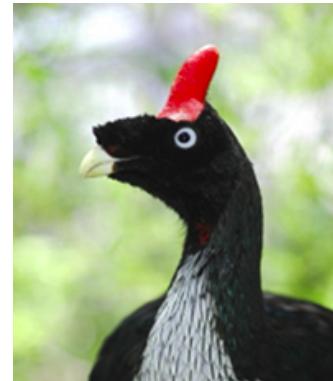




## **DEAR MEMBERS,**

We are ending the first quarter with many national and international professionals in the zoological field, visiting The Dallas World Aquarium. As host of the 2010 Avicultural Society of America, more than 100 attendees from around the world will learn from renowned avian specialists. Josef Lindholm and Juan Cornejo will represent the DWA and present papers about Cocks-of-the rock and Horned guans. The 2010 Herpetology Taxon Advisory Group (TAG) Meetings are being held in Ft. Worth, with a social evening planned at the DWA.



We are fortunate to have four studio apartments in the Yellow Building. These can accommodate overnight guests or long-term interns that may be here for several weeks or months. Nigel Marven recently spent two days and nights at the DWA. This week Dr. Moya (USDA Miami) and Leslie Howie (Director of Toucan Shelter Costa Rica) are staying in the Red and Blue rooms. Vivian Yorojo, Aquarium Manager (Cali Zoo/Aquarium, Colombia) is spending a month in Dallas, as is Carolina Arruda. Carolina spent several months during 2009 at the DWA and recently returned from Sao Paulo, Brazil for a short visit to assist us with the baby penguin and the many new additions in the nursery. It is very beneficial for both the visitors and the DWA staff to work together and learn from each other.



Now completed for your enjoyment is the Lord Howe exhibit. The pristine island is home to endemic species, some of which can be seen in the display, such as the *Amphiprion mccullochi*. This very rare and unique type of clownfish (Pomacentridae) offers a chance to witness an exotic fish which is not yet seen in the marine aquarium trade. Josef Lindholm, in "Records with Rupicola," mentions the soon-to-open Caiman lizard exhibit in his article. Located at the base of the lek that is home to the Andean cocks-of-the rock, the lizards will share their habitat with Four-eyed fish.

For the first time since opening in 1992, The Dallas World Aquarium will open at 9:00 AM for the months of March through August. This allows for the better distribution of guests throughout the day and many prefer the morning hours when the animals are often more active and vocal.

Daryl Richardson Director

## RECORDS WITH RUPICOLA

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As DWA guests begin their visit in the Orinoco Rainforest, they might notice a rather mysterious place, beyond the waterfall and behind the tall coconut palm that grows on Monkey Island. A section of the rainforest has been isolated from the rest of it by aviary netting. This very tall area is shrouded with vines, so its inhabitants are often not easily seen. Many aquarium guests do not give it much

attention, but the international community of zoos and bird breeders has been regarding this enclosure with increasing interest as each year passes.

Every year since 2007, two female Andean cocks-of-the-rock (*Rupicola peruviana*) have hatched chicks in this enclosure. As of March 2010, a total of 22 (between the two females) have hatched, with 16 living. Nothing like this has happened anywhere else. One bird hatched at a private collection in New Jersey in the 1950s, but it died before fledging, so did the ones that hatched at a British private collection in the 1960s, and the National, Fort Worth, and Bronx Zoos in the 1970s. Full success was not achieved until 1979, when one reached independence at the Houston Zoo. Houston Zoo was successful with three more in 1987 and 1988, and San Diego Zoo accomplished one complete success in 1988. Until 2007, the last Andean cock-of-the-rock hatched in the US was one at Houston, which did not survive, in 1989.

Outside the US, success has been achieved at the Chiba Zoo (Japan), the Wuppertal Zoo (Germany), the Cali Zoo (Colombia), and private aviaries in Holland and Chile. In all cases, only a single female bred at a given time, and no collection has approached the number hatched and surviving as the DWA.

