Black and White Pelicans, a Red-backed Sea Eagle and Black Cockatoos. We saw the Bustard, which is called the Plains Turkey—in one case a pair with a striking difference in size. We saw the White Torres Strait Pigeon with black wings and tail tips, the White Ibises, the Straw-necked Ibises looking like geese, and even two lots of Glossy Ibis. And everywhere we saw Magpie Geese and buffaloes.

Of the ducks, we saw lots of Burdekins, Blacks, a few Grey Teal, occasional Green Pygmy Geese, and at various times Tree Ducks which looked dark enough to be Wandering. In some of the swamps grew a scarlet duck-weed, which made bright splashes of colour down below.

Suddenly we came to steep hills with rugged cliffs, and nestling at the edge of them was the Mission Station beside its 'beautiful lagoon'. As we came in to land, a large flock of geese rose from the lagoon in company with undoubted Wandering Tree Ducks. It was very hot indeed when we emerged from the 'plane to meet the missionary and his wife, Mr and Mrs Ash. From their new house overlooking the lagoon I discovered that the surface was dotted with Green Pygmy Geese among the water-lilies—there were perhaps 200 on the whole lagoon. Besides these, there were several groups of Magpie Geese, perhaps 300 all told, feeding on the banks or up-ending among the weeds, and there was a tight bunch of several hundred Wandering Tree Ducks diving for food just opposite us on the far side of the lagoon. . . .

From a dug-out canoe on the lagoon I was able to film some of the birds. . . . I found that we could get quite close to the geese and even closer to the Pygmy Geese, but that the Tree Ducks were much wilder. . . . We had to leave after only 3½ hours at Oen Pelli, as we had to avoid thunderstorm risks. We flew round the edge of the hills to another beautiful secluded lake called Red Lily Lake, but it had very few geese on it. From there we went to an area known as Goose Camp—being where the geese are in the habit of camping or con-

centrating. The most we had seen in one mob on the outward flight in the morning had been what I called 10,000 and Harry called 8000, but this group of lakes contained four or five times that number. On one smallish, round lake there cannot have been less than 20,000 and in the whole system, say, an area of about 5 miles square, there were at least 50,000. In some places they rose in clouds from dense concentrations round the lake shores. Flying at between 50 and 100 feet we saw them marvellously well. . . .

MUSK DUCK (*Biziura lobata*)

AUSTRALIAN WHITE-EYE (*Aythya australis*)

AUSTRALIAN SHOVELER (*Anas rhynchotis rhynchotis*)

BLUE-BILL (*Oxyura australis*)

(Near Perth, Western Australia)

Thursday. 15 November. Musk Duck

. . . Our first destination was a suburban pool called Butler's Swamp, more recently re-named Claremont. This was perhaps 40 acres of water with many dead trees entirely surrounded by houses, rubbish tips, ruined and half-flooded buildings and roads. And yet in the space of less than an hour we had seen four new species of Anatidae which I had never before seen alive. These were Musk Duck, Blue-bill (Stiff-tail), White-eye, and finally, Australian Shoveler. There were also Grey Teal, Black Duck and Black Swan. The rest of the list was as follows: Dabchick, Coot, Moorhen, Porphyrio, Pelican, White-fronted Heron, Banded Plover, Silver Gull, Stilt, Little Black Cormorant.

It was really astonishing to find so many new birds on such a small and unpromising-looking lake. But of course the star turn was to have seen four new ducks. I cannot remember the last time when such a thing could have happened—perhaps on my first visit to Walcot Hall or my first visit to California—anyway, not less than twenty years ago.

The most peculiar of the four was the Musk Duck (*Biziura lobata*). This is a huge Stiff-tail in which the males are half as big again as the females with a large pendulous lobe under the bill, perhaps twice the diameter of a half-crown. The female has no lobe, or only a very small one. Those we saw with half- and



Musk Duck (*Biziura lobata*)

quarter-sized lobes were almost certainly young males. Musk Ducks were very common on almost all the waters we visited; we had a good opportunity to see them, and in one case (at Mongers Lake) watch the display which is accompanied by a curious single whistle. It is a typical Stiff-tail display, using the tail and characteristically complicated, with a splash of water thrown up, I thought, by the foot, although apparently some people hold that it is done with the wings. The effect is rather like the Goldeneye display. Musk Ducks look more or less black and only at close range with binoculars can one see the paler spotting. They have an untidy and dishevelled look, but the most striking impression I gained was the extraordinary resemblance in shape and position in the water to the African Whitebacked Duck (*Thalassornis*). Even the feathering of the head and neck was immediately reminiscent, and the position of the head, held slightly back with the bill pointing slightly up, was strikingly similar. A young Musk in silhouette was almost indistinguishable from a Whiteback if the scale was not apparent, and its extremely aquatic habits—swimming very low in the water, always diving—virtually never flying except to move from waters which are drying out—all indicated a close similarity. Of course it may be a case of convergence and there may be no close relationship, but on the other hand the impression of resemblance was so strong that I am inclined to think there must be a not-too-distant common ancestry.

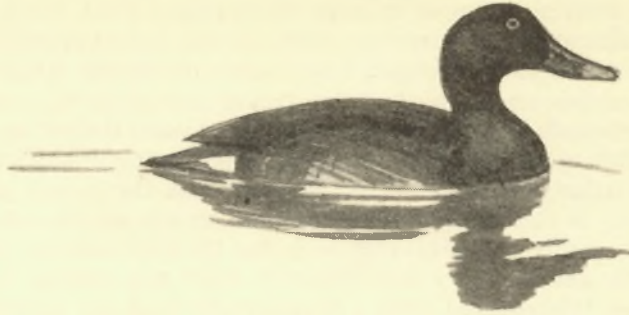


Blue-bill (*Oxyura australis*)

Blue-bill

The next species we saw was the Blue-bill, the Australian Ruddy Duck. This looks exactly like the Maccoa or the two South American species, but it has a complicated display quite unlike the North American and very amusing. I have so far only seen it once and the first part of it a second time. The first part consists of slightly raising the body in the water and pointing the bill down the breast as if trying to preen neck feathers. On one occasion this was immediately followed by a dive. I am not quite sure how this fits on to the second half, which consists of bringing the tail over the back, submerging the head and flopping the wings in the water as if the bird were *in extremis* and about to drown. At some stage in this a jet of water is thrown up by the foot. I hope to see and perhaps film this display at a later stage.¹ The female is much more heavily marked than in the North American Ruddy Duck.

¹ Unfortunately neither opportunity materialised.



Australian White-eye (*Aythya australis*)

Australian White-eye

The third new duck we saw was the White-eye. The pale tip to the bill in the male is the most striking feature. When one comes to look at this species critically, both the male and female, it seems evident that it is more closely related to the Southern Pochard than to the White-eyed Pochard. It is a sort of link between the two. This was confirmed at Bibra Lake on the following day when I had an opportunity of seeing a brood of five- or six-day-old ducklings. These looked exactly like young Southern Pochard and not at all unlike Red-crested Pochard or Rosy-bills. This bird may be more of a *Netta* than an *Aythya* in spite of its white eyes and the male's white belly. Near a rubbish tip I crept quite close to a pair of White-eyes sitting on a log. When the drake jumped off into the water he displayed with a bulging of the throat, and I also saw a head-throwing-back as in *vallisneria* (Canvasback) and *ferina* (European Pochard), indicating that it is still related to *Aythya*. I think it may prove to be quite close to *baeri* (Baer's Pochard).

