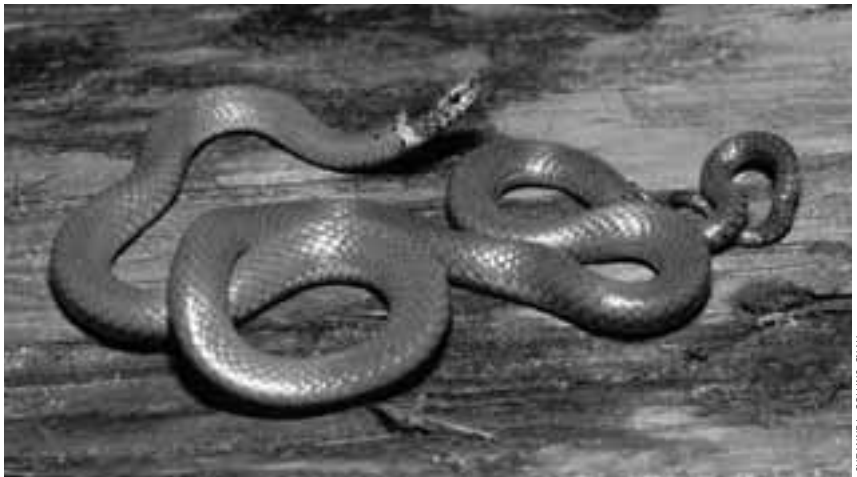


contained an independent time trend for survival of each age, morph, and lab-treatment group. For snakes of the first two age groups (ages 1 yr and 2–4 yr), survival tended to decline over the years for both morphs, whereas for adult snakes (> 5 yr), survival was constant or even increased slightly. These data on survival and recapture are among the first rigorous estimates of these parameters in a rattlesnake and among the few available for any viperid snake. These data are useful for analyses of the life-history strategy, population dynamics, and conservation of this long-lived snake.

Ringneck Snakes are Toxic to Prey

Ringneck Snakes (*Diadophis punctatus*) are suspected of being venomous because their Duvernoy's gland secretions have high levels of phospholipase activity, which is characteristic of many viperid and elapid venoms, and because anecdotal reports of feeding behavior are consistent with the use of a venom. O'Donnell et al. (2007. *Toxicon* 50: 810–815) tested the toxicity of



SUZANNE L. COLLINS, CNRH

Northwestern Ringneck Snake (*Diadophis punctatus occidentalis*) oral secretions are toxic to a natural prey species, Northwestern Garter Snakes (*Thamnophis ordinoides*).

Northwestern Ringneck Snake (*D. p. occidentalis*) oral secretions to a natural prey species, Northwestern Garter Snakes (*Thamnophis ordinoides*), by injecting 2–35 μ l of oral secretions intraperitoneally. All doses were 100% lethal within 180 min. The dose significantly affected the time to loss of a right-

ing response. Neither injection of saline nor denatured oral secretions resulted in loss of a righting response or any visible detrimental effects. The authors suggested that Northwestern Ringneck Snakes may have evolved venom to subdue larger prey items than the snake would otherwise be capable of taking.

NEWS BRIEFS

Virginia Herpetological Society Publications On-line

The Virginia Herpetological Society has digitized all of its publications from 1958 to 2005, providing easy access to almost 50 years worth of field notes, articles, and the history of the society. Interested herpetologists are encouraged to access this resource at fwie.fw.vt.edu/VHS/ (or publications specifically at fwie.fw.vt.edu/VHS/vhs_history.htm).

Fourth Annual Sonoran Desert Herpetological Symposium

The Tucson Herpetological Society and its cosponsors are pleased to announce the fourth symposium on "Current Research on Herpetofauna of the Sonoran Desert" from 11–13 April 2008. The goals of this meeting are: (1) Presenting research on the herpetofauna of the Sonoran Desert (in the states of Arizona, Sonora, and on the Baja California Peninsula and gulf islands),

and (2) Bringing the interested community together to get better acquainted. Invited speakers are Harry Greene, Ed Moll, and Cecil Schwalbe.

The first three Sonoran Desert

Herpetofaunal symposia were an epiphany for many. These symposia revealed the wide variety of research being conducted in the area. For more information, see: <http://tucsonherpsociety.org/>.



THOMAS WIEBANDT, WILD HORIZONS

The Tucson Herpetological Society and cosponsors announce the fourth symposium on "Current Research on Herpetofauna of the Sonoran Desert."

