Breeding the Common Golden-Backed Woodpecker in Captivity
Dinopium javanense

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INTRODUCTION

This paper discusses breeding the Common Golden-Backed Woodpecker in captivity. Information on the natural history, captive population and discussion on the pair housed at the Milwaukee County Zoo (MCZ) and changes which have been implemented to encourage successful breeding is discussed in this paper.

NATURAL HISTORY

The Common Golden-Backed Woodpecker is considered to be a locally common species which occurs in S & SE Asia including Java, Bali, Borneo and the Philippines. They are found in moist secondary and open forests, open deciduous woodland, scrub and mangroves. Common Golden-Backed Woodpeckers favor penang and coconut groves, gardens, cultivations, park land and golf courses. It is evident the species is very diversified based on the variety of habitats it's found in. They are found at all heights, but seem to prefer lower parts of large as well as young trees.

The diet consists of ants, insect larvae, small scorpions, cockroaches and other insects.

BREEDING

Depending on the range, breeding may occur year-round. The nest is excavated low (2M or less) or high (10M). Usually the nest is found below 5M. Nests are found in a tree or stump in an open area often in a fruit tree or coconut palm. The clutch typically consists of 2-3 eggs.

CAPTIVE POPULATION

Dinopium javanense
Common Golden-Backed Woodpecker

Range: Southeast Asia

Institution	Male(s)	Female(s)
BARCELONA	2	2
CAMBRON	1	1
DVURKRALV	1	2
DISNEY AK	1	--
MILWAUKEE	1	1
TUCSON	1	--
JURONG	2	--
Total	**9**	**6**

Dinopium javanense javanense
Common Golden-Backed Woodpecker

Range: Malaysia, Borneo, Sumatra

Institution	Male(s)	Female(s)
SANDIEGOZ	1	
Total	**1**	

Currently, seven institutions have the Common Golden-Backed Woodpecker in their collection. San Diego does have 1 sub-species. It is obvious there are not that many individuals in the captive population—thus the importance of breeding in captivity.

The Miami Metrozoo had several birds in their collection but in 1992, Hurricane Andrew wiped out their aviary. It is interesting to note the Miami Metrozoo also had a chick in 1987 which was parent reared. Unfortunately, the chick died after 19 days.

MILWAUKEE COUNTY ZOO'S PAIR

Currently, MCZ has one pair which was purchased in the summer of 1990. Both individuals were wild caught in 1988. The birds have been paired together since 1990, following quarantine.

In the spring of 1999, a fungal growth was found in the female's mouth and she was successfully treated.

CHANGES TO DIET

From 1990 to 1997, the diet consisted of softbill/fruit mix (80%), mealworms, bird of prey (10%) and vionate. In the summer of 1997, a nutritionist was contracted to analyze all diets at MCZ and found the Bird of Prey contained dangerously high levels of Vitamin A so it was removed from the diet.

Due to other iron sensitive species, a low iron, high protein level in the diet was needed. In December, 1997, the diet was changed to soaked apple paradise pellets (90%) and bugs (10%) (i.e., crickets, mealworms, mighty mealworms, waxworms). In July 1998, the pair produced their first egg.

The woodpeckers also have access to fruit, veggies, rice and pigeon pellets due to the other birds in the enclosure.

FEED SITE LOCATIONS

Originally, there were two feed sites on the ground, another in a planter pocket approximately 3.5' from the ground, and one on a log approximately 3' from the ground. The log had a vertical cavity in it and this was the location of the first egg. At this time, it was decided to provide more nesting options which will be discussed later in this paper.

Two elevated feed sites were incorporated. One feed site was mounted on a pole approximately 6' from the ground. The other was hung using a pulley approximately 10' from the ground. This location is where the birds eat from most often. In addition, during nesting times, a supplemental food dish was placed in a howdy cage which the birds had access to through the mezzanine.