Australian Shoveler

The fourth new duck we saw was a pair of Shovelers. These flew near us and then pitched, and we had a good opportunity to look at them, but the drake was in full eclipse and could not have looked more like the female. There was no sign of the white crescent, but as this was the latter half of the breeding season his dull plumage was not surprising.



Australian Shoveler (*Anas r. rhyngotis*)

Pink-eared Duck



THE PINK-EARED DUCK (*Malacorhynchus membranaceus*)
MOUNTAIN DUCK or **AUSTRALIAN SHELDUCK** (*Tadorna tadornoides*)
(Near Perth, Western Australia)

John Warham gives an account of his observations on nests of the Pink-eared Duck on pp. 118-127 of this Report.

Our first encounter with the Pink-ear was on a river leading down into Dumbleyung Lake.

Saturday 17 November

. . . We travelled down river in a boat with an outboard-motor among flooded bushes and tree stumps. The river was stagnant—a creek which in many places was spanned from bank to bank by dead bushes and trees. Grey Teal and some Black Duck kept flying in front of us, occasionally breaking back where the river curved round. The commonest water birds were Coots. A few Musk Ducks dived in front of us. Black Swans swam ahead and two pairs had small downy young. We had been going for more than half an hour and I was beginning to think that maybe we weren't going to find any Pink-eared Ducks, which had been promised in good numbers on the river, when we came round a corner and there at once were some among the Teal. There was hardly time to look at them as we sped on with the outboard-motor, getting quite close to a few which seemed to be flightless but were probably well-grown young. One was evidently adult and flew a few yards at a time, apparently intending to lead us away. Some others had by this time taken off. Round the next corner, however, in a big lagoon were more or the same ones again. There were a party of four or five and a pair. We stopped the motor and tried to approach silently, but they would have none of us. However, I had a chance to look at them. The impression was that they looked surprisingly like what I had expected, and the illustration in *Phillips' Ducks* (which is by Louis Fuertes) is quite good, especially the distant one. This time when they flew I heard for the first time the little plaintive clicking whistle which is so characteristic of them.

Also in this open bay of the river were Mountain Ducks (*tadornoides*);

many of them young ones in a surprisingly dull and nondescript plumage, so much so that for quite a while I gazed at one in the fond hope that it was a Freckled Duck.¹

On the far shore of the lagoon were some Wood Ducks (Maned Geese) and a couple of Greenshanks. We turned back from here, having much trouble with the outboard-motor, and we found the Pink-ear doing a distraction display in the same place. We also found two well-grown young Pink-ears diving and swimming away low in the water like water-rats.

Sunday 18 November

After attempting unsuccessfully to film Pink-ears from a humpy, we again set out in the boat down the river towards the lake. . . . Almost at once we came upon small parties of Pink-ears, but then there was a long narrow stretch of river with nothing much but Black Swans. Towards the mouth of the river among the dead timber were crowds of Teal, many of them flightless, some flightless Black Ducks, and several flightless Mountain Ducks. There were also flightless Black Swans, but the only Pink-ears we saw which were unable to fly were apparently juveniles. We turned back just before we got to the open water of Lake Dumbleyung, and then on the way back we explored a lagoon lying to the south-west of the lake in which there were 20 to 30 Black Swans, and about the same number of Shelducks. Among these was a strange bird with a white head and neck. It was obviously a Shelduck. We wondered if it could be a stray female Paradise Duck from New Zealand or a hybrid with a Burdekin (Radjah Shelduck). We approached under oars and we came eventually to the conclusion that it was a schizochromic Mountain Duck, possibly a very old female in which the white round the eye had spread to the whole head and neck. This raises a rather interesting point. Certain females of other duck species (not necessarily exceptionally old, though usually at least several years old, I believe, unless artificially castrated) assume parts of the drake plumage. But in the Shelducks the female plumage is the brighter—at least in the '*Casarca*' species. This is most marked in the Paradise, in which the female even has an eclipse, but it is evidently true of the Australian, South African, and Ruddy also, in which the first plumage of the young is like the male and the white markings on the head (or the whole head in the Paradise) are acquired later. Now the point is, what would happen to the plumage of a castrated or cockish hen? Would it become like a male or would it develop even more ornate female plumage, even to the extent of an all-white head in the Mountain Duck? It would be interesting to castrate female Mountain and Paradise Ducks and see which happens.

On our return journey to Perth we were to stop at Lake Gundearing which was reputed to have a flock of 300 Pink-ears. At the first part of the lake, or rather an independent pool across which ran a causeway carrying a railway line, we found several hundred ducks, but nearly all Teal with a few Mountain Ducks and a few Black Ducks. On the shores of the main lake, however, we found some Pink-ears, and it was here that a bunch of about a dozen gave us our most interesting view—including some display. This was an upward tilting of the bill which is slightly open. It seems to be to some extent an aggressive affair, or perhaps rather a triumph movement after successful aggression. It

¹ The Freckled Duck (*Stictonetta naevosa*) appears to be the rarest of Australia's ducks. This and the white Australian Pygmy Goose (*Nettapus coromandelianus albipennis*) are the only two Australian ducks which I have still never seen alive.

was performed several times by birds who had successfully displaced another bird from a particular spot on a log on which the whole party was preparing to roost. When their heads were finally tucked away I noticed an extremely superficial resemblance to a sleeping Hawaiian Goose caused by the head pattern. This party of Pink-ears was very wild, like all the other ducks on this lake, and our attempts to get close enough to film them were completely unsuccessful. Thus we had not yet seen Pink-ears close enough to see the pink 'ear'. The characters of colour and plumage which were visible were the black head marking, the striped flanks, the white forehead and a warm buff on the under-tail coverts. Above this is a noticeable white line passing over the base of the tail. In flight as the bird comes towards you the white front is conspicuous; as it goes away, the white trailing edge to the secondaries and the rather narrow white transverse line across the rump. As a Pink-ear flies past, the most noticeable feature of its appearance is the raised head and slightly down-pointing bill. Just before we left we had one last view of some more Pink-ears with which one Shoveler was swimming. The comparison was most interesting. The head and bill were almost exactly the same size, but the body of the Pink-ear was a good deal shorter.

(Griffith, N.S.W.)

Saturday 24 November

We made our way to a place called Gum Crick where Harry (Frith) had a study area marked out with wire-netting fences. We spent a good deal of that day and the next trying to film Pink-ears on this lagoon. It was flood water from the Murrumbidgee River about ten miles away. The floods had come up originally nearly a year ago and had remained fluctuating for many months, with hundreds of ducks—indeed thousands—breeding all over the area. Here there was thick tall grass and other vegetation, hayfield height, round most of the water; frequent trees, most of them eucalypts but some pines, and a lot of the trees dead and standing, grey and barkless, in the water. Many of these trees were hollow, and it was in these that the ducks had been nesting six weeks ago. The bulk of the ducks—perhaps a thousand altogether—were Grey Teal, but there were probably two or three hundred Pink-ears, a few Blacks (one of them a flightless adult), a few Shovelers, a pair of Chestnut Teal, four Wood Duck (Maned Geese), two Musk Ducks and a family of Black Swans.