Until 2008, when a male bird was hatched and raised at the DWA, the Guiana cock-of-the-rock (*Rupicola rupicola*) had never been hatched in captivity, though eggs had been laid once, in a private collection in Italy in 1965. Thus the DWA's young bird is a world captive first breeding.

There are only two species of cocks-of-the-rock, and both have always been treasured collector's items in zoos and aviaries. The Guiana cock-of-the-rock is found in Tropical Lowland Forests across an extensive area of northeastern South America. It was first brought into captivity outside of its native range in 1866, when two arrived at the London Zoo. While this species was always only infrequently imported, and considered a highlight of any collection, it was exhibited by quite a number of places over the years until the 1960s, when Brazil, the major source of specimens, prohibited their export. Since then, only a few have been maintained. When the Venezuelan Government granted a special permit for the DWA to import a group in 2001, they were, and remain, the only *Rupicola rupicola* outside of South America. They are presently off exhibit in a special, densely planted aviary. *Rupicola* means "rock dweller" in Latin. Neither species normally spends much time around rocks, but the females do build their clay and fiber nests among boulders or in caves, usually near water. Nest building began at the DWA in 2004, though eggs were not laid until 2008. Artificial caves were provided, however, the successful nest was constructed



on a wall, near a ceiling.

Although there is mention of an Andean cock-of-the-rock at the Amsterdam Zoo some time before 1888, the first truly documented arrival of this species in captivity was on December 9, 1941, when one dozen arrived at the Bronx Zoo, the result of a specially arranged expedition to Colombia. True to their name, Andean cocks-of-the-rock are found along the Andes, in humid subtropical forests from Venezuela to Bolivia. Again, while they were always highly prized, a number of US zoos were able to exhibit them over several decades, until the early 1990s, when changes in the regulations of both the Bolivian and US governments ended importations. The birds at the DWA were received in 2004, after lengthy and complicated applications for permits from both the US and Peru. The permits were obtained through the cooperation of Peru's National Zoo, Parque de las Leyendas, in Lima, with which the DWA has engaged in various conservation projects.



Since 2006, *Rupicola peruviana* have lived in the partitioned area along the side of the Orinoco Rainforest. They are often seen more than heard. The males display throughout most of the year, producing amazingly powerful screeches and growls, while posturing on branches. Sometimes these brilliant red-orange birds are very visible during these courtship rituals. The chocolate-brown females are much harder to spot. There are two places to catch a glimpse of them from a distance - one area is on the bridge between Howler Junction and the toucan feeding station and the other, from below, is in front of the new exhibit for Caiman lizards, if one stares up and over it.



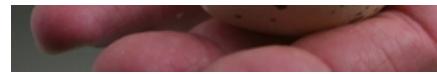
This semi-privacy has served these birds well. Both breeding females have selected caves, which they have used year after year, building nests out of mud and natural and artificial fibers. These nests are continually monitored with dark-vision video cameras. In 2007, each female reared a male chick. In 2008, 12 chicks were produced between the two of them, of which nine survived. In 2009, three of the five chicks hatched were reared. So far, in 2010, three have hatched, of which two are living now, one from each female.

Over the years, a protocol has been developed for raising cock-of-the-rock chicks. Since there are three males in the aviary, chicks that fledge out of the cave are prone to aggression from males that are not their sire. On the other hand, chicks that have been fed by the female (the only parent that cares for the chick) display optimal development, so the young birds are removed after two weeks for hand-rearing in the nursery.

Two spotted eggs are laid each time and take 28 days to hatch. This is an unusually long incubation period for a perching bird and the chicks are far more well-developed than most when they hatch. This year's two chicks are progressing well in the nursery. In the meantime, one female has been spending time on the nest each day, busily adding



mud and fiber, so a new clutch of eggs is anticipated shortly.



