

Breeding and hand rearing Hawk-headed Parrots

(*Derophtus accipitrinus*)

by Imelda J. Santos, D.V.M.
Jurong Bird Park
Jalan Ahmad Ibrahim, Singapore

Although Hawk-headed Parrots (*Derophtus accipitrinus*) are one of the most striking and appealing members of the parrot family, very few individuals have kept and successfully bred them. It was reported that, in the U.S., only two men have bred them while in the United Kingdom three people have been successful (Low, 1988).

The Hawk-headed Parrot is the only member of the genus *Derophtus*. They are distributed from northern Brazil to southeastern Columbia, northeastern Peru and the Guianas. They are usually sighted in pairs or small groups. They have been known to feed on guavas, Inga fruits, seeds, nuts, berries and possibly buds (Forshaw, 1989). They are one of the most beautiful parrots. Their uniqueness can be seen in the nape and hindneck feathers which are dark red and broadly edged with blue. These feathers are erected to frame the head like a majestic crown.

From September 1988 to February 1990, we monitored the activity of a pair of Hawk-headed Parrots at the Breeding and Research Centre (BRC). During that period, the female laid nine eggs; eight eggs hatched and

five chicks survived. The nestlings were hand reared and data on their development were recorded.

History

The pair of Hawk-headed Parrots was housed in an aviary measuring 3 x 1.5 x 2.3 meters. The aviary's front portion is sheltered from the rain. The back has a weathering area so birds could get access to sunlight or rainfall when they desire. Due to the aggressive and nervous nature of these birds, a pair of Vosmaeri



Hawk-headed Parrot at one year of age.



Juvenile Hawk-headed Parrots at 3-1/2 months.



At day 65, crest feathers fully erupted.



Open leg banding at day 81.
Underside feathers emerging
on back, rump, legs.

Photos by Dr. M.R.T. Ronan

Eclectus Parrots housed in an adjacent aviary had to be moved out when the Hawk-headed Parrot attempted to bite off the Vosmaeri Eclectus Parrot's toes. A 30.5 X 30.5 X 76.2 centimeters high nest box with a 10 cm diameter entrance was fixed on the upper half of the aviary door for easier inspection. The nestbox was elevated from the ground approximately two meters. Wood shavings were provided as nesting material.

The basic diet consists of fruits (apple, papaya, banana) and long beans in the morning, and dry food (Science Diet pellets and sunflower seed mix) in the afternoon. Guava was introduced on January 3, 1989, and was soon declared by the pair as their favorite. Banana is the least consumed food item. The water is supplemented with Vitamisol every day. Nekton MSA is added to the food when the female is incubating and brooding her young.

First Successful Hatching

Mating was first observed on April 3, 1989, when the pair did a lateral copulation. On the next day, copulation was again observed and mounting of the female by the male was done this time. The first egg was laid on May 12, 1989. The female was not sitting on the egg so we decided to foster it to an incubating Nanday Conure. This particular egg turned out to be infertile. A second and third egg were subsequently laid on May 14 and May 18. They commenced incubating and the two eggs hatched after 26 and 28 days. The female laid a clutch of three eggs with three to four days interval.

When the chicks hatched, the parents were given an extra serving of fruits in the afternoon. The female spent most of the time brooding her two chicks while the male was seen guarding the entrance hole with the crest feathers erect. The male was very supportive of the female during feeding time. The nest was checked once a day to monitor the progress of the chicks.

A closed ring of 3/32 inches with a 5/16 inch internal diameter was fitted to the second chick at day 15. The older chick then was 18 days old and the toes were too big to accommodate the closed legband. Since this was our first hatching of Hawk-headed Parrots, we agreed to pull out the chicks for handrearing when they were more stable at about three weeks old. (continued on next page)

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Handrearing Techniques

At hatching, the Hawk-headed Parrot chick was naked except for a very sparse covering of white down feathers, had a pale pinkish colored skin and the eyes were closed. By 16 days, the chicks' eyes were open and pin feathers were already emerging. The chicks were brought to the nursery on July 3, 1989, and at day 22 and 24, the pin feathers on the wings and tail were already visible.