The following day, *Sunday 25 November*, was bright and sunny but there was a horribly cold wind blowing early in the morning. After breakfast beside Gum Crick we built a humpy, using an axe and some string and cutting branches

Display of Pink-eared Duck





from a neighbouring tree. A plant called roly-poly with adhesive seeds formed the principal cover. Charles and I both sat in the hide. With wet feet and a whistling wind we were perished sitting in the shade of the humpy. At first the Teal and a few Pink-ears only returned to an island about 60 yards away. But later, with Harry and Phil hovering about on the far side of the flood, a small group swam up to less than 20 yards, feeding away at great speed and practically without pause. They are much more rapid feeders, covering much more ground than the Grey Teal. The Pink-ears were aggressive to the Teal and once to a Wood Duck (*Chenonetta jubata*) which was sleeping inoffensively. The moment when the Pink-ears—five of them—swam their closest to our hide was immensely exciting. Charles and I, who had been very cold two minutes before, found we had quite forgotten the discomforts when we were filming. The birds were close for only a very short time, but Charles's 12-in. lens and even my 6-in. should have recorded satisfactory pictures. At last, too, we had positively seen the pink 'ear'—a carmine patch which appears to be hidden frequently by neighbouring feathers, and perhaps only shown by the bird at will.

Nearby was the house of some delightful people called Coppard, who had asked us to lunch. They had hatched some baby Pink-ears under a bantam and this was our first sight of the downy duckling. It was more or less the same colour as a Marbled Teal duckling, and was not at all so different from either Marbled or Cape Teal as I had been led to believe. The eye stripe was rather dark and markedly down-curved. Harry Frith said they were not as heavily marked as the first ones he had seen and described.¹ This brood consisted of five, and they seemed fairly healthy except for one which looked a bit small. (We have heard since from Harry that all five died within the following week.)

CAPE BARREN GOOSE (*Cereopsis novae-hollandiae*)

(Islands of the Furneaux Group in the Bass Strait, Tasmania)

We were staying with Dr D. Serventy on Fisher Island, headquarters for his research on the Mutton Bird (Short-tailed Shearwater, P. tenuirostris).

Saturday 1 December

3.30 a.m. . . . It was already almost daylight and there was a weird croaking coming from the burrows. The Shearwaters were making much more noise than they had made in the evening. Later when we got up for breakfast it was sunny

¹ The downy young of this species was unknown to science until collected by H. J. Frith in 1953.

and quite calm. The sea was like glass, a very rare kind of day for the Bass Strait. Charles and I filmed the Cormorant and the pair of Black Oystercatchers.

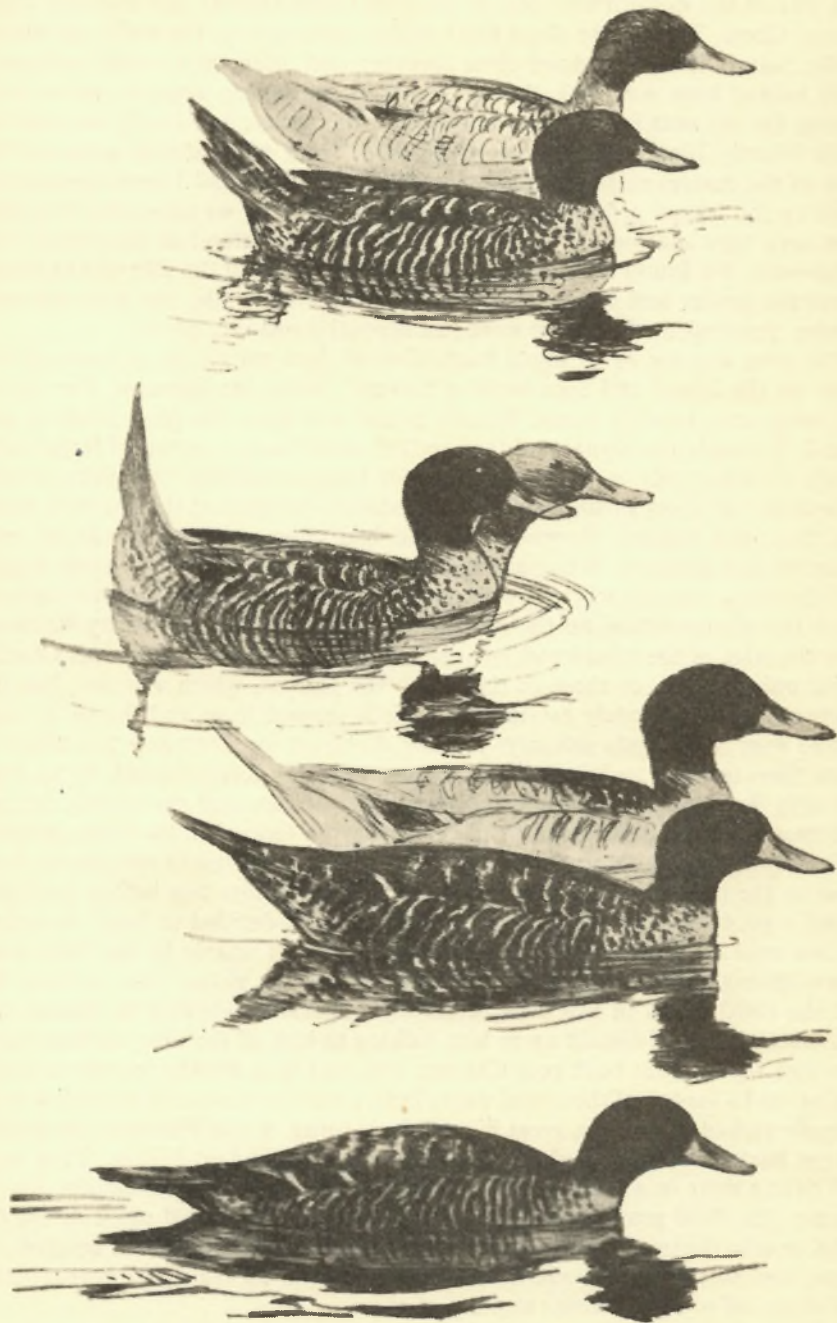
After breakfast Trooper Lou Bailey brought the police cutter to take us to the islands. She was a fine boat—thirty-seven years old—with a good cabin, a large cockpit, a mainsail bent on the spars but not used, and an auxiliary. We transferred the gear by dinghy and set off at once for the islands to the west.

