Reintroduction of captive-bred Gold-capped Conures in Bahia

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The Gold-capped Conure (*Aratinga auricapilla*) is classified as vulnerable by IUCN/Birdlife International and is listed under Appendix II by CITES. Given that little is known of the species in the wild, there is an urgent need for knowledge of the geographical distribution, population size and threats to its survival. In the northeastern Brazilian state of Bahia, *A. a. auricapilla*, a subspecies endemic to the state, is distributed along the entire length of the coast. Flocks in the southern range of this subspecies tend to be smaller than those found in the north (south; max. 8 individuals vs. north; max. 30 individuals).

This difference may be due to the presence of large coconut (*Coco nucifera*) plantations that dominate the landscape of the northern coast. Old or dead palms provide ideal nest sites for many bird species. Woodpeckers such as Lineated Woodpecker (*Dryocopus lineatus*), Campo Flicker (*Colaptes campestris*), and Green-Barred Woodpecker (*C. melanochlorus*) excavate nest cavities in the trunks of palms, which when abandoned by these species, are used by Tropical Screech Owl (*Otus choliba*), Ferrugineous Pygmy Owl (*Glaucidium brasilianum*), American Kestrel (*Falco sparverius*), Orange-winged Amazon (*Amazona amazonica*), and most importantly, threatened Gold-capped Conures.

Confiscated birds

Since 1997, the wildlife protection division of CETREL, an environmental assessment agency based in Camaçari, Bahía, has been responsible for the care and reintroduction of birds confiscated through the illegal bird trade. In 1997, the authors received 10 Gold-capped Conures, eight adults and two juveniles, from IBAMA, the environmental protection wing of the Brazilian government. The adults were presumably all chicks robbed from nests in the wild while the juveniles were hatched in captivity. After a quarantine period the birds were banded and reintroduced at the CETREL reserve, a 700 ha mosaic of *cerrado* (dry, savannah forest), *restinga* (shrubs and grasses found on sandy, acidic soils) and secondary stands of Atlantic coastal rainforest. Over 290 species of birds have been recorded in the reserve, including potential predators of Gold-capped Conure, Peregrine Falcon (*Falco peregrinus*) and White-tailed Hawk (*Buteo albicaudatus*).

Feed stations used

To assist the readaptation process to a natural environment, platforms and feeders were distributed in the area, offering the fruits and seeds of regional species. Although flocks in the area still visit the feeders, banded individuals have been observed as far as 5 km from the reintroduction site. Normally a seed predator of native species, it appears that Gold-capped Conures may be acting as dispersers of Dendê palm (*Elaeis guyanesis*) fruits by carrying them in their beaks to distant locales where the fleshy mesocarp is eaten and intact seeds are discarded. Although Dendê palms (also known as African oil palms) are an exotic species, their fruits are an important resource for many other frugivorous species of northeastern Brazil.

In order to study the reproductive biology of Gold-capped Conure we constructed artificial nests made of PVC tubes with a diameter ranging between 14-20 cm and a length of 50-70 cm. Nests were painted on the exterior in either green or brown. As of yet we have not determined a preference for nests based on size or colour, as all models have been repeatedly used by different flocks of birds. Gold-capped Conure that utilized the artificial nests laid between 2-4 white eggs, weighing on average 5.6 g (n=9). The shell weight composed 6% of the total weight of the egg. Eggs were incubated for around 22 days, after which chicks hatched and remained in the nest for approximately 45 days prior to fledging. Chicks were hatched with pinkish-white skin and white down. With time the beak and feet acquire a black colouration.

Flock formation

With the growth of the reintroduced population, we observed the formation of up to six flocks that varied between 5-16 birds. These flocks were composed of chicks fledged from previous nesting

seasons, that appear to assist with current nesting attempts. On numerous occasions groups of up to 10 birds entered the same nest, with the behaviour being observed most frequently at the start of the nesting season. More research is needed to verify the existence of this unique behaviour, which if true, places Gold-capped Conure alongside Golden Conure (*Guaruba guarouba*), another neotropical psittacid that is believed to practice altruistic rearing of offspring.

We estimate that the current population of the Gold-capped Conure in the environs of the CETREL reserve now stands at around 60 birds. This rapid increase may be due to the fact that the reintroduced population reproduces twice a year, in July and December. Whether or not the same adult pair reproduces twice in a given year is still unknown. It is likely that the current population of Gold-capped Conures are direct descendants from reintroduced birds, as native Gold-capped Conure were rarely observed in the area prior to the release in 1997. As this population continues to grow and expand its foraging range, it will presumably mix with other subpopulations of the Gold-capped Conure, thus increasing the genetic integrity of the offspring of reintroduced birds. Education outreach programs implemented by CETREL are already under way in surrounding communities to ensure that birds that migrate away from the source population will not end up back in cages.

A promising reintroduction

The reintroduction of captive raised parrots is still a fledgling enterprise whose chequered history seems to highlight more failures than success stories. Captive-bred birds are seen as possessing 'behavioural deficiencies' that impair their chances of survival in the wild. Although time will tell if the birds in our project survive in the long term, it is nonetheless encouraging to see the population grow each year, despite the absence of wild birds to serve as 'teachers'. Perhaps with certain parrot species instinct plays a larger role in survival than thought previously. It is hoped that our work with the recovery, reintroduction and study of the breeding biology of Gold-capped Conures yields important tools for the future conservation of other parrot species worldwide.