BREEDING THE SINGING STARLING *Aplonis cantoroides* by D.C.E. Hunter

The Singing Starling *Aplonis cantoroides* measures about 18cm (7in) long and is the only Papua New Guinea red-eyed glossy starling with a fairly short, square tail. The sexes are similar. Adult birds appear entirely black but in the sunlight have an iridescent dark oil-green colouring. The iris is bright red or orange-red and the bill, legs and feet are black. They have a tuneful whistle compared to most other starlings. Immature birds are dull brown with whitish underparts streaked with dark brown. The iris is brown, later becoming lighter until the final adult colour is attained.

This species is very similar to the Philippine Glossy Starling *A. panayensis* but there are one or two subtle differences. Probably the most notable being the longer throat hackles possessed by *A. cantoroides*. In its natural habitat in Papua New Guinea, the Bismarck Archipelago and other islands - extending to the eastern Solomon Islands - the Singing Starling appears mainly around coastal areas, right up to the forest edge but rarely into the forest itself. It can be seen singly, in pairs or large post-breeding flocks. It nests in tree cavities, on cliff faces, and in the roofs of houses, etc., and where sufficient nest sites are available nests colonially, with several pairs occupying the same tree or house roof. Some co-exist within colonies of the Shining, Metallic or Colonial Starling *A. metallica*. Nesting material usually consists of dried grasses and fibres. Two or three pale blue, brownish speckled eggs appear to be the normal clutch. They are very active birds and are known to feed on a variety of fruits, including papaya, *Capsicum frutescens* and the fruit from the *Arecaceae*, plus a few flying insects.

My two extremely flighty birds were obtained 10th May 1992 and the following morning were introduced into a 4m x 2m x 1m (13ft x 6ft 6in x 3ft 3in) flight, which had the rear top, back and sides covered to 1m (3ft 3in). They were the only occupants. It has a shingle floor covering and an ornamental bird bath placed conveniently at the end of the flight to enable the water to be changed regularly. Three large apple tree branches were placed in the flight to provide a variety of perching. At the covered end, I hung a 38cm x 25cm (15in x 10in) nest-box (with a hinged lid), into which was placed dried grasses and coconut fibre.

These birds had previously been fed on some type of softbill food but, not knowing exactly what it consisted of, I gradually introduced them to the mix that I use for all my softbills. It contains eggs, wholemeal flour, soya flour, honey, sultanas, a proprietary egg food, cheese, beef dripping, peanut butter, castor sugar and a yeast extract. Apple, pear and mealworms were also introduced. The mix I prepared was readily taken, as was the apple, but not the pear or mealworms.

After a few weeks they settled down and were soon in perfect condition. They loved to bath several times a day - but only in fresh water. When the sun shone, it made their colouring even more iridescent. While watching them during an extremely warm day, one was observed displaying. It squatted on the perch with its wings partially fanned and fluttering very fast. Whilst doing this, its tail was being fully raised and lowered very slowly. It then began to sing quite melodiously - not the usual downslurred 'teyeww' - and finished off with what could best be described as a throaty rattle. Meanwhile the other bird started the wing fluttering, accompanied by a little song and, just prior to copulation they stood close together with their heads thrown back and their beaks almost touching. This ended with both birds looking over each other's shoulder, with their cheeks almost touching. As they had been fitted with split rings of different colours it was possible to sex them at the time of copulation. Obviously, the one which had done the majority of the displaying was the male and it was also noted that each bird's song was slightly different. The whole performance was repeated three times within about ten minutes.

It was noted that they took turns of approximately 15 minutes in the nest-box. They would each come out to feed, have a bath, then perch in front of the nest-box and appear to be tapping it. This seemed to be a signal for the bird inside to come out. Occasionally, they would both come out and then return to the nest-box together. Early in June, while topping-up the fruit-fly culture, I noticed that both birds were out of the nest-box. This gave me the opportunity to take a quick look inside. They had made a tidy nest with the dried grasses and coconut fibres and there were three pale blue eggs with brownish speckling confined mainly to the widest end of the eggs.

Later, after an empty egg shell was found on the floor of the flight, a lot of activity started taking place. The male hawked insects - possibly fruitflies - on the weeds, which by then covered the entire floor to a height of about 1m (3ft 3in). He was also taking one or two mealworms. If a particularly large mealworm was chosen, he would take it up to the highest perch and thrash it against it. After which he appeared to swallow it and fly straight back to the nest-box to feed it to the female, presumably by regurgitation.

Later some mealworms were cut into small pieces, but these were totally ignored. Pear, by this time, was being eaten and the apple completely ignored. At this stage, I decided to give them some waxworms and later one or two were missing. With so little information available about their feeding habits everything was by trial and error.

