exposed to a high number of aggressive neighbors (red), all males suffer losses in body condition, but those with bibs experience more severe losses — especially yellow males. Exposure to red neighbors incites confrontations and fights, disproportionately affecting and thus eliciting a higher 'social cost' in yellow males with bibs.

Effects of Human Encounters on Cottonmouths

The increased encroachment of humans into natural areas is typically viewed as stressful for many wildlife species. A common stress response of many animals, including snakes, is the elevated release of the adrenal hormone, corticosterone. To test whether human encounters elicited a stress response in snakes, **Bailey et al.** (2009. *Journal of Herpetology* 43:260–266) monitored the levels of circulating corticosterone in free-ranging Cottonmouths (*Agkistrodon piscivorus*) during staged interactions. When exposed to a high-level disturbance (i.e., capture and confinement in a bag) for 30 min, Cottonmouths exhibited a significant corticosterone stress response as predicted. This response was four times that of the control treatment (i.e., immediately bled snakes) and showed that Cottonmouths exhibit strong corticosterone responses to confinement. Conversely, blood corticosterone values for low-level disturbance (i.e., nearby human presence for 30 min) did not differ significantly from the control treatment. The lack of a strong stress response to low-level disturbance indicated that Cottonmouths possess a seemingly adaptive mechanism of not being overly alarmed by the mere presence of a potential predator. This suggests that the occasional foot-path encounters humans commonly have with snakes may not be stressful for some species.

GENEVIEVE POWELL

Capture and confinement in a bag for 30 minutes elicited a much greater stress response in Cottonmouths (*Agkistrodon piscivorus*) than capture, extraction of a blood sample, and release.

NEWSBRIEFS

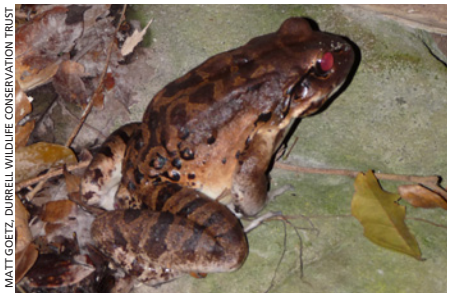
Tadpoles Feast on Eggs

In April 2009, 50 endangered Mountain Chickens (*Leptodactylus fallax*), large frogs now restricted to only two West Indian islands, were airlifted from Montserrat after a deadly fungus swept through the island, devastating the population. Now several breeding programs are under way to save the frogs. Once numbers have been boosted in captivity, researchers hope to reintroduce the frogs back into the wild within the next two years.

Remarkable footage (http://news.bbc.co.uk/2/hi/8185125.stm), testifying to the success of the captive breeding programs, was recorded at the Durrell Wildlife Conservation Trust, in Jersey, which took in 12 of the rescued frogs. Twenty-six others went to Parken Zoo in Sweden, and 12 are now housed in ZSL London Zoo.

So far, four pairs of Mountain Chickens have started to breed, which could result in hundreds of frogs — and this has given researchers an insight into the way that these unusual amphibians care for their offspring. Professor John Fa, director of Durrell, said: "Mountain Chickens have very peculiar breeding habits because they form foam nests in burrows in the ground." The females lay their eggs in these nests, which eventually hatch into tadpoles. However, as the nests are underground, food is scarce — so the frogs need to find a way to provide nutrition for their young. Professor Fa explained: "In the case of Mountain Chickens, we have discovered that the female comes into the nest and starts laying a string of infertile eggs.

"We thought that the eggs would come out and drop to the bottom of the nest and then the tadpoles would start eating them, but the footage shows about 40 tadpoles congregating around the female and eating the eggs as they come out of the female's body. Every now and again, the female uses her back legs to push the tadpoles away from her body so another set can come up and eat as much as they can." He added: "It is really weird — it is an alien scene. This is the first time we have caught this on film."



MATT GOETZ, DURRELL WILDLIFE CONSERVATION TRUST

Mountain Chicken (*Leptodactylus fallax*) tadpoles feed voraciously on strings of infertile eggs laid by females for that purpose.