Officials Warn 'Beware the Snakes'

Three experts and an eye witness launched kayaks into the Hanalei River on Kaua'i to try to track down a snake spotted on 25 June — the fourth reported sighting there since March.

"A snake flew out of the tree and splashed into the water," said 16-year-old Paulina Michel, of Princeville. "Then we started paddling really hard to get away." Demonstrating with her hands outstretched about 3-feet apart, 8-year-old Pearl Cuevas described her version of what she saw. "It was about this big," she gestured.

Although Hawaiian officials scour aircraft for the invasive species and take other, serious precautions to keep the state snake-free, the threat of the existence of the Brown Tree Snake (*Boiga irregularis*) on Kaua'i is a real one. The Brown Tree Snake is a nocturnal and arboreal snake that, after World War II, was introduced to Guam, probably via military cargo returning from use in the war in New Guinea. The species' rapid spread throughout the island resulted in the extinction of nine of the island's 12 forest birds and half of its lizards. With that in mind, Department of Agriculture officials are taking action to prevent what could be a drastic change to the fragile balance of Kaua'i's ecosystem.

Michel and Cuevas said they were about a mile from Hanalei Bay on their return to the Kayak Kaua'i port when they saw the snakelike creature slither away under the water. The pair — along with Michel's 8-year-old sister Jolene, who was trailing in a kayak with her father — reported the sighting to authorities immediately upon their return. State officials from the Hawai'i Department of Land and Natural Resources and Agriculture, Ed Pickop and Al Silva, with Invasive Species Committee member

Eric Twedt, arrived later at the Kayak Kaua'i office. They brought with them a "snake sighting interview kit." The experts asked the witnesses questions using different sizes of polyvinyl chloride pipe, rope, and pictures in an attempt to identify the snake.

Rain hampered efforts to kayak to the spot where the girls saw the snake, but Paulina said she was eventually able to show the experts the approximate location. "They got out and looked for tracks but didn't find anything," she said. The officials plan to return soon to further investigate. "We're not messing around. We take this very seriously," Pickop said.

After an alleged snake was spotted two weeks previously, DLNR officials posted signs on the Kayak Kaua'i office in Hanalei asking all sightings to be reported. "It was a very interesting, action-packed day," Paulina said. "Beware the snakes."

In an ongoing effort to keep the snakes from hitchhiking to Hawai'i in military planes, ships, and cargo, Sen. Daniel Inouye has been working to include a Guam-based snake inspection process in the annual defense spending bill.

Nathan Eagle
The Garden Island
26 June 2007

A Major Victory for Gopher Tortoises

INCIDENTAL TAKE IS ALL BUT HISTORY! Thousands of citizens have been emailing, writing, attending meetings, and demonstrating a wish to conserve Gopher Tortoises (*Gopherus polyphemus*) and all the species that live with them. Private landowners, developers, and others are working together to take the next important step, namely to make sure that the Florida Wildlife Commission (FWC) Gopher Tortoise Management Plan is based on the management and monitoring practices that insure sustaining the species and its habitats in perpetuity.

Danger signs are rising all over the place that indicate that what is now a good foundation may not meet the criteria that will insure tortoise conservation for generations to come. More than twenty years ago, FWC staff assured those of us with concerns about the



JOE BURGESS

Private landowners, developers, and others are working to insure that the Florida Wildlife Commission Gopher Tortoise Management Plan is based on management and monitoring practices that sustain the species and its habitats in perpetuity.

details of how relocation and incidental take were going to be handled that those details would be changed. More than 10 years later, FWC responded to the science that expressed concern about upper respiratory tract disease (URTD) and proposed requirements that some kind of testing for URTD be incorporated in relocation efforts, but then did not respond to new information acquired during those 10 years that showed URTD was not the problem originally believed. Had, however, the original URTD concerns been correct, far more tortoises would have died than ever were taken by incidental take due to the 10-year response time.

The Gopher Tortoise Council (GTC) is preparing a review of the plan. One important issue still being ignored is the "Single-Family-Home" or "Five-Tortoises-or-Fewer" permits. A University of Florida study recently indicated that 187,000 single-family homes were built in 2006 alone. Plots ranged from less than one to several hundred acres in size. Meanwhile, in the history of the current permitting system, around 7,000 permits have been issued for this category. If only one tortoise per unit (not acre) is affected, the number far exceeds the losses reported by FWC.