The birds continued to ignore the apple, but were by then taking nearly half a pear. Again, only one or two mealworms were being taken and about the same number of waxworms. It was also noted that the female appeared to be taking longer turns in the nest-box. For a short period of time all the softbill mix, pear and mealworms were removed and a dish containing a couple of slices of pawpaw (papaya) and a few waxworms was introduced to see if they would take either of them. During this time they were seen sitting on the top of the fruit-fly bin and judging by their snapping actions were, presumably, taking some of the fruit-flies.

After about an hour the dish was inspected and it was found that they certainly had a distinct liking for pawpaw but the waxworms remained untouched. The dish containing the softbill mix, into which I put 15 small waxworms, plus the halved pear, some chopped apple and the remainder of the uneaten pawpaw was returned to the feeding station. Still the performance at the nest-box entrance continued and the female still appeared, to be taking longer turns inside. As so much seemed to be going on, I decided it would be easier to keep in the birdroom, a daily record of the happenings. So, from then on, detailed records were kept of the amount and variety of food offered and the amount actually taken. This was done by weighing it all on an electronic scale. Details of the times of feeding, the outside temperatures and weather conditions, both mornings and evenings, were also recorded. I found that on average the two birds were consuming 35g of softfood each day, plus 85g of mixed fruits, consisting of apple, pear, pawpaw and grapes. Later elderberries became a firm favourite but mango and kiwi fruit were ignored. All this time there still appeared to be no real enthusiasm for mealworms and the waxworms were now being totally ignored. To try to encourage them to take mealworms, each day several were thrown on to the floor. All these changes in their eating habits seemed to be building up to the hatching of the chicks.

Towards the end of the month the sieve on top of the fruit-fly culture was getting rather messy, so I decided that the whole lot would have to be taken out to be cleaned. On doing so, dozens of mealworms were discovered underneath the container, so obviously they were not eating as many as I had thought. Whilst in the flight I decided to look inside the nest-box; hoping that this would not put off the adults. There, huddled in the right-hand corner alongside an unhatched egg, were two black, reasonably well-feathered, open-eyed chicks, with light coloured beaks. The chicks appeared to be approximately 6cm (almost 2¹/₂in) in length. I guessed that they were about ten days old, but with the benefit of hindsight and the knowledge gained from the second clutch, now know that they must have been older - they were probably about 14 - 15 days old.

By the next day the chicks were calling so loudly that they could be heard from about 20m (65ft) away. From then on, naturally enough, food consumption increased. The softfood intake almost doubled and fruit had to be provided twice a day. Small amounts of mealworms were also being taken. Both adults took turns to feed the chicks and to keep the nest free of faeces, though it appeared that the female put in that little extra effort. During their rest-periods both adults took the opportunity to bath and preen but this came to an abrupt end as soon as the chicks started calling.

The 4th July (American Independence Day) was chosen by the chicks as the day they made their first appearance in the outside world. They just launched themselves into the flight and flew to and fro as though they had been doing so for years. The most striking thing was how big they were they were about two-thirds the size of their parents. The back and wings were a darkish-brown. The chin to the abdomen appeared to be a fawnish colour with dark brown streaks. The eyes were dark brown and the beak a light fawn with a creamy coloured gape. The tail was a straight, squareshaped affair, albeit a little on the stumpy side.

Everything carried on as normal for a few weeks, until it was noticed that the adults were going through the same performance as before, prior to laying. However, they continued to be first-class parents. On the 14th of the month an egg was discovered but I was not sure whether it was the egg left over from the previous clutch. Three days later there were four eggs in the nest, therefore, one had to be an old one. The first of three chicks appeared on the 19th. It was completely bald and had its eyes closed (they took approximately 14 days to open). The immature starlings were still living in the flight and the adults continued to feed them on demand.

It was noted that although the immatures' eyes were still mainly brown, they were definitely changing to an orange-red and this in turn, it was felt, could have been a stimulus to the male to start gently harassing them. Of course, a more logical reason could have been the maintenance of the new brood. This situation went on for a couple of days, so when all the chicks of the second clutch had hatched, I decided - with some trepidation - that it was time to move the by then self-sufficient immature starlings to a flight adjacent to that of their parents.

A nest-box, similar to that in their previous flight, was placed undercover at the rear. The feeding dishes were all of the same type, as were the drinking and bathing arrangements. After a flighty entrance they found everything they required in a matter of minutes and by late evening had settled down quite nicely. The following day and for about a further week the weather changed dramatically. It alternated between light drizzle and heavy rain but they all carried on quite normally.