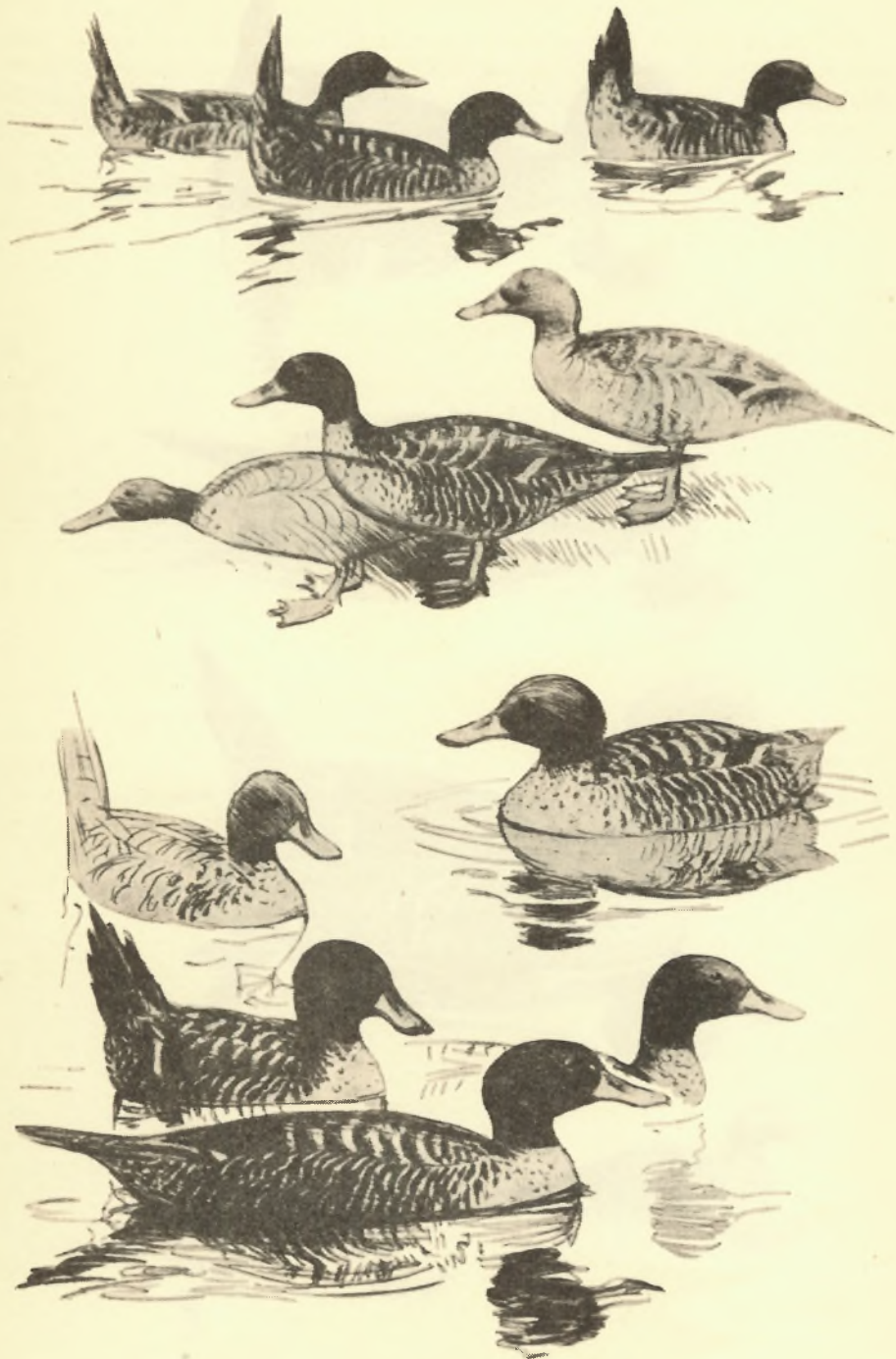
It was on the westernmost end of Big Dog Island that we saw our first Cape Barren Geese. There were three pairs widely scattered on the rocky shoulders of the island. The pairs stood close together and often on a rocky eminence. They looked huge and majestic and somehow supremely appropriate to their setting. On the next island there were three more pairs, and finally we came to Little Woody Island where we were to land. Here were several geese on the crest of the central ridge watching us. Charles and Phil and I were landed and crept up the island, getting some long shots of geese as we advanced, but they were very spry and mostly moved off to Big Woody Island or to a small reef in between. We found one hatched nest full of down and the pile of droppings where the gander had stood. We saw several other such piles but were not sure if these also indicated nests or were just favourite roosting places.

The plan was for us to signal back after we had got all the pictures of the geese on the island and then build a 'humpy'. When we signalled, the rest of the party were to walk round Woody Island and drive the geese back to our island. We made our signal and then settled ourselves in a group of large rocks which provided only moderate facilities for humpy-building. We planted rows of branches of a low shrub, fixed between stones, but were at the end of it much less than well hidden. However, the sun had come out and it was all very beautiful and pleasant. We could see the 'beaters' walking over Woody Island and the geese moving in front of them. Not many came our way until at last, when the accumulation on the reef was disturbed, a flock of nearly 40 swept over the edge of the island and low over our heads. With the 6-in. lens Charles could only get two or three of them into the picture, which was sad, but the moment was enormously exciting. The birds seemed huge and floppy as they passed over with heads sideways looking down on us. They saw too much to allow them to settle and went away, ultimately to Tin Kettle Island. So we were left with the strange grunting calls ringing in our ears and the feeling that we had been properly introduced to the Cape Barren Goose on his home ground. Before building the humpy we had seen a family of five geese running in front of us to the far end of the island. We decided to explore this before leaving. I found a goose skeleton with a perfect skull which I decided to keep. A minute or two later up jumped three full-sized goslings still unable to fly. They went down among some big jumbled rocks just above the shore; two of them hid but the third stood in full view, evidently undecided whether he should run or crouch. I walked almost up to him, talking to him all the time, circled round him and walked him back past Charles, who had been filming the whole thing, and up on to the top of the island where both I and the bird increased speed until I finally picked him up—a great big gander gosling. While Phil held the gander I went back to the place where the other two goslings had hidden. They were still sitting there in a rock pool. I persuaded them both out and caught one—a female. The third gosling had reached the sea before we could catch it. We decided to take the two goslings back to the boat so that they could be banded. . . . *Later, with another gosling which had been caught near the boat, they were released and swam off to their parents waiting off-shore.*

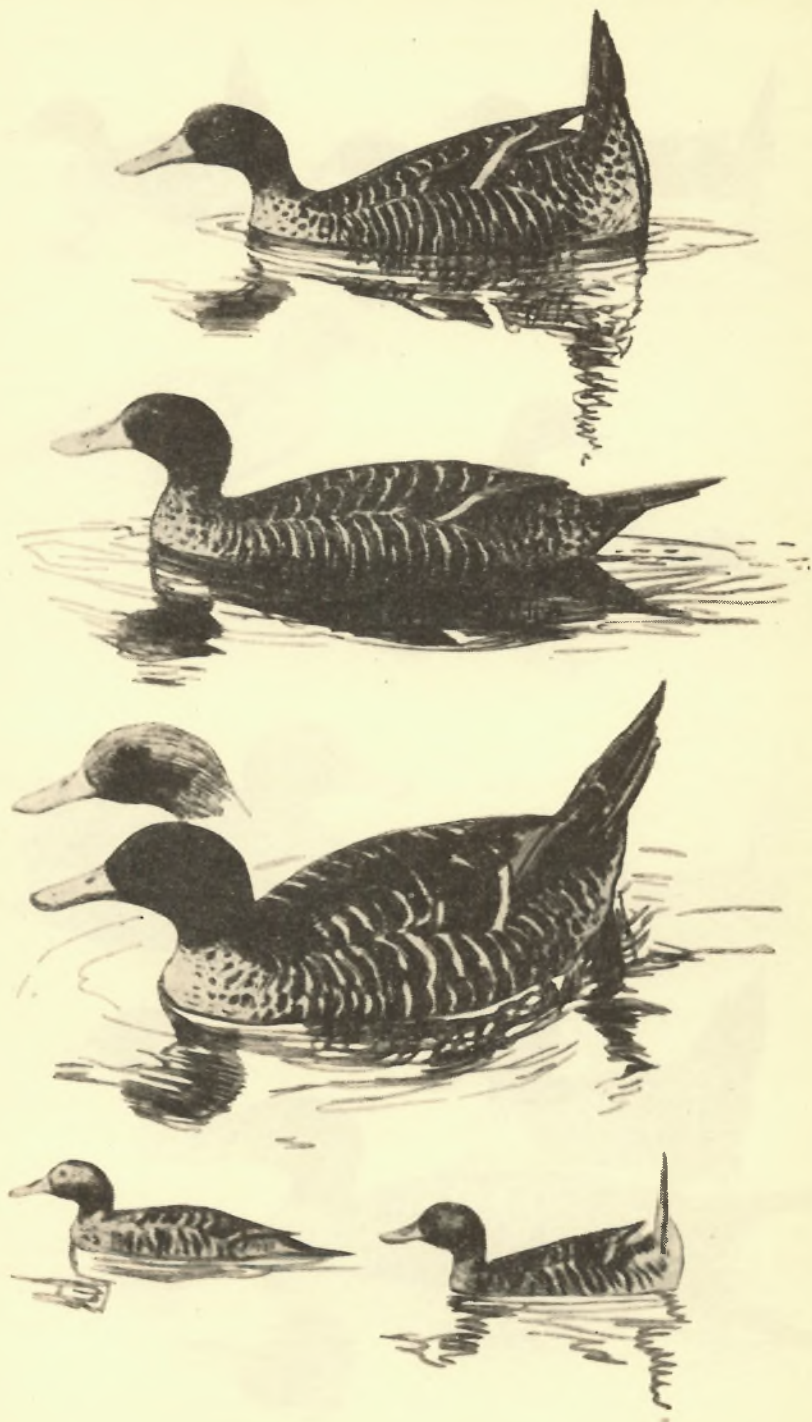
SALVADORI'S DUCK (*Anas waigiuenis*)
(New Guinea)