Without the general public's concern and constant reminders to the FWC and County Commissions around the state, this and other key issues will be overlooked or ignored in the final plan. Establishing an economically sustainable program that will support relocation monitoring and management can be done in such a way that developers, agricultural interests, and large landowners will support the effort.



GAO PERRY

An introduction of Brown Tree Snakes (*Boiga irregularis*) on Kaua'i is a real threat.

GTC appreciates the work done by the FWC, hoping that it inaugurates a new era in which the staff uses science and public interest to develop real workable policies — but a few more months are necessary in order to get it done right. After twenty years of waiting, these changes will seal the fate of this keystone species, and if it takes another ten or twenty years to correct mistakes, no tortoises or commensals may be left to save.

The Gopher Tortoise Council

Litigation Looms

On 30 August 2007, The Center for Biological Diversity, headquartered in Tucson, Arizona, filed a formal notice of intent to sue the Department of the Interior for political interference with 55 endangered species recommendations in 28 states. The notice initiates the largest substantive legal action in the 34-year history of the Endangered Species Act. The full list of species is available at www.biologicaldiversity.org/swcbd/press/interference-08-28-2007.html.



GARY HAPES

The Alameda Striped Racer (*Masticophis lateralis euryxanthus*) is one of two reptiles included in the list of species for which the Department of the Interior is accused of exerting political interference with endangered species recommendations. The Mexican Garter Snake (*Thamnophis eques megalops*) is the other.

North American Reptiles Faring Better Than Expected

A newly completed assessment of the conservation status of North American reptiles (Class Reptilia) shows that most of the group is faring better than expected, with relatively few species at severe risk of extinction. The comprehensive international assessment was carried out by zoologists from NatureServe, working in partnership with reptile experts from universities, the World Conservation Union (IUCN), and

Conservation International. The study covered 721 species of lizards and snakes found in Mexico, the United States, and Canada. About one in eight lizards and snakes (84 species) was found to be “Threatened” with extinction, with another 23 species labeled “Near Threatened.” For 121 lizards and snakes, the data are insufficient to allow a confident estimate of their extinction risk, while 493 species (about two-thirds of the total) are at present relatively secure.

When viewed in comparison with the perils facing other animals, this is reasonably good news for North America’s squamate reptiles. A comparable recent global assessment of amphibians, for example, found nearly one-third of the planet’s amphibians to be at risk of extinction.

The results of the two-year assessment were announced today as a key component of the 2007 IUCN Red List of Threatened Species. Widely recognized as the most definitive tally of the planet’s threatened wildlife, the Red List is a joint effort led by IUCN and its Species Survival Commission, working with official Red List partners BirdLife International, Conservation International, NatureServe, and the Zoological Society of London. Publication of the conservation status assessments for North American reptiles is



THOMAS MUEVANDT, WILD HORIZONS

The Two-legged Worm Lizard (*Bipes biporus*) of Baja California is listed as “Least Concern” on the IUCN Red List in view of its wide distribution, tolerance of a degree of habitat modification, presumed large population, and because it is unlikely to be declining fast enough to qualify for listing in a more threatened category.

a major step toward completion of the first-ever Global Reptile Assessment, an ongoing effort by the Red List Consortium to assess the status of all reptiles worldwide. The North American effort was funded primarily by the Regina Bauer Frankenberg Foundation for Animal Welfare, a New York-based foundation dedicated to the care and conservation of the world’s animals.

Grand Cayman Blue Iguanas Hatch at the San Diego Zoo

The San Diego Zoo’s Conservation and Research for Endangered Species (CRES) is pleased to announce the hatching of three Grand Cayman Blue Iguanas (*Cyclura lewisi*). The hatchlings emerged from their eggs over a three-day period from 17–19 September 2007. The mother, who weighed only 550 g, nested four eggs in the soil of a potted *Hibiscus* plant at CRES. The nesting and hatching dates are similar to those for iguanas in Grand Cayman. Average weight and size of the eggs was 56.5 g and 66 x 45 mm. The eggs were placed on a mixture of vermiculite and water at a ratio of 1:1 by weight, and incubated at a temperature of 30 °C. The first animal pipped after 83 days of incubation. Average weight and snout-vent length of the hatchlings was 44.2 g and 97 mm.