The nestlings were placed in a rectangular plastic tray lined with newspaper shreds as substrate. This container was, in turn, placed inside a brooder with two 60-watt bulbs. Temperature was maintained at 28 to 29°C with the aid of a Lyon Marsh thermometer and a thermostat. Our main consideration then was to prevent skin dehydration because the chicks have practically no down feathers. As a measure, bowls of water were placed beside the babies' container and a wet towel on top of the brooder to regulate the humidity.

The handrearing formula consisted of three parts Science Diet ground

pellets to one part Cerelac, with water added to achieve the desired consistency. A bent teaspoon was used for feeding. A two hour feeding interval was done initially. After about a week, it was increased to every three hours. Weaning food of diced fruits and ground Science Diet was introduced to the chicks at around seven weeks of age. Papaya was the first fruit eaten at day 53 and 54. By day 58 and 60, feeding was reduced to twice a day since both chicks were observed to be taking in more of the fruits and dog food. At day 71 and 73, once-a-day handfeeding and cracked sunflower seeds were introduced. The chicks were transferred to a cage with a low perch at day 74 and 76. They were totally weaned at day 77 and 79. The older chick was fitted with an open ring at day 81.

Subsequent Breeding

The nestbox was cleaned and new wood shavings were provided after pulling out the chicks for hand-rearing. After about three weeks, a

TABLE 1
Development of First Clutch of Hawk-headed Parrots
(*Derophtus accipitrinus*) Bred at Jurong Bird Park

A hatched on June 10, 1989

B hatched on June 12, 1989

| AGE (days) | DEVELOPMENT |
|---------------|---|
| 1 | chicks strong, skin pale pinkish colour, eyes closed, very sparse white down |
| 16 | eyes open |
| 23 | B starts to make "chak-chak" sounds, feeding every 2 hours |
| 24 | pin feathers begin to appear on wings, tail |
| 29 | tail feathers out of shaft |
| 33 | blue pin feathers on crest coming out; feeding every 3 hours |
| 35 | chicks start to climb out of containers, oral lesions show <i>Candida</i> sp. infection and Mycostatin prescribed |
| 36 | A with hoarse voice, mucus aspirated and Garamycin drops on nostrils |
| 40 | wings covered with green feathers, buff white feathers start to emerge from lower side of face |
| 43 | head feathers out of shaft |
| 44 | A spends most of the time outside tray, starts to make squeaking sounds and always awake |
| 46 | both chicks begin to make laughing, chattering sounds of "eeyah, chak-chak" like the adults |
| 48 | chicks out of the container tray, transfer to bigger brooder, underside feathers emerging |
| 49 | both can climb onto wire netting, weaning food introduced |
| 50 | B perches on both feet |
| 52 | red feathers edged with blue erupting on neck, breast |
| 53 | attempt to eat papaya |
| 58 | A flaps its wings for the first time |
| 60 | feeding twice a day |
| 65 | A raises its crest and exercises its wings more frequently |
| 72 | transfer to cage with low perch |
| 73 | once a day handfeeding and cracked sunflower seeds introduced |
| 76-78 | total weaning |
| 80 | able to hold fruits with the feet |
| 83 | chicks can open sunflower seeds |
| 88 | feathering almost complete except for back, rump, legs |
| 6 months | moult of juvenile plumage, Nekton Bio supplemented |
| 1 year | chicks remain healthy, can scream, laugh, whistle and say hello |

second clutch of three fertile eggs was laid in July 1989. All these eggs hatched but, unfortunately, the youngest died due to malnutrition. The two surviving chicks were hand-reared at day 15 and 17, about a week earlier than the first batch. Due to this incident, we have decided that when there are three chicks, younger chicks will be pulled to prevent this malnutrition problem.

A third clutch was laid between September and October 1989. The two younger chicks were hand-reared at day three and five, but both chicks died at day 8. By this third season, the female had become very fierce and nervous, especially during nest inspection. The male was equally protective and was seen guarding the entrance hole with only the head visible. The female was observed to attack the surviving elder chick every time the inspection door was opened. The wound on the chick's scapular area being quite serious, we pulled out the chick at day 18 to be hand-reared. The original intention of parent rearing was thus abandoned. The wound was cleaned with Savlon and dusted with Cicatrin powder. Oral Septrin antibiotic at 0.3ml BID for five days was also prescribed. At post weaning, the chick tested positive for tapeworms upon examination of the droppings. Vermox at 0.2 ml per oz. once a day for five days was given.