The Mountain Chicken is one of the world's most threatened frogs. The frog is so called because its meat tastes like chicken. It once was found on seven Caribbean Islands, but thanks to hunting and environmental pressures it is currently found only on Montserrat and Dominica. Now, however, the deadly chytrid fungus, which has devastated amphibian populations around the globe, has also ravaged Dominica's Mountain Chickens. The fungus was first detected on the island in 2002, and within 15 months, 80% of the Mountain Chicken population had been obliterated.

Conservationists were extremely concerned when they found that the chytrid fungus had spread to Montserrat earlier this year, and was sweeping quickly through the Mountain Chicken population. The team made a decision to airlift some of the last healthy frogs and bring them into captivity in a bid to save the creatures from extinction. Professor Fa said: "Things are not going terribly well in Montserrat because chytrid has now infected the safe population — or at least the one we thought was safe."

The breeding success has offered scientists a ray of hope in an otherwise bleak sit-

uation, and they are now concentrating on increasing the frogs' numbers. They hope to eventually release the captive Mountain Chickens back to their native home of Montserrat, and are currently looking for sites that are free of the deadly fungus. However, Professor Fa said: "If that doesn't work, if the area is infected, we will have to think again, and it could be that we take the animals to another island. Within a year or two we have to get these animals back to the wild. The longer you keep them in captivity, the more difficult it is for them to enjoy a life in the wild again."

Rebecca Morelle
Science reporter, BBC News

Deadly Frog Fungus Targeted by Amphibian Experts

The world's leading amphibian experts have come together and for the first time identified two major conservation initiatives to stop amphibians from going extinct. A new coalition of organizations, the Amphibian Survival Alliance, will be established to focus on containing the spread of the amphibian chytrid fungus and on protecting habitats that are home to amphibians that occur nowhere else in the world.

Amphibians are the most threatened group of animals in the world, with one in three of the 6,000 recognized amphibian species at risk of extinction. "The world's amphibians are facing an uphill battle for survival," says James Collins, Co-Chair of the IUCN Amphibian Specialist Group. "Infectious diseases, habitat loss, climate change, introduced species, commercial use, and pollution all affect amphibian survival. By far the worst threats are infectious disease and habitat destruction — so the Alliance will focus on these issues first."

The alliance, proposed at the first Amphibian Mini Summit at the Zoological Society of London in August 2009, brings together amphibian specialists working in the wild and those in zoos, aquariums, and botanical gardens. "If we want to stop the amphibian extinction crisis, we have to protect the areas where amphibians are threatened by habitat destruction," says Claude Gascon, Co-Chair of the IUCN Amphibian Specialist Group. "One of the reasons amphibians are in such dire straits is because many species are found only in single sites and are therefore much more susceptible to habitat loss."

DAVID VIEITES

The Amphibian Coalition seeks to prevent the spread of the chytrid fungus to new places, such as Madagascar, home of Guibe's Treefrog (*Guibemantis guibei*), which so far shows no evidence of the presence of the disease.

Curbing the spread of the amphibian chytrid fungus also is a top priority for the amphibian experts. This effort will focus on identifying the presence of naturally occurring bacteria, which seem to render some amphibians resistant to the killer frog disease, and investigating their use in managing the disease in other species. So far, these bacteria have only been found on a few species, so this approach needs more research.

Anti-fungal drugs to combat the deadly disease, exploring resistance in captive-bred populations, and translocations all need to be investigated. The alliance will look into policies to prevent the spread of the fungus to new places, such as Madagascar, which so far shows no evidence of the presence of the amphibian chytrid fungus.

"Amphibians have so much to offer humans," says Simon Stuart, Chair of the IUCN Species Survival Commission and convenor of the Amphibian Mini-Summit. "Many have an arsenal of compounds stored in their skins that have the potential to address a multitude of human diseases. However, opportunities are being lost, such as the Southern Gastric Brooding Frog, which could have led to the development of a medicine for human peptic ulcers, had it not gone extinct. We simply cannot afford to let this current amphibian extinction crisis go unchecked."

The new Alliance will work with partners to implement the Amphibian Conservation Action Plan and to raise the profile of amphibians in 2010, the International Year of Biodiversity.