We saw Salvadori's Duck in the zoo belonging to Sir Edward Hallstrom and kept by Fred Shaw Mayer at Nondugl, in the valley of the Wahgi River in Central New Guinea.





Salvadori's Duck (*Anas waigiensis*)



Friday 14 December

The zoo, or should it better be called a sanctuary, covers ten acres. It consists of three ponds formed by dams across a shallow cleft. Around these are lawns and flower-beds and flowering shrubs and bamboos, and dotted about are eight or nine aviaries, beautifully planted up and somehow fitting most appropriately into the whole landscape. The collection consists of about 200 Birds of Paradise, some Bower Birds, Parrots, 3 Cassowaries and 20 Salvadori's Ducks, and a dozen or more Tree Kangaroos of three different kinds.

It was not unnatural perhaps that we could hardly wait to see the Salvadori's Ducks—Fred took us into the enclosure round the top pond and there at once was a pair of them about 15 yards away, at the edge of some sedges. The bird was more striking than I had expected. The yellowish flesh-coloured bill with no black tip was prominent and there was quite a sharp dividing line between the dark-brown head and the pale pinky-yellow ground colour of the spotted breast. The barring of back and flanks however was less precise and neat than I had painted in my illustrations for *The Waterfowl of the World*. Nevertheless it was quite a handsome bird. More surprising were its movements. It swam with a rapid jerky backwards- and-forwards movement of the head, caused apparently by nervousness or watchfulness, and the tail—which is very long—was carried at times almost vertically. After a while we saw the display. It was the only true courtship display behaviour we saw, though later we saw 'dashing and diving'. The male's head is stretched up and moved only slightly, in unison with a whistle. The whole of this is reminiscent of the Shelducks. The female meanwhile pumps her head up and down violently, emitting a series of croaking barks which are clearly analogous to the Mallard's quack.

In the next few days we had ample opportunity to become familiar with the bird. In feeding it frequently up-ended like any other dabbling duck, but it dived more readily and went under from a low-in-the-water posture, without making a ripple. It is obviously a very accomplished diver. It is also of skulking habit and largely nocturnal, as Fred told us of various occasions when he had seen them about the pens at night. Later I had a chance to handle three live birds, two males and a female. The female's head was much paler on the crown and forehead and more streaked. The wings are quite short but the speculum is very well marked, though the green is only on the inner half. The line of the white tips of the secondaries is extended to the tips of the inner primaries.

From all that we saw of the bird I have no doubt that it is a dabbling duck and should correctly be in the tribe Anatini, though whether it should be in the genus *Anas* is more doubtful. It is certainly not just another teal like the Cape Teal or Chile Teal. It is quite highly specialised for living in mountain streams, and the long tail and the jerky head movements are reminiscent of *Merganetta* (Torrent Ducks). The eye is rather farther forward than in most dabbling ducks, suggesting the requirement for increased binocular vision in order to catch living prey. Fred thinks that tadpoles form the basis of their diet in the wild state. He feeds tadpoles to his during most of the year, but in the wet season when they are harder to get he augments this with meat, sometimes tripe.

We failed to find any of these ducks in the wild state although we searched a high mountain stream and the slower waters of the Wahgi River. Time did not permit us to visit some mountain lakes to the north, where they were perhaps feeding at this time of the year (the wet season) when the streams are fast rushing torrents.

BLUE or MOUNTAIN DUCK (*Hymenolaimus malacorhynchos*)

(Lake Orbell, Takahe Valley, South Island, New Zealand)

The first Blue Ducks I saw were a family party in the Takahe Valley. We had just been searching in the pouring rain for the Takahe and were on our way back to the small hut for some sandwiches.

Sunday 30 December

Suddenly we came to the river and there was a family party of Blue Ducks. It was very sudden and unexpected and to me *very* exciting. I could see at once



Blue Duck

that there were four or five birds at least and the nearest were about 25 yards away. We afterwards found that there were five well-grown young, fully feathered, with their parents. The only differences in the young were that their bills were blue-grey instead of whitish-flesh colour, and their breasts were not spotted with chestnut colour as in the adults. They were also, of course, a trifle smaller. The drake sat on a rock in mid-stream and the duck was on the shore with the young making nervous head movements surprisingly reminiscent of both Torrent Ducks and Salvadori's. I managed to take a lot of film of the drake, getting as close to him as 30 feet. The bill was pinker, less yellow than I had expected in the adults. The tail was long but not quite so prominent as in Salvadori's or Torrent Ducks; the yellow eye was sharply contrasted with the blue-grey plumage. Although none of the birds flew, I noticed that both parents had full-length primaries at a time when one might have expected them to be flightless. The complete lack of speculum is a most puzzling feature. I heard the call which is a loud, rather rasping, whistle—not unlike a Wigeon drake—and which gives the bird its Maori name Whio, pronounced Few; there is also a croak which the male made frequently when I was at my closest. It would scarcely have been possible to imagine a more confiding or co-operative group of wild birds than these seven Blue Ducks.

