

Breeding Red-throated Gaudy Barbets

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[Editor's Note: The following article on the Red-throated Gaudy Barbet has been submitted as part of the nomination for a U.S. First Breeding Award. Any persons knowing of a previously successful breeding of this species, please notify Dale R. Thompson, Avy Awards Committee Chairperson, through the AFA Home Office in Phoenix, Arizona.]

On 21 February 1992, The Toledo Zoo received two wild caught pairs of Red-throated Gaudy Barbet, *Megalaima mystacophanos*, from Dr. Richard Miller, Ft. Lauderdale, Florida. This mid-sized member of the Capitonidae is found as a low elevation forests resident in Sumatra, Borneo and Malaysia. The birds are sexually dimorphic. Their overall body coloring is green, which is typical of *Megalaima* species. The female has a green head with red lores and hindcrown with typically weak bluish patches on forecrown, cheeks and lower throat. Blue patches on the males cheeks and lower throat are much stronger in coloration and the males have a brightly colored yellow forehead and red throat patch.

This attractive species is a fairly common wild caught import, with over 100 individuals brought into the zoo community over the last 20 years. Similar numbers have also been purchased by private aviculturists. A few individuals we have spoken to have reported bonding and nesting activity with their pairs (Vockaty and Reininger, pers. comm.) but have not yet achieved chick production.

After quarantine, the two pairs of birds were moved to our off-exhibit breeding center on zoo grounds. Initially the birds were each housed individually.

That spring the pairs were to be moved into outdoor breeding cages. The cage dimensions are 8 ft 7 in l x 6 ft 6 in w x 7 ft h, consisting of an aluminum framework with 1 in x 1/2 in wire. Enclosures have solid fiberglass walls on four sides blocking adjacent pens visually, and the door is covered with shade cloth to allow privacy. There are viewing windows cut into the shade over one half to provide shade cover and shelter over

nesting and feed areas. The birds can be fed from the outside through a feed slot located next to the door, approximately 4 ft off ground. Natural wood perching is available throughout the enclosure. The substrate in the breeding cage is dirt, allowing grass to grow. A 10 1/2 in diameter palm log, 6 ft 6 in in height was placed in a back corner. Perching was placed directly in contact with the log, and we "started" a hole in the log for the birds. Two heat lamps were set up and turned on when the temperature dropped below 55 degrees. The entire off-exhibit breeding area is surrounded by a wire keeper hallway to provide a double-door system to prevent escape.

On 16 May 1992, one pair was introduced to the breeding cage. The female from the other pair was placed in a larger nearby cage, which had a similar set-up. On 11 August 1992, we tried to introduce the second male to the lone female, but the attempt was not successful due to aggression from the male. The female was pulled indoors to holding, while the male was left in the outdoor cage.

On 16 August, the two males were heard vocalizing to each other. On the same day the male of the pair was observed displaying to his female. The display consisted of him dropping his head low to the perch, beak forward, while making a low hooting one note call. The following day, the paired male was observed entering and exiting the nest log, and hammering could be heard while the male was in the log. The keepers started offering live food to the cage at all times (waxworms, mealworms, crickets and maggots). We continued to offer the birds a normal diet, which consisted of a "Gel diet" pre-mixed (made with Scenic-bird foods), Bird of Paradise pellet, chopped apples, bananas, oranges and blueberries. The amount of chopped fruit was increased, and chopped pinkies dusted with a 50/50 vionate/osteofom were also added.

The female was observed in the nest log throughout the day on 21 August and by the 23rd both birds were taking turns in the nest log. During the first week in September, live food was disappearing rapidly and amounts offered were increased. We finally confirmed the presence of chicks in the log on 6 September, when chick vocalizations were heard for the first time. Chick vocalizing continued over the next two

weeks, and the male was observed carrying chopped fruit and insects into the nest log. On 24 September, two chicks were seen looking out of the nest log. They both fledged on the first of October, appearing very well developed and fully feathered. Sex of the juveniles could be determined as early as two days after fledging, as the male chick had a strong orange throat patch evident, which the female chick was lacking.

The breeding pair recycled quickly, and the male was observed going in and out of the log again and displaying to the female as early as the 5th of October. By the 9th, the female was spending a large part of her day in the log. The juveniles were still housed with the parents at this time, and were observed eating on their own from the food bowl on the 10th. They were separated from the adults on the 15th, and by the 17th the female was consistently in the log. The cage was completely enclosed with plastic on the 18th of October due to cold weather and additional heating was provided with one more heat lamp and a ceramic heater being installed in the cage. Chick vocalizations from the second clutch were heard on 3 November. During this period, the female became increasingly more aggressive towards the male. He was removed and taken to inside holding on 11 November. Two nestlings were observed peering from the nest log on the 30th, and fledged on the 2nd of December. On the 5th of December, the female was moved inside with the second pair of fledglings due to extremely cold weather. All birds were housed inside for the winter, with the male separate from the female and offspring.

For the 1993 breeding season, the breeding pair was returned to the outside breeding cage on 8 July. Neither of the second pair of birds were housed outside, and numerous attempts to pair them have failed. Similar nesting and display behaviors were seen from the breeding pair this year, with chicks being heard in the nest log on the 10th of August. Again, the female became extremely aggressive to the male after the chicks had hatched. The male was found dead in the cage on the 20th, and post mortem results showed he had died as a result of trauma, probably killed by the female. Subsequently on the 26th of August, two chicks were found dead in the exhibit as a result of trauma. Surpris-



Adult male.



Adult male with juvenile female one week after she fledged.



Male adult looking out of the nesting hole with the adult female perched nearby.

ingly, two more chicks fledged on the 4th and 5th of September, leading us to believe that the birds had produced a clutch of four chicks. Although barbets are said to produce between two to five eggs per clutch, from other breeding barbet species (Leindecker, pers. comm.) this seems like an unusually high number of chicks produced in a single clutch. On 10 September, the female was moved inside with her two chicks. The male chick was surplused in October, but the female chick is still with the adult female, with no amount of aggression towards the chick noted.

From our observations over the two year period, we believe the incubation time for this species to be 17 to 18 days, and the fledging age to be 24 to 29 days.

The most significant problems we encountered were aggression problems between adult birds, and the weather in Toledo. We found that housing the adults separately during the non-breeding season and closely monitoring the pairs on introduction and during breeding for signs of aggression was advisable. Separating birds that show repeated hostility is recommended. We, however, had little control over the climate. Given the species apparent preference for breeding during late summer and throughout the fall, and outside of recommending breeding these birds only south of the Mason-Dixon Line, we found supplying additional heat a challenge without disrupting the pair and the chicks. Also, with the enclosure sided with fiberglass, we found the temperatures excessively warm during the summer months, and ran a soaker hose over the top of the enclosure during the hottest time of day, which the birds seemed to appreciate.

This year, we will be attempting to set up three pairs adjacent to one another to see if efforts can be duplicated. We will be setting up our breeding female with another wild caught male, and setting up our other wild caught female with a male chick from the 1992 season, to attempt a second generation breeding.

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Bibliography

- King, Ben F., and Dickinson, E.C. (1975). *The Collins Field Guide to the Birds of South-east Asia*, The Stephen Greene Press. p. 490.
Birds: Their Life, Their Ways, Their World (1979) The Reader's Digest Association. pp. 309-310.

Product List

- Mixed Jungle Scenic Birdfoods:
 Marion Zoological, Inc., 113 N. First, Marion, Kansas 66861.
 Bird of Paradise Pellet:
 Zeigler Bros., Inc., P.O. Box 95, Gardiners, PA 17324. ●