IUCN
25 August 2009

Recovery Plan for Philippine Crocodiles

On 31 July 2009, 50 captive-bred Philippine Crocodiles (*Crocodylus mindorensis*) were released into the wild in Dicatian Lake, Barangay Dicatian, Municipality of Divilacan, Isabela Province, Luzon Island. The Philippine Crocodile, which is endemic to the Philippines, is one of the most severely threatened crocodilian species in the world. It is listed as Critically Endangered on the IUCN Red List of

MARCUS LINDSTRÖM

The Philippine Crocodile (*Crocodylus mindorensis*) is one of the most severely threatened crocodilian species in the world.

Threatened Species. The total population surviving in the wild is estimated at only 100 mature individuals and is restricted to northern Luzon and southwestern Mindanao.

Philippine Crocodiles are relatively small and pose no danger to humans unless provoked. The released crocodiles were bred in the Palawan Wildlife Rescue and Conservation Center (PWRCC) of the Department of Environment and Natural Resources (DENR). The Isabela-based Mabuwaya Foundation implemented a community-based crocodile conservation program with funding from the UK-registered Rufford Maurice Laing Foundation. The released crocodiles are about 1.2 m long. Ten crocodiles were fitted with radio transmitters. Their movements and adaptation will be monitored by the Mabuwaya Foundation and the DENR to gather more scientific information as a basis for future crocodile reintroductions elsewhere.

The Barangay Council of Dicatian approved the reintroduction and declared the lake a Philippine Crocodile sanctuary through a Barangay ordinance. The Local Government Unit of Divilacan also has supported the release of crocodiles in the lake. No people live along the lake, which is surrounded by forest. Nature-loving tourists are welcome to visit the lake and see wild Philippine Crocodiles and other endemic wildlife up close. An observation tower and campsite have been constructed next to the lake. The small ecotourism project is expected to provide benefits to the local community living near the lake and to the municipality of Divilacan.

Dicatian Lake is situated in the Northern Sierra Madre Natural Park (NSMNP), the largest and most biologically diverse protected area of the Philippines. The NSMNP has gained even more importance with this crocodile reintroduction, and now protects the largest single Philippine Crocodile population in the wild.

The release of 50 Philippine crocodiles in Dicatian Lake is a major step towards a recovery of the wild population and the future survival of this species. The reintroduction event was led by Mayor Venturito Bulan of Divilacan, Barangay, Captain Felino Libunao of Dicatian, Director Glenn Rebong of the Palawan Wildlife Rescue and Conservation Center, Josie De Leon of the Protected Areas and Wildlife Bureau, Merlijn van Weerd of the Mabuwaya Foundation (and member of the IUCN SSC Crocodile Specialist Group), invited guests, local governmental officials, and community members.

IUCN
10 August 2009

New Species in the Greater Mekong at Risk of Extinction

A bird-eating fanged frog, a gecko that looks like it's from another planet, and a bird that would rather walk than fly are among the 163 new species discovered in the Greater Mekong region last year. All are now at risk of extinction because of global climate change, according to a new report by the World Wildlife Fund. The Close Encounters report is the second new species report on this region. The new species were identified by scientists in the jungles and rivers of the Greater Mekong region of southeastern Asia. The 163 newly discovered species consist of 100 plants, 28 fish, 18 reptiles, 14 amphibians, 2 mammals, and a bird. Recent studies show the climate of the Greater Mekong region is already changing. Rising seas and saltwater will be devastating to coastal areas. The United Nations are scheduled to agree on a new global climate treaty at the Copenhagen Climate Summit, scheduled for this December.

DAVID MCLEOD

A new frog species for Thailand, *Limnonectes megastomias*, is an opportunistic-eater, lying in wait for its prey in streams. The species has a diverse diet that includes other frogs and insects — and even birds. The species has a disproportionately large head and a mouth equipped with "fangs." The fangs, which males use in male-to-male combat, are actually growths that protrude from the jawbone. Unlike many other species of frogs, males are larger than females. These frogs have been found only at medium-to-high altitudes (600–1,500 m) in three isolated and remote protected areas in eastern Thailand.