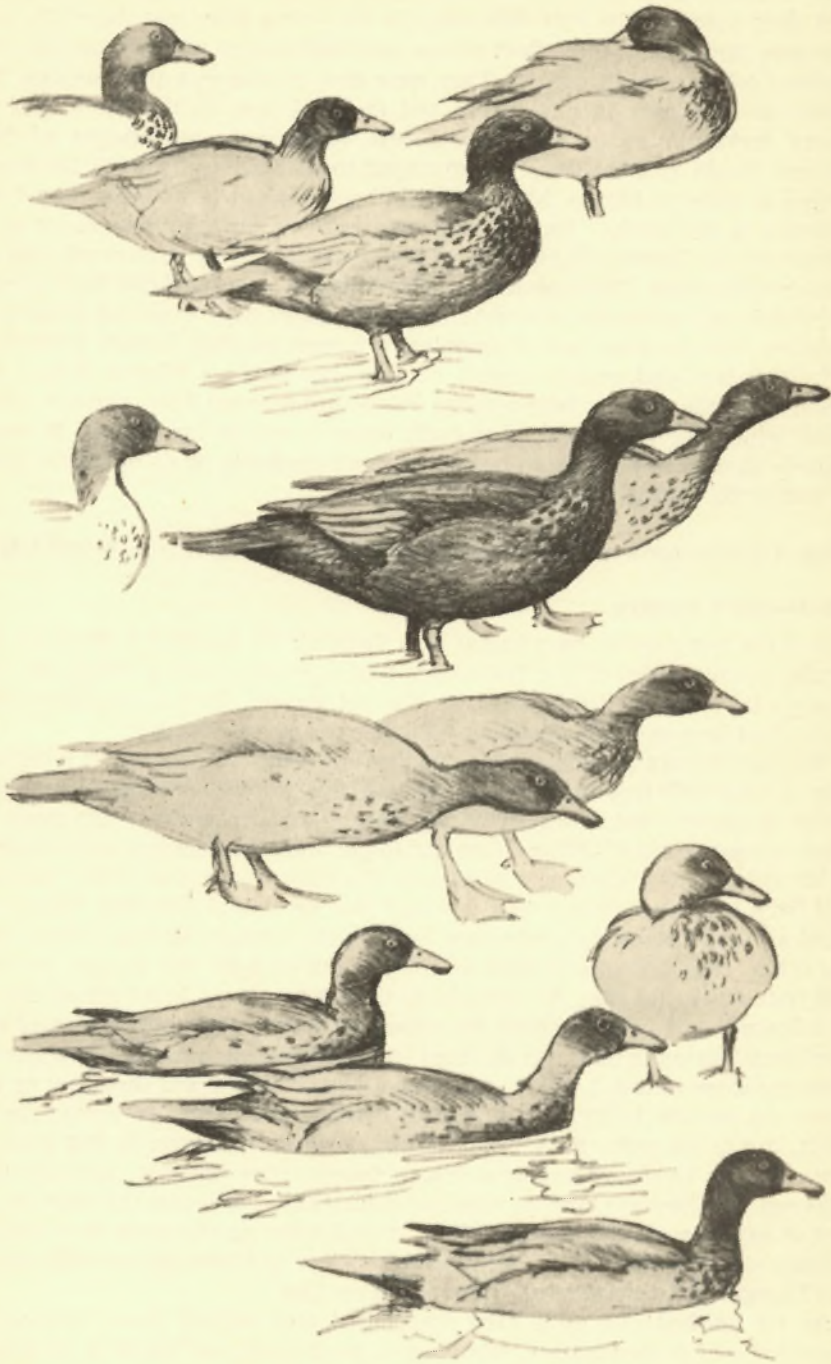
(Near Owheana (pronounced Ofenner) on the Ruatahunga River, North Island)

Wednesday 9 January

One of the best days we have had in New Zealand. We set off at 9.30 by car 5 or 6 miles up the valley of the Waitahaja, past a junction above which the river changes its name to Ruatahunga, to the last station. Here a cavalcade of 14 horses had been assembled, one a pack-horse for the camera gear.

We started down the steep slope from the farm leading the horses. It must have been at least 1000 feet down to the river, perhaps more. There was a rough path which in places went down incredibly steeply, and frequently went along the edges of near-vertical hill faces. One had to put much faith in the sure-footedness of the animals, but it was not misplaced. We came to the river near a junction, and from here up-stream it was expected that we should find Blue Ducks. Instead we found at once a single Grey Duck in this unusual setting. It flew down the valley, then turned and went up it again out of sight. We crossed the river and rode up the far side. As we rode up the steep valley I heard ahead the call of a drake Paradise Duck above the noise of the river. I was rather pleased with this identification, which was doubted by all around me until the bird flew up from the slope ahead. Later he was joined by the female and they flew up and down the narrow valley. It was a most exciting and romantic setting for the birds. But as we rode on we began to doubt whether we were in fact going to find any Blue Ducks. We came at last to another river junction, and here Fred Maxwell (our host at Owheana, who had ridden ahead to locate the birds for us) met us with the news that he had been several miles up the main river without seeing a sign of a Blue Duck. We should stop here and brew up tea while he and Jim Douglas went up the little side stream on foot.

As we finished our meal Fred reappeared and walked down, leaving his horse tethered at the junction, which was a good omen, and when he reached us he told us of finding a single Blue Duck about two-thirds of a mile up the little brook—locally a creek! This we afterwards found was an underestimate. We immediately decided to go up, taking cameras and tape recorder. The first

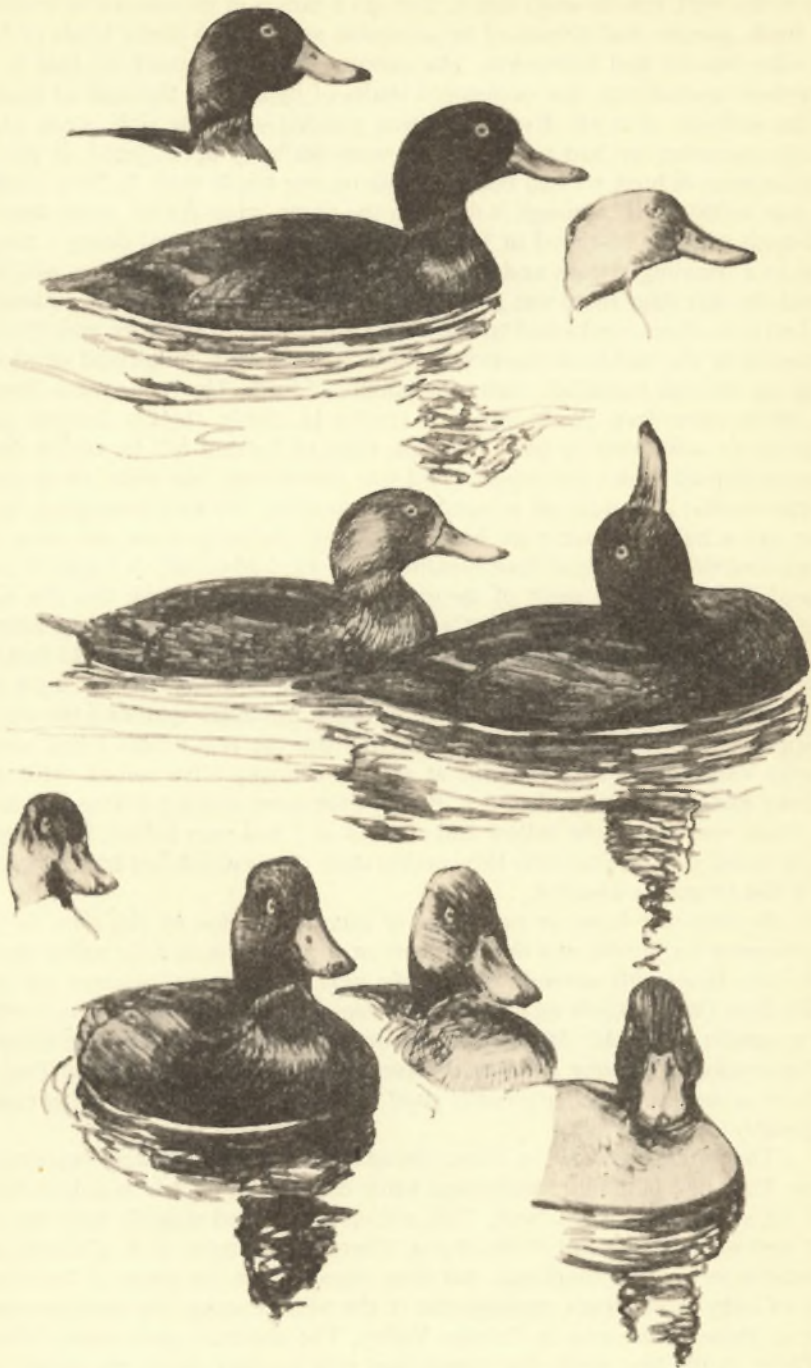


Blue Duck (*Hymenolaimus malacorhynchos*)