The Grand Cayman Blue Iguana is considered by many to be the most endangered lizard in the world. Threats include severe habitat loss and fragmentation, road traffic, and intense predation from non-native feral and domesticated animals. The Blue Iguana Recovery Program was developed with several international collaborators to reverse the iguana’s path to extinction by headstarting, breeding, and releasing iguanas within protected reserves on Grand Cayman. To date, over 250 iguanas have been released and the prospect for species survival is slowly improving. One of the many program goals is to develop a self-sustaining *ex-situ* captive population that mirrors the genetic diversity of the remaining wild population and provides a hedge against catastrophic loss in Grand Cayman.

The dam hatched in 2001 at the headstart and breeding facility in Grand Cayman. She and the sire (hatched 2002) were brought to CRES in 2005



JEFFREY M. LEMM

Hatchling Grand Cayman Blue Iguanas (*Cyclura lewisi*) at the Center for the Reproduction of Endangered Species (CRES) at the San Diego Zoo.

with eight other juveniles representing five founder pedigrees new to the United States captive population. This is the first breeding of this species at San Diego; only two other zoos (Gladys Porter and Indianapolis) have bred Blue Iguanas in the United States in the last decade. CRES has been an integral part of the AZA's *Cyclura* SSP since its inception, and is a collaborator in the Blue Iguana Recovery Program.

Jeff Lemm

Research Animal Coordinator
Applied Animal Ecology Division
CRES, Zoological Society of San Diego

Bootmaker for World Leaders Arrested

A bootmaker to world leaders, including President Bush and Vicente Fox, is in a Colorado jail, charged with money laundering and conspiring to illegally smuggle the skins of protected animals into the United States to provide exotic footwear for high-end clients.

The arrest of Martin Villegas — and Mexico's raid of a warehouse filled with hundreds of cowboy boots and belts made from endangered species — has raised questions about how much Fox knew of the scheme and whether the former Mexican president purchased illegal boots himself. Before Fox left office in December, Villegas created a special

brand of cowboy boot named after him, which was manufactured in Mexico's shoemaking capital, Leon, in Fox's home state of Guanajuato. The Mexican bootmaker also produced footwear for Fox's bodyguards, Cabinet members, relatives and friends — including Bush, a fellow lover of ranchwear, who accepted a pair of ostrich-skin cowboy boots as a gift during a visit to Fox's ranch in 2001.

Villegas was arrested 6 September along with two other Mexican nationals and two U.S. residents following a three-year undercover operation by U.S. Fish and Wildlife Service agents. The five allegedly made 25 illegal shipments of banned skins into the U.S. since 2005, the department said. Days later, Mexican federal agents raided the Canada Grande factory and warehouse in Leon, which is owned by one of the other Mexican suspects, Esteban Lopez Estrada. They found about 400 pairs of cowboy boots and 150 belts made of the skins of endangered sea turtles, as well as products made illegally from the hides of crocodiles, lizards, and cobras.

The seized boots, belts, shoes, and skins are being stored in an environmental protection agency office in Guanajuato, where a chain-link cage is filled with more than 200 cardboard boxes with drawings of ostriches and serpents. "Exotic Boots ... export quality," is written in red lettering on the boxes. A pair of turtle-skin cowboy boots sells on the black market in Mexico for about \$70. Across the border, they can fetch as much as \$500. Turtle skins, which sell for about \$9 in Mexico, go for about \$80 in the U.S. Any commercial trade in sea turtles is prohibited under the Convention of International Trade in Endangered Species of Wild Fauna and Flora.



A prominent bootmaker is in a Colorado jail, charged with money laundering and conspiring to illegally smuggle the skins of protected animals into the United States to provide exotic footwear for high-end clients.

Smuggling Endangered Iguanas in a Prosthetic Leg

A California resident was indicted on federal smuggling charges for bringing into the United States several extremely rare iguanas after stealing them from a nature preserve in the Republic of the Fiji Islands and concealing them in his prosthetic leg. The smuggling charge, which carries a penalty of up to five years in federal prison, alleges that Jereme James stole three hatchling Fiji Island Banded Iguanas (*Brachylophus fasciatus*) and brought them to the United States in violation of federal and international law.