ENCLOSURE

Height of the enclosure is 21' – 24' (sloped ceiling)—depth is 15' and width is 22'. We believe height is very important. Unless the birds are nesting, they are always found in the upper canopy of the enclosure.

NESTING OPTIONS

Some of the nesting options offerred included two concrete nest boxes. One hung on the wall approximately 15' up and the other concrete box placed in a planter pocket approximately 12' high. Also, a large gourd was hung in a palm tree approximately 15' high.

In addition, a palm log with a partially excavated hole was added. This was placed on a planter stand approximately 2 ½' high. Until recently, there was no evidence the birds were interested in the concrete boxes or the gourd. Recently; however, the male was observed investigating the concrete box hung on the wall.

The log which they've been using is placed in a planter pocket, behind a large palm tree and it is not visable from the front of the exhibit. The log is 4' from the floor of the exhibit to the cavity entrance. The height of the actual log is 39.5", the cavity entrance is 14" from the bottom of the log and the cavity entrance is 2 ¼" at the widest portion. Cavity entrance is shaped like a large tear drop. From the bottom to approximately 2" above the hole, the log is completely hollowed out.

There is an access door cut out in back of the log. It's 4-5" wide and approximately 6" in length. This was done so we could monitor the eggs more closely if necessary. This was done in July, 2000 and they did have two more clutches after this modification was done.

During nesting, we did minimal cleaning of the enclosure. The birds were easily spooked when we were in the exhibit so we entered only when necessary--typically in the morning to feed.

ENRICHMENT

There is a sheet metal roof which is part of the exhibit. The birds did do some drumming on it; however, it was not easily accessible. In the summer of 1999, a pie pan was added for enrichment. This was hung outside of our mezzanine cage and the male used it quite frequently. It's our belief that adding the pie pan aided in stimulating courtship.

EGG DATES

EGG DATES

Date	**No. of Eggs**
19 July 1998	**1**
25 June 1999	**1**
7 April 2000	**1**
17 May 2000	**1**
22 July 2000**	**1**
1 Aug. 2000	**4**
19 Sept. 2000**	**2**

It's important to note that all these eggs had been found in the exhibit broken except the July and September eggs.

The July egg actually had a fully developed chick which was found outside of the nest log. It was about ½ way out of the shell. Upon examination, a puncture on the head was found which is what ultimately caused the death of the chick. It is speculated the parents accidentally pierced the head while removing shell fragments.

The eggs which were laid in September the birds actually kept in the nest log for the entire duration. When it was observed they were spending a fair amount of time outside of the log, the eggs were pulled and candled. One egg had a crack in it and the contents of the other egg was broken down.

In August, there were a total of 4 eggs. Two were found soft and pliable. It was decided at this time to add a small amount of calcium phosphate, dibasic to their diet.

OTHER SPECIES

Other species in the exhibit include Magnificent Ground Pigeons, Silver Eared Mesias, Fairy Bluebird and a male Gaudy Red-Throated Barbet.

It was speculated the barbet may have been breaking the eggs as aggression was observed on a few occasions between the barbet and the male woodpecker. This was noted in April of 2000 and the barbet was removed from the exhibit in May until the nesting season was over.

We quickly learned the barbet was not the culprit as we continued to find broken eggs throughout the nesting season. The conclusion was made that our pair was just very inexperienced.

FUTURE PLANS

In order to improve our chances of success, we'd like to pull and dummy any eggs, artificially incubate and return them to the nest when pipping begins. Perhaps hand rear one if two eggs are fertile. We will continue to look for ways to improve the pairs comfort in the exhibit so they will eventually incubate and parent rear all young.

CONCLUSION

In closing, it is believed the elevated feed sites, the new nest log, enrichment and particularly the diet change has led to the birds producing fertile eggs and we are very optimistic about successful clutches in the future.

REFERENCES

1. Winkler, Hans, David A. Christie, and David Nurney. 1995. Woodpeckers— An Identification Guide to the Woodpeckers of the World. Pp.374-375.

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