To date, all chicks remain healthy and show normal behaviour patterns. They are nervous birds like the parents and raise their crests when frightened.

An additional pair of Hawk-headed Parrots from the exhibit was moved into the breeding aviaries in May 1990. Two juveniles raised in the BRC now occupy the exhibit aviary.

Conclusions

From the successful breeding of the Hawk-headed Parrots, we were able to come up with the following important observations:

No sexual dimorphism is exhibited so birds must undergo surgical sexing.

The birds' inherent nervous personality must be taken into consideration. Careful observation enables us to determine when the pair is ready for breeding. One particularly interesting behaviour of the female is that she starts to make cat "meow" sounds when she is due to

nest. Knowing all these help so that noise and disturbance to the pair will be reduced to a minimum.

The provision of a high protein diet and fruits with vitamin-mineral supplement is strongly recommended. Guavas, which are eaten in the wild, are given to the pair and could have served as a stimulus for breeding.

The chicks' susceptibility to the *Candida* sp. infection can be solved

by maintaining good hygiene. The nesting materials should be changed every season. Chicks handraised in the nursery are given Mycostatin preventative therapy and a thorough cleaning of the oral cavity after each feeding.

The staff's regular observation of the breeding pair and nestlings as to their droppings, general appearance, behaviour, growth, appetite, vocalization and personality helped in

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TABLE 2

Weights of Five Hand-reared Hawk-headed Parrots Before the First Feed of the Day

| Legband no. | 1st Clutch | | 2nd Clutch | | 3rd Clutch |
|----------------------------|------------|---------|------------|---------|------------|
| | CC028 | C006 | CC034 | C016 | CC048 |
| Hatched: | 10.6.89 | 12.6.89 | 21.8.89 | 23.8.89 | 28.10.89 |
| Removed for handrearing | 3.7.89 | 3.7.89 | 6.9.89 | 6.9.89 | 14.11.89 |
| | day 24 | day 22 | day 17 | day 15 | day 18 |
| Age in days | Weight (g) | | Weight (g) | | Weight (g) |
| 15 | — | — | 101.5 | 75.4 | — |
| 18 | — | — | 100.3 | 73.6 | 100.8 |
| 21 | — | 145.9 | 100.9 | 69.5 | 91.4 |
| 24 | 120.0 | 115.0 | 100.3 | 62.9 | 92.5 |
| 27 | 111.4 | 111.2 | 101.3 | 66.5 | 91.1 |
| 30 | 102.6 | 104.3 | 104.6 | 76.3 | 94.6 |
| 35 | 108.4 | 112.6 | 116.0 | 86.4 | 104.4 |
| 40 | 123.5 | 129.9 | 130.1 | 102.0 | 106.4 |
| 45 | 129.6 | 135.6 | 135.0 | 108.0 | 112.3 |
| 50 | 138.8 | 145.1 | 164.4 | 119.2 | 121.0 |
| 55 | 143.3 | 146.5 | 165.7 | 122.6 | 118.0 |
| 60 | 145.7 | 148.3 | 158.7 | 112.9 | 124.7 |
| 65 | 158.7 | 156.8 | 164.2 | 120.9 | 131.4 |
| 70 | 165.3 | 157.2 | 170.3 | 140.7 | 145.2 |
| 75 | 176.6 | 166.9 | 185.1 | 154.7 | 147.0 |
| 80 | weaned | weaned | 189.4 | 166.7 | 149.0 |
| 85 | | | 183.4 | 163.1 | weaned |
| 90 | | | 195.5 | 177.9 | |
| 100 | | | 199.5 | 186.2 | |
| 105 | | | 201.6 | 183.2 | |
| 110 | | | 212.8 | 184.9 | |
| 115 | | | 212.2 | 183.5 | |
| 120 | | | weaned | weaned | |

assessing the general health of the
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Septtrin: antibiotic paediatric suspension,
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Vermox: oral dewormer suspension, manufac-
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