JOHN BINNS

A California resident was indicted on federal smuggling charges for bringing into the United States several extremely rare Fiji Island Banded Iguanas (*Brachylophus fasciatus*) after stealing them from a nature preserve and concealing them in his prosthetic leg.

The Fiji Island Banded Iguana is threatened with extinction and is protected under an international treaty known as the Convention on International Trade in Endangered Species of Wild Fauna and Flora. While on a trip to Fiji in September 2002, James apparently abducted three young iguanas from an ecological preserve. He then allegedly brought them into the United States by concealing them in a special compartment he had constructed in a prosthetic leg that he uses.

After receiving a tip that James possessed several specimens of the endan-

gered species, the United States Fish & Wildlife Service opened an undercover investigation. During the investigation, James told an undercover operative that he sold a trio of Fiji Island Banded Iguanas four years ago for \$32,000. After a series of meetings with the defendant, Fish & Wildlife Service agents executed a search warrant at James's house in July and recovered four of the endangered iguanas.

Andros Iguana Outreach

In October, an outreach project utilizing workshops and outreach materials was initiated on Andros Island, Bahamas. The objective of this project is to advance efforts to protect the endangered Andros Iguana (*Cyclura cyclura cyclura*). The San Diego Zoo's Education Department and Conservation and Research for Endangered Species (CRES) collaborated with the Bahamas Ministry of Education and the Bahamas National Trust (BNT) to hold two two-day workshops for Andros Island educators. Thirty-four educators (teachers, administrators, and resource specialists) representing all 19 public schools on Andros participated in the events. The workshops were supported by a United States Fish and Wildlife Service "Wildlife Without Borders" grant.

The workshops were designed to improve the educators' understanding of Andros Iguanas, their habitat, and their conservation. Participants gained valu-

able knowledge and experience through a variety of activities, discussions, and a fieldtrip. The groups received training on the use of a portable education kit with three complementary lessons and associated materials. Two of these kits will travel throughout the Andros school system during the year. Educators also received resource materials including an iguana conservation poster, wildlife identification posters, and a pine forest resource book produced by the BNT. Participants also received custom t-shirts to help promote pride in Andros Iguanas and their conservation.

The project also supports diffusion of iguana related information through youth sports and civic clubs. A series of trading cards was created as a fun way to inform youths and their families about Andros Iguana natural history, threats, and conservation. The Central Andros Iguanas Football Club, the Governor General Youth Awards Program, and the Bahamas National Trust will distribute the cards as prizes to members and participants in community events. The 70-member football club also received sports backpacks and water bottles printed with the club's logo and a conservation message.

The success of the workshops has already led to plans for further collaboration and activities. A subsequent evaluation of the effects of the activities and materials will help improve future conservation outreach activities on Andros and other islands.

Start Them Young

The countdown to choosing the nation's top young scientist began several months ago by Discovery Communications and one of the 40 finalists is herpetologist-in-training, Rick Schaeffer, a junior chelonian scientist with a science fair project on the Asian Giant Tortoise, *Manouria emys*.

Over 7,000 students won a nomination at their local, regional, or state science fairs, of which approximately 2,000 were considered for the award and 400 were chosen as semifinalists. In spring 2007, while an 8th-grade student in Jacksonville, Florida, Rick Schaeffer placed first in zoology at the Florida State Science Fair, receiving the Discovery Channel Young Scientist Award at both the regional and state competitions.



Rick Schaeffer presenting his award-winning talk: "A Comparison of the Activity Levels of Different Age Cohorts of the Asian Giant Tortoise, *Manouria emys*, by Photoperiod."

Rick presented his findings from a previous Science Fair project at the University of Florida Herpetology Conference in spring 2006. This summer, he presented his first place award-winning current project at the 2007 Annual Symposium on the Biology and Conservation of Tortoises and Fresh Water Turtles in Atlanta, Georgia. He has also presented his research at the Gopher Tortoise Council Annual Meeting. He was the youngest speaker ever at both the University of Florida Herpetology Conference and the Annual Symposium on the Biology and Conservation of Tortoises and Fresh Water Turtles.

Protection a Shell Can't Provide

Their short tails beat back and forth faster as their noses concentrated on a pile of rotting wood, wet leaves, and



BILL TOONE

Thirty-four educators representing all 19 public schools on Andros Island (Bahamas) participated in a two-day workshop using materials that focused on Andros Iguanas (*Cyclura cyclura cyclura*).

thorny brush in the dense Montgomery County forest. “Look, look,” said John Rucker, a turtle activist from Tennessee, pointing at his three Boykin spaniels. “Think they found one.” Sure enough, Sparky brought his snout out of the brush with a yellow-spotted Eastern Box Turtle (*Terrapene carolina carolina*) carefully clutched in his teeth.