On the 14th August, the first of the second clutch left the nest, with its two siblings following the next day. By the time the decision was made to move the second round of immature starlings, the weather broke once again and we had continuous bad weather for about a fortnight but, 15th September, they were moved and like their predecessors, went into their new accommodation quite happily. Between them the five immature birds devoured about 60g (2oz) of softfood a day, plus a selection of chopped fruits (apple, pear, pawpaw, grapes, elderberries and pomegranate). By the end of the month the need to keep daily records was considered unnecessary but any changes, however slight, were recorded. The adults were still in their own flight and looked immaculate and a week later, a third clutch of eggs was discovered in the nest but these were never hatched.

Early in November one of the immature starlings was found dead in the flight - its death was, I assumed, caused by the plague of cats that we suffer from in this area. When the eldest of the immature birds was caught up, it was noted that a patch of oily-green feathering was breaking through around the lesser and greater wing-coverts and another patch was running down the back, from the nape to the rump.

Ten months later, my immature birds had still not moulted into adult plumage. They remained in perfect condition, as did the breeding adults which had, incidentally, just laid two eggs and were in the process of rearing one chick. I have found it extremely difficult to find anything specific about these most delightful little starlings, but by this time felt far more confident knowing I had a year's experience and a folder full of notes to which to refer and, hopefully, add to.

At 21 days old, the chick was found dead at the bottom of the flight. This really was a bad start to the season but then again, was it too early for them to make a start in such cold and changeable weather? Should I have split up the pair until the weather became more reasonable? Should I have simply removed the nest-box from autumn to spring? These are good examples of not knowing what to do and learning from your mistakes.

Something that was new to me, was to see one of the immature birds flying around with a piece of hay in its beak and trying to pass it through the netting to one of the adults. Is this a sign that it was in breeding condition? Do immature birds pair-up and breed? Apparently, they do pair-up in Papua New Guinea, but it is not known whether they breed.

After a year the first immature starlings still had not achieved their full breeding plumage but were certainly getting the very dark oily-green colour on their mantles. In fact, it was almost 15 months before the first one attained adult plumage. By this time the breeding pair had two more fully-fledged chicks. So, once again, everything was about to happen for the third time, but I now knew that I could handle it all with much more confidence.

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Don Hunter has been keeping and breeding birds for about 30 years. He is Chairman of The Foreign Bird Association and the Sussex Foreign Bird Association. He is also a Vice-President of the National Bengalese Fanciers Association, and holds positions in several clubs in his home county. As described above, the Singing Starling *Aplonis cantoroides* has been bred by D. C. E. Hunter. This is probably the first successful breeding of this species in the UK. Anyone who knows of a previous breeding is asked to inform the Hon. Secretary.

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FIRST BREEDING RECORDS FOR DIURNAL BIRDS OF PREY IN THE U K

by Dave Coles

Listed below are records covering diurnal birds of prey which I have been able to locate. They are likely to be the most incomplete of any group and any additional references will be most welcome.

NEW WORLD VULTURES CATHARTIDAE

AMERICAN BLACK VULTURE Coragyps atratus - 1979 Chessington Zoo I.Z.Y. 21:282

ANDEAN CONDOR Vultur gryphus - 1982 London Zoo I.Z.Y. 23:7 HAWKS AND EAGLES ACCIPITRIDAE

BLACK KITE *Milvus migrans* - 1864 London Zoo Repts. 1864:21 BRAHMINY KITE *Haliastur indicus* - 1990 Hawk Conservancy

C.B. 25/8/1989:12

AFRICAN FISH EAGLE *Haliaetus vocifer* - 1992 National B.o.P. Centre C.B. 3/4/1993 suppl:viii

BALD EAGLE *Haliaetus leucocephalus* - 1986 C. Marler pers. comm. EGYPTIAN VULTURE *Neophron percnopterus* - 1978 Falconry Centre C.B. 28/9/1978:2

INDIAN WHITE-BACKED VULTURE Gyps bengalensis - 1982 Anon A.M. 1983:4

GRIFFON VULTURE Gyps fulvus - 1940 Chester Zoo A.M. 1941:157

RUPPELL'S VULTURE *Gyps rueppellii* - 1991 Whipsnade Wild Animal Park C.B. 4/5/1991:2

LAPPET-FACED VULTURE Torgos tracheliotus - 1987

Cotswold Wildlife Park A. Pringle pers. comm.

BATELEUR EAGLE *Terathopius ecaudatus* - 1982 Robin Hill Country Park C.B.2/4/1983:6

AFRICAN HARRIER HAWK *Polyboroides typus* - 1991 London Zoo F.B.F. Breed. Reg. 1991:6

HEN HARRIER Circus cyaneus - 1977 Lunga W.R. A.S.B.R. 1977:16

MARSH HARRIER Circus aeruginosus - 1990 Hawk Conservancy

C.B. 25/8/1990:12



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