It appears that cocks-of-the-rock reach adulthood in 18 months. A number of birds hatched in previous years at the DWA are in a spacious off-exhibit facility which they share with two unrelated females that were imported at the same time as their parents. Two other DWA-hatched males have been sent to the San Diego Zoo. The only other cocks-of-the-rock in the US are at the San Diego Zoo and the San Diego Wild Animal Park, imported in 2003. It is hoped that birds hatched at The Dallas World Aquarium will soon be producing offspring themselves.

## BABY BLUE

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As you enter The Dallas World Aquarium, it is difficult to miss the little penguins swimming in their pool, or basking on the rocks in their outdoor exhibit that overlooks the South Africa exhibit where the larger Black-footed penguins live. Commonly known as Fairy or Blue penguins (*Eudyptula minor*), they stand 14 to 16 inches tall and weigh approximately two pounds. Their common names are due to their small size and indigo-blue feathers on the top side of their body. *Eudyptula* is Greek for "good little diver." Although smaller in size than other species of penguins, their social nature is similar to that of their larger relatives. Adults have a variety of calls that announce their location, aggression, danger and advertise for mates. Chicks use a high-pitched peep to let you know they are hungry. They are found around the waters of Australia, New Zealand and Tasmania.

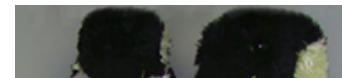
On March 7, our first Blue penguin successfully hatched at the DWA! The egg had been placed in an incubator soon after being laid. Weighing 38.9 g, it was moved to the nursery after hatching, where it is one of 12 baby birds being hand fed (aracaris, toucans, cocks-of-the-rock, Guira cuckoo, parrots and pheasants).



The initial formula for the baby penguin included krill, herring and vitamins.

At two weeks of age, it started eating pieces of fish. In their natural habitat, the babies are fed regurgitated food by their parents. Adults feed on a diet of schooling fish, squid and crustaceans. Blue penguins go out to sea before dawn to hunt for food in the shallow waters close to the shore and return to their underground burrows after dusk. Although not globally threatened, they face many threats to their survival. Predators at sea include sharks, Killer whales and seals. Predators on land are eagles, gulls, feral cats and introduced species of foxes and dogs. Lizards and snakes also prey upon eggs and hatchlings. Man-made obstacles are plastic, road kills, fishing with nets, oil spills and loss of habitat.

For now, the baby penguin is simply known as Baby Blue, although DNA results indicate that it is a female. Sharing

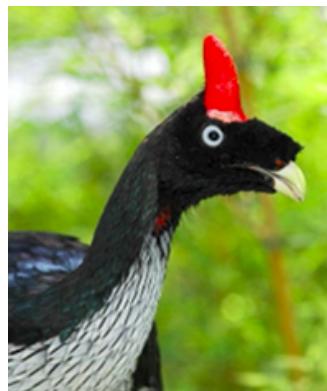


its space, are surrogate plush penguins, and although they are rather subdued and not blue in color, Baby Blue does not seem to object at this stage in her development. Hopefully the biological parents, Simon and Diddy, will show more enthusiasm when they meet their first offspring!



## HORNED GUANS

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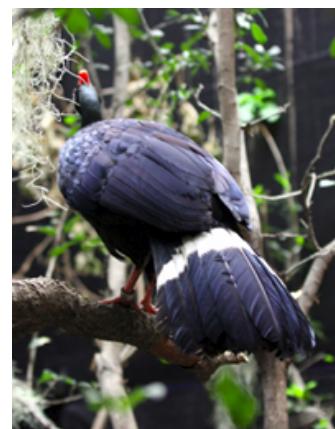
The Horned guan (*Oreophasis derbianus*) is probably one of the most peculiar birds of the world. It is the only survivor of a very ancient lineage of the order Craciformes, and the only member in the monotypic genus *Oreophasis*. It is unmistakable with its black and white plumage and its unique red horn of bare skin on top of its head. Sexes are alike, but immatures can be identified by their smaller horns that keep growing for the first four years.