The half-dozen turtle hunters were combing the woods yesterday along the planned route for Maryland’s intercounty connector, which could replace the turtle-friendly habitat with a six-lane toll highway. The aim is to catalogue and fit the turtles with transmitters so they can be rounded up and evacuated from the area when, or if, construction begins.

State Highway Administration officials are heeding the advice of their Box Turtle advisory committee with an “environmental stewardship” campaign to save the turtles from being crushed under bulldozers or trapped under the asphalt, said Robert Shreeve, the connector’s environmental manager. The campaign, which began about a month ago, is estimated to cost up to \$20,000. Unlike deer, birds, and other woodland and wetland creatures in the area, turtles “are slow-moving and have a very difficult time getting out of the way,” Shreeve said during a news conference in the woods yesterday morning.

Major construction on the long-delayed highway was set to begin October 16th but has been put on hold as a federal judge considers two lawsuits alleging that Maryland officials did not properly evaluate the highway’s environmental impact. The 18-mile highway would run north of the Capital Beltway connecting Interstate 270 in Gaithersburg and Interstate 95 in Laurel. U.S. District Judge Alexander Williams, Jr. began hearing arguments Monday and is expected to rule this month. While the lawsuits are pending, highway officials and activists are continuing with turtle relocation plans. They have found 90 turtles and hope to bring that number to 150. Some of the creatures were tagged with donated transmitters and released in the spots where they were found, but most are being held in a pen until the transmitters the highway administration ordered arrive.

If the judge rules in the state’s favor and major construction begins, officials



SUZANNE L. COLLINS, CHAP

Maryland State Highway Administration officials are heeding the advice of their Box Turtle advisory committee with an “environmental stewardship” campaign to save Eastern Box Turtles (*Terrapene carolina carolina*) from being killed during construction of a six-lane toll highway.

will locate the turtles, which will probably be hibernating under four to six inches of dirt and leaves. The best way to move “pretty much comatose” turtles is to work on a cold day and keep the turtles at a constant low temperature, said Christopher W. Swarth, a committee member and director of Jug Bay Wetlands Sanctuary in Anne Arundel County.

They will then place the turtles in a new hibernation hole on the other side of the highway construction fence, which will be reinforced with thin mesh so the turtles can’t crawl back. Shreeve said construction workers also will be trained on what to do if they spot a turtle: Pick it up and alert the environmentalists. The activists involved said none of them has ever moved this many turtles before — and they aren’t sure whether it will work. “Just because we’ll pick up buckets of turtles doesn’t mean they’ll still be around in a few years,” Swarth said.

Eastern Box Turtles can be found in many spots in the region, the activists said, but their population is slowly dwindling for a number of reasons: low egg counts, collisions with fast-moving cars, dwindling habitats, pesticides and, yes, children with sticks. Moving a whole population of turtles, even a few miles, could be enough for that species to disappear from the area.

Turtles hardly ever venture more than a few miles from their home, said Susan Hagood of the Humane Society of the United States. Turtles that are trans-

planted usually don’t settle down, she said, and instead keep wandering in search of home. Plus, the little guys might not be happy being pulled out of hibernation. “We’re trying something that history has said doesn’t work,” she said. “But with a declining species, we can’t do nothing.”

Although the activists said they were glad the highway administration has publicly supported saving the turtles, they worry that the support came too late. Committee member Sandy Barnett, a longtime herpetologist, said that the panel formed nearly a year ago and that highway officials should have started the process in June so they could mark the turtles before they started their fall hibernation routine. She is also upset that the transmitters have not arrived and will be too large for some of the baby turtles. “It’s a \$2.4 billion [highway] project,” she said. “They have all of these funds to allocate, and they can’t take care of these turtles?”

Jenna Johnson
Washington Post

Biodiversity: Exotic Pet Collectors Drive Extinction

In an ironic twist, officially listing a species as endangered drives up its value to collectors and consumers, putting it on an even faster track to extinction, researchers in Paris reported Tuesday. A perverse human penchant for possessing the last remaining member of a species increases its value so that collectors will spend thousands of dollars and go to any length, legal or illegal, to obtain them. This triggers a positive feedback loop between exploitation and rarity that drives a species into an extinction vortex, Franck Courchamp and colleagues write in the scientific journal *PLoS Biology*.