part of the walk was through forest, through a tangle of moss-covered branches and bush, mosses and lichens of innumerable species and many kinds of ferns and club mosses and liverworts. The canopy above was thick so that it was quite dark underneath, but occasional shafts of light came through to illuminate the softness of it all. Everything was padded with the rich green plants and the branches we had to climb over were perfectly upholstered. It was the most impressive bush we had been through on our whole tour. In New Zealand it is just called 'bush', though it deserves the name 'moss forest' more than the high bush which is so-called in New Guinea. Then we plunged down a tangled bank to a trickling stream and down it until it joined our brook, up which we turned. At this stage there was nothing for it but to abandon all hope of keeping our feet dry; shoes, socks and trousers were immersed to the knee and above as we waded up the middle of the stream itself. It was a long, tough and wearisome climb up through waterfalls under the tangles of bush. The rocks were slippery, and there were deep pools, big tree trunks to climb, thickly knitted fallen branches to walk over or push through, piles of flotsam left by earlier floods which collapsed under our weight. Phil was marvellous. She went up as fast as the rest so that they were all amazed at her stamina. We had been going for an hour and a half (and were six hours out from Owhena) when we came to a recent landslide which had been mentioned by Fred Maxwell. A hundred yards beyond it was a small cairn of stones, and immediately above this the single Blue Duck was said to be. Roy Cavanagh came back to say he had heard it whistle. We advanced cautiously and suddenly there it was, within 15 feet, but very nervous and moving quite rapidly up-stream. It eventually sat on a rock about 20 yards away, but half hidden by fallen branches spanning the stream. In appearance it was remarkably different from the two adults I had seen in Takahe Valley. It was hardly blue at all, but a dusky olive colour, with quite a strong metallic green on the back. Perhaps the most striking difference was the iris which was not bright yellow and startled as I had seen before, but a dusky, almost hazel yellow. Evidently this was the dark phase which has been described, but I had forgotten about it. . . .

On the long ride home we saw a pair of Blue Ducks, but by this time the light was too poor for filming and the party was so strung out across the valley that the birds were thoroughly nervous. And so the next day a second attempt was made to film Blue Ducks. Again we rode out on horses, but this time direct from Owhena, and a smaller party. Mr Maxwell's assistant had been out since before dawn and had succeeded in locating a family of Blue Ducks, so that after another long ride we were at last able to have a really good view of these birds in good light and at reasonably close quarters.

. . . The young were still in down, though the first feathers were beginning to show. They had blue bills, prominent white cheeks and a curious golden-brown spot on either side of the back. This colour contrasted sharply with the dark grey and white of the rest of the down. There was a vague look of Carolina or Mandarin in the face markings, but also, especially in the shape of the head, a look of baby Goldeneyes, perhaps due to the white cheeks. The parents were as blue as those I had seen in Takahe Valley. The chestnut spots were different, however, in the two birds; the female had pale orangey spots; the male's were more maroon, almost chocolate. As before, the female was more nery than the male, but they settled down well in various different pools—and we got some excellent film.



NEW ZEALAND SCAUP (*Aythya novae-zeelandiae*)

(In New Zealand the Scaup is known as the Black Teal)

(Hamurana, Rotorua)

Friday 11 January

. . . We were taken to the mouth of a beautiful clear river which is part of the grounds of a holiday hotel. It is called Hamurana and it is very imaginatively laid out. The river is about 20 yards wide, crystal clear and smoothly flowing with beds of brilliant green weed. On it were groups of Black Teal and a few Grey Ducks, one with a brood. There were also some Pukeko (the swamp hen—Blue Gallinule).

On a stretch of 50 yards of river on which there were also boats we saw perhaps 25 little Scaup. In one place, though alas in the shade, a group of them was displaying. This display and the call which went with it were extremely like the display and the call of the Redhead, and quite unlike anything done by Tufted Ducks. The head was thrown over the back, though not so far as in the Canvasback, and when the call—a soft whirring whistle—was made by the drake, his chin was enlarged—a thing which I noticed in the Australian White-eye and which is so typical of Redhead and Pochard. Just as the Ringneck is not so close to the Tufted as might be supposed, so I believe the New Zealand Black Teal is not very close either. How strange it is that characters of this kind seem to be interlaced among the species, suggesting affinities between those which at first sight do not appear to be closely related, and showing new differences between those that do.



Brown Duck habitat

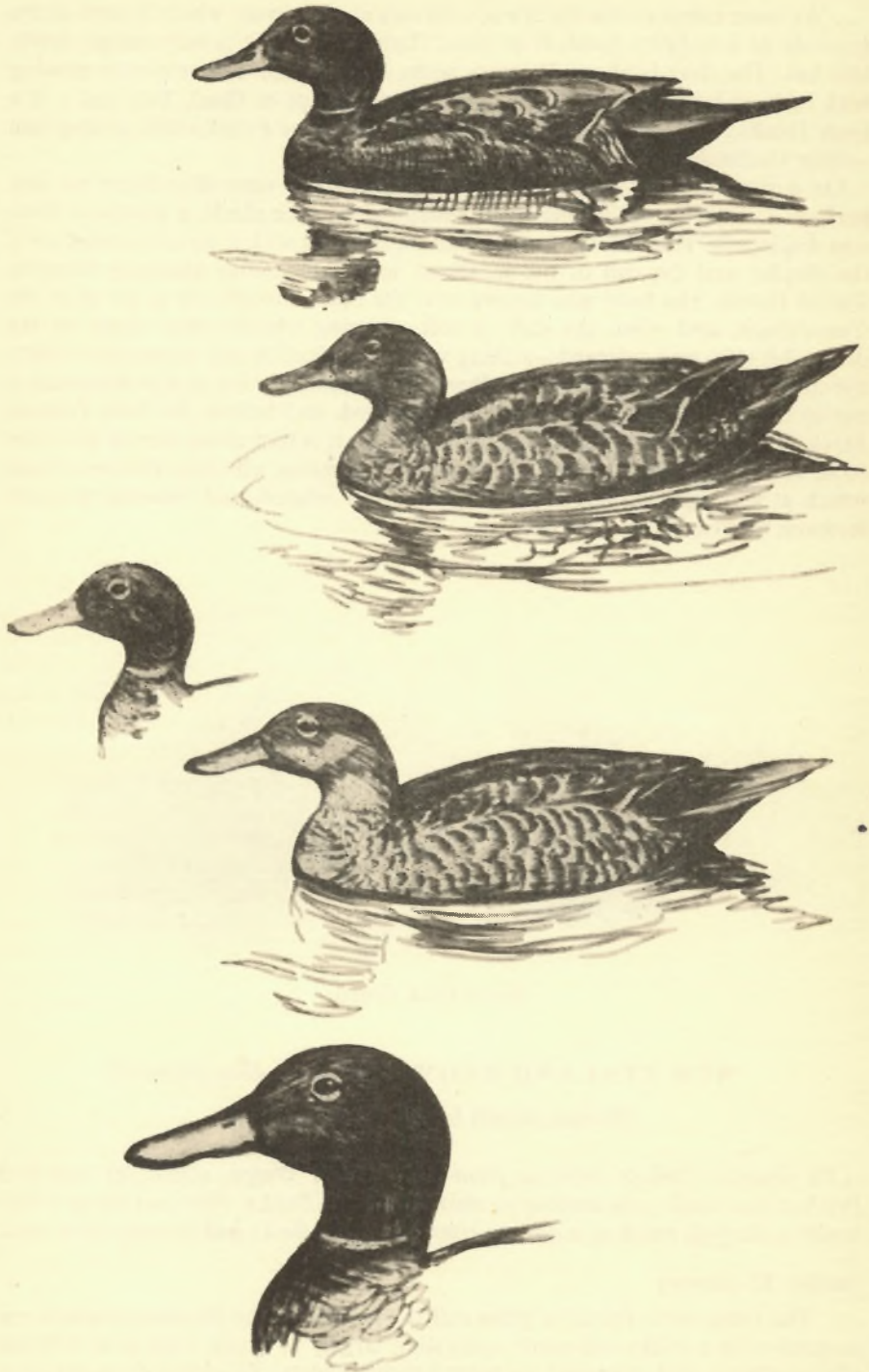
NEW ZEALAND BROWN DUCK (*Anas chlorotis*)