The Horned guan is only found in Chiapas State, in southeast Mexico and southwest Guatemala, where it inhabits the cloud forest at elevations between 4,000 and 6,200 feet. It is a specialized frugivore, consuming the leaves and fruits of more than 55 species of plants. They are polygamous and a male can mate with several females. Both members of the pair collaborate to make a nest high on a tree branch, a simple depression on the epiphyte vegetation. Females lay two eggs and incubate by themselves for 34 days, after which the chicks will follow her around the forest.

It is considered Endangered by BirdLife International and the International Union for Conservation of Nature, and is of Immediate Conservation Priority by the IUCN Cracid Specialist Group. Habitat alteration, hunting and illegal trade have been identified as the most important threats, with global population estimated between 1,000 - 2,500 individuals. It has always been a very scarce species in captivity, with only 115 birds currently kept in 12 zoological institutions of six countries. Reproduction has only been achieved in six institutions, all in Mexico.

The Dallas World Aquarium acquired two pairs in March 2009 from a well-known breeder in Mexico. After quarantine, they were placed in off-exhibit breeding aviaries, where they are constantly monitored through surveillance cameras. The DWA is committed to generate new information that will help understand the biology of the species and improve their captive husbandry. As part of this effort, currently there is a research project undergoing to determine the normal blood values of the species, and another one on the natural incubation parameters.

By March 2010, both pairs have already shown an interest in breeding, so hopes are high that the DWA will soon be successful in breeding these remarkable birds.



## **SWIMMING DRAGONS INVADE ORINOCO**

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When we mention dragons here at The Dallas World Aquarium, we are generally referring to the seadragons for which we are well known. However, frequent visitors to our facility will notice some changes along the pathway of the Orinoco Secrets of the River exhibit. Just below the Andean Heights, as the path from the Giant River otters leads to the Golden lion tamarins, a new structure is emerging that will soon be home to a colorful reptile known as the Caiman lizard, *Dracaena guianensis*. Also known as the *Dracaena* lizard, or female dragon, they are native to South America and can be found in Ecuador, Colombia, Peru and Brazil.

Natural predators of the Caiman lizard include birds and small mammals.

Along with many other lizards in the Teiidae Family, the Caiman lizard is protected under Appendix II of the Convention on International Trade of Endangered Species (CITES). They have been hunted for their meat and skin as well as for the pet trade.



Cooperative breeding help reduce collection pressure on these animals and also bring awareness to the need for conservation of these colorful lizards and the fragile aquatic habitats in which they live. We look forward to the completion of the exhibit and to learning more about these colorful swimming dragons.

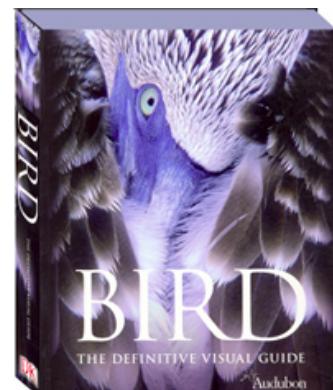
(Images provided by Jim Watson)

## **BOOK OF THE MONTH**

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"BIRD The Definitive Visual Guide" is a 512-page visual and informative guide that features bird orders and families, profiling more than 1,400 species. Produced in collaboration with Audubon, this fact alone indicates the book is worth considering. BirdLife International provided the text and maps for the species entries.

It is divided into three chapters: Introduction - provides information on physical characteristics, behavior, communication, migration, breeding and parenting; Habitats - looks at the distribution of birds throughout the world; and Bird Species - provides detailed information on orders, families and individual species. The Introduction and Habitat sections are written by David Burnie, an accomplished zoologist, who has written or contributed to more than 75 multimedia titles and books.



The photographs are breathtaking! The birds were photographed in their natural environment by photographers around the world. This book is great for anyone who loves birds, young and old! It is comprehensive, authoritative and up to date. This book sells for \$27.95 in the Book Store. Members receive a 10% discount.

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