“It can be dangerous for a species to announce that it has become rare if it cannot be protected from exploitation,” Courchamp said. “Even inconspicuous species can suddenly become valuable just because they are rare.” Hobby collectors, the exotic pet trade, trophy hunters, traditional medicine, and luxury goods made from rare species are among the forces pushing rare species into extinction — and the scientific literature is often used to identify the next hot

species. Immediately after an article recognized the small Indonesian turtle (*Chelodina mccordi*) and Chinese gecko (*Goniurosaurus luii*) as rarities, their prices soared on the exotic pet market. The turtle is now nearly extinct and the gecko can no longer be found.

Exotic pet traders covet a wide range of creatures, including orangutans, monkeys, reptiles, birds, and wild cats, as well as arachnids, insects, and fish. The Internet is a major factor in driving species into extinction faster than ever, says Ernie Cooper, director of wildlife trade at the World Wildlife Fund-Canada. "The Internet makes it very easy for sellers to connect with buyers," Cooper said. A seller can easily and quickly sell 200 exotic salamanders on the net, which would have been very difficult to do a decade ago. "It's just scary how fast a species can be depleted," Cooper noted.

Two years ago, he found out that 50 Kaiser's Spotted Newts (*Neurergus kaiseri*), a threatened species endemic to Iran, were for sale in Canada. He traced the Canadian dealer to a Ukrainian dealer who was offering up to 200 Kaiser's Spotted Newts for sale. "There are less than 1,000 Kaisers left in only a few small streams in Iran," Cooper said. Although protected in Iran and collected illegally, it is not illegal to sell the Kaisers on the many amphibian collector websites. "If I hadn't stumbled on to the trade in Kaisers, it would have gone extinct before anyone knew."

The IUCN World Conservation Union's "red list" of threatened species now considers Kaisers to be a "critically endangered" species — just one of nearly 16,000 plants and animals known to face a high risk of extinction. Not surprisingly, the collector's price for Kaisers has jumped from \$200 to \$400 dollars, and some are still for sale today.

The pre-eminent scientific authority on species at risk, the IUCN red list offers no legal protection for species, says Peter Galvin of the Centre for Biological Diversity, an environmental group in California. Instead, each country should establish laws to protect species and to list a species under the Convention on International Trade in Endangered Species (CITES) to make it illegal to trade endangered species. "If there are no legal protections, then it might be a good



L. LEE GERBER

idea to keep secret the fact that a species has become rare," he said. Immediately after the Chinese Leopard Gecko (*Goniurosaurus luii*) was formally described as "rare," its prices on the exotic pet market soared. The gecko can no longer be found in its natural habitat.

However, in many cases a widely publicized announcement that a species is threatened with extinction is the only way to motivate governments to pass laws and take other measures to protect them. China adopted stringent measures to protect the Giant Panda only after worldwide public outcry following published scientific reports showing that the species was in trouble. "Most countries are embarrassed to let one of their species go extinct," Galvin pointed out.

In the United States, species have only been protected after lawsuits forced the government to put them on the U.S. Endangered Species List — or at least that is the way it has been under the George W. Bush administration, he says. "No species has been put on the list without a court order," Galvin said. That process can take years, leaving a species known to be rare without any legal protection — but keeping quiet doesn't work either, since species are going extinct at record rates. "Publicly listing a species as threatened cuts both ways," Cooper agreed. However, he

believes there are cases when it would be better to keep a species' status secret.

It is probably already too late for the Kaisers. Even if Iran wanted to make it illegal to trade the newts internationally, the CITES process can take two or more years — and the looming extinction of Kaisers is not a top priority for Iran, Cooper said.

Educating collectors on the consequences of their hobby — driving species into extinction — doesn't work for some because they tend to be obsessive personalities. "They are often experts who know a species has been collected into extinction but they must have it in their collection," he explained. Courchamp has conducted experiments on this human compulsion for rarity. "People are always interested in the rare," he said. "Even if two objects are identical, if you tell them one is rare, that one becomes their focus. It is a very strong tendency."

Stephen Leahy
IPS-Inter Press Service

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