(Waipu, North Island, New Zealand)

Dr Graham Turbott drove us from Auckland to Waipu, where Mr and Mrs Prickett had made preparations to show us Brown Ducks. They had set up a hide beside a sluggish reach of a narrow river where the ducks had recently been seen.

Sunday 13 January

. . . The fields were full of a grass called Paspallum, the flowers of which are covered with a sticky substance consisting largely of ergot. This is so bad for clothes that it was necessary to wear bathing shorts. We decided to put up a second hide, at the next corner down-stream, and then for some of the party



New Zealand Brown Duck (*Anas chlorotis*)

to try to drive Brown Ducks up towards us. Four of them had recently been seen down there. But they are crepuscular or nocturnal creatures and much given to hiding in the rushes or overhanging bushes by day, so that when Charles Lagus and I had been there for nearly an hour the drivers—including Phil—arrived, having seen nothing. So it was a case of 'up sticks' and away to a place called, I think, Ryans, where a pair of Brown Ducks had been seen sitting on a willow branch beside a bridge two days before. This seemed a pretty long shot, but twenty minutes later Phil and I were tip-toeing up to the bridge with Prickett just behind. Nothing was in view, but suddenly ripples came from under a thick tangle of willow scrub on the far bank. Surely it would be a Pukeko, but no! Out swam two little Brown Ducks. They were exactly the same and, though no doubt a pair, I could see nothing in plumage to distinguish the sexes. The male, judged on behaviour and slightly larger size, had a split upper mandible at the tip. Almost at once the pair disappeared into cover again. They were only 10 yards away and made no attempt to fly. Prickett went quickly above them and they turned down and went under the bridge. Then Charles arrived with his camera. There was much to-ing and fro-ing before the little ducks were finally held in a state of equilibrium in a patch of willows on a little island. Charles and I then fixed up our cameras overlooking a small patch of sunlight, and Phil most skilfully manoeuvred the birds into it and took stills of them at the same time. After half an hour they came to tell us that five birds had been located a little farther down-stream. The river was very thickly grown with willows and we walked in the brilliant evening sunshine through a hay-field newly cut. Almost at once I caught a glimpse of a pair, but it was far too fleeting and too dark for photography. Stationed in the centre of a sharp bend in the river under the dark trees we waited, and in due course five Brown Ducks appeared. These were far more nervous than the first pair, and fairly useless for photography, though I shot a little film. The most important thing was that one of the males was in fairly bright colour, and a slanting white line on the sides of the tail forward of the black undertail-coverts was quite conspicuous. On the way back across the paddock Charles took some shots to establish the habitat. Then we piled into the cars, fairly well satisfied. As we drove back to town we passed over a river bridge not a quarter of a mile from our hotel. Here the earlier cars had stopped, and at once we saw the reason. Out on the open river swam three Brown Ducks. To be sure, they went off down-stream when the crowd spewed out of the various cars, but Sibson, who had joined us, went down one side and Cavanagh went down the other. We saw a brief aggressive rush by the brightly coloured male against the third bird, which thereafter disappeared. The pair, however, swam back up-stream. I filmed them, and then when Charles got out the 12-in. lens I crossed to the far bank to move them out into what was left of the setting sunlight. They were under a bush, and I walked right up to it and could see them looking up at me with apparent nonchalance. There was an old landing-net lying on the bank and I picked it up to persuade them to swim out. I could quite easily have caught at least one had I been so minded.

As it was they swam quietly out and I had a grand view of them. The male's head was very dark with a green sheen, but what interested me most was a sharply defined jet-black area on the back of the head, just where it is black in the drake Pintail. The whitish neck-ring (narrower than in the Mallard) is turned up at the back to what seems to be the beginning of a Pintail's white vertical neck-streak. The bird looked in shape surprisingly like a Kerguelen Pintail. Suddenly I felt that this was not at all the degenerate Mallard which we

had supposed it to be, but a bird with many Pintail characters. Thinking about it afterwards, I am convinced that this is still very near to 'the original duck'—that is to say that it is descended, and perhaps not very much altered by selective pressure, from a basic *Anas* which was common ancestor to Mallard and Pintail. This seemed to me to be a moment of truth, and perhaps one of the most valuable conclusions to be drawn from the whole of the tour. To me, what is most fascinating about the study of evolution is to be able, by looking at a branch, to judge just how high up the trunk it branched off in those far-away times. So the Brown Duck is a primitive and not a degenerate. The Chestnut Teal has varied more, no doubt under heavier selective pressure in Australia.

So we filmed the pair of Brown Duck in the evening light and found that they had kept an excellent dinner for us at the hotel.



NE-NE IN HAWAII

Preliminary Report on the Ne-ne in Hawaii

by William H. Elder

Dr Elder, who is Professor of Zoology at the University of Missouri, has just completed a year's survey of the Ne-ne in Hawaii. His past contributions to this Report (7th Annual Report, pp. 123-132) followed a season during which he accompanied the rocket-netting team to Scotland and Northern England, and worked for a period at Slimbridge.

JUST eight years ago the world's population of the Ne-ne had reached an all-time low. But thirteen birds remained in all the aviaries of the world—all in the Hawaiian Islands. Except two lone birds, all were in the flock of Herbert C. Shipman, long their protector. Little was known of their status in the wild. That they were scarce, all agreed. In the five years since Paul Baldwin's (1945) study, Ne-ne had been seen less than half a dozen times. The Schwartzes (1949) had failed to find any birds in the wild during their two years of intensive field work in the islands. Smith (1952) estimated their numbers in the wild as less than 30.