COMMENTARY

Comments from an Old Naturalist About Exotic Species and a New Herpetocultural Ethic

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The natural world in Florida, as in much of the rest of the world, is changing so rapidly that it is virtually beyond comprehension. From a biological perspective, we often do not know how to respond. Should we be alarmed and take immediate action? I think we should definitely be alarmed; and, in some instances, appropriate action can mitigate much of the damage resulting from the changes. However, in other instances, we have little choice but to remain passive observers of the most intensive period of change in the Earth's biological history.

I choose not to dwell on the obvious changes like habitat loss due to development, changes in the environment due to pollution, global warming, and simply because humans have long since crossed the dangerous threshold of exceeding the world's carrying capacity for their own species. However, I will comment on other circumstances in the role of an "old dinosaur naturalist" (a title applied by younger colleagues to non-specialist biologists who began watching nature, catching critters, and learning about natural processes as children). First, I am shocked at the large number of herpetologists who seek to curtail the rights of "new herpers" to keep and enjoy reptiles and amphibians in their homes. Combine this with the loss of habitat and changes that are causing substantive declines in the numbers of our native reptiles and amphibians, and we will soon have a society that is completely indifferent to these animals. The Discovery Channel and all of the "TV cowboy herpers" who are providing less-than-factual information to our kids will do little to encourage current youngsters to become passionate or even vaguely concerned about conservation. We have already lost the political momentum for wildlife conservation throughout the world. What will the situation be like in 20 years without the stimulation of having a live herp from which to learn?

The new generation of herpers is estimated to number in the millions. When I was a kid, probably no more than 50 kids and young adults in the whole of the state of Ohio were interested in herps. We formed a society so that we could talk and learn from each other. Few books and no Conant Field Guides were available in those days. In stark contrast, millions of people care about herps today, but their interest seems very different than ours. We wanted to learn about the animals in the wild — but we also were excited about keeping them in captivity. This desire led to efforts to breed them and develop good husbandry, something the current generation takes for granted.

Advances in the captive breeding of some reptilian species have resulted in easy access to a wide variety of herps. The current popularity of herpetoculture is very similar to the tropical fish craze some thirty years ago. One unfortunate result of this is that people with pet herps (just like people with dogs and cats) get tired of them or cannot keep them and find out they cannot sell them or even give them away. This situation has contributed dramatically to one of the big changes in our environment today — the presence of invasive exotics.

The list of exotic animals and plants that can be found in this country is quite extensive. Incidentally, many of the exotics that have wrought havoc with the natural environment (and continue to do so) were brought into the United States by various federal and state agencies. Non-native plants and insects are causing serious damage to native wildlife and habitats. Southerners will readily tell you about the devastation caused by Fire Ants (*Solenopsis* spp.) and Kudzu (*Pueraria montana* var. *lobata*).

Now that we have millions of people with pet herps, the release of herps has become an issue, especially in Florida. We now have what I call "shake and bake ecology." One can find more than 40 exotic herps in Florida (see Mashaka et al. 2004. *The Exotic Amphibians and Reptiles of Florida*, Krieger Publishing Company, Malabar, FL). Without a doubt, some of these animals are exerting a profound impact on native herps. A single adult Cuban Tree Frog (*Osteopilus septentrionalis*) can eliminate all the native frogs around a house in one summer. Other species may fit niches that are not filled and will have no immediate impact on the environment, yet we cannot predict the full consequences of such introductions.

One interesting twist to exotic releases is that no one has complained about the Whooping Crane (*Grus americana*), an exotic recently released in Florida by federal and state game agencies. No evidence exists that this species has been a resident of this state in either recent or prehistoric times. Apparently these now resident birds (worth hundreds of thousands of dollars in tourist revenues) prefer to eat many more snakes and frogs than they do in their native habitat. One crane can find and eat an amazing number of snakes. What impact will this have on Indigo Snake (*Drymarchon corais*) populations? I suggest that some of our agencies need to practice what they preach.

Opinions expressed are those of the author and may or may not reflect those of the IRCF.

Recently, two lizard controversies have reared their heads in Florida: the Nile Monitor (*Varanus niloticus*, see *Iguana* 10(4):119–120) population in and around Cape Coral and the Spiny-tailed Iguanas (*Ctenosaura similis*, see *Iguana* 10(4):111–118) on Gasparilla Island (see "Newsbriefs" in this, p. 58, and recent issues). In the former instance, local citizens have lodged complaints (probably initiated by one or two folks and then snowballing). Many are deeply concerned that these predators will impact listed species like the Florida Burrowing Owl (*Athene cunicularia floridana*) and nesting sea turtles. Dog and cat lovers, who illegally let their wildlife-devastating animals run loose, are worried that their predatory pets will, in turn, become prey for introduced exotics. This may be the case, and we should be alarmed — and we should study the situation to determine what really is happening. Of course, what stimulated this article is that residents of Gasparilla Island have fussed about ctenosaurs coming into their yards and destroying their (mostly exotic) vegetation. Naturally, when a biologist suggested that we shoot them, the resultant outcry of disgust obscured the reality that few alternatives exist to this direct method of "getting rid of the problem." Trapping lizards, darting lizards, or any other method of taking the lizards is less efficient and certainly more stressful for the animals. The fact is that a lot of ctenosaurs live there — and a considerable effort and a great deal of money will need to be expended to get rid of them. The same is true for the monitors on Cape Coral. These are species that have established a strong foothold in their new environment. Unlike many of the geckos that were largely restricted to specific buildings near the Miami airport, the monitors and Spiny-tailed Iguanas, along with Green Iguanas, will likely be part of the Florida landscape as long as one remains.

When exotic plants like Brazilian Coffee (*Coffea arabica*) or animals such as the iguanas achieve huge population sizes, the cost in money and time essentially makes them impossible to eradicate. Some control may be possible, but eradication is unlikely. In my opinion, I think we have little choice but to live with the situation.

However, the introduction of exotic amphibians and reptiles is not a good idea and the new generations of herpetologists and herpetoculturists should develop a new conservation ethic if they wish to retain their right to keep animals in captivity. We used to tell the herpers of my day that they should take only the specimens that served a specific purpose. Today, we need to establish some new rules, which should include:

1. Before buying any pet, learn about it! Do not count on the pet store staff to know more than you do. BUY AND READ A BOOK about the animal. Learn about the species' natural history, not just how to keep it in captivity. For example, do you know that some tortoises eat more than 400 species of plants? Much of this type of natural history information is not listed in care manuals, but it may well be the key to successfully keeping and breeding some reptiles.
2. Acquire your pet from a reputable source. Do not become part of the problem by encouraging the collection of rare species from ever-declining habitats. In almost every instance, no justification exists for buying anything but captive-bred animals (one exception might be to catch your own exotic species — folks on Gasparilla, for example, would appreciate your efforts).

Spiny-tailed Iguanas (*Ctenosaura similis*) are firmly entrenched on Gasparilla Island, where residents might be well advised to learn to live with them. *Photograph by John Binns.*

3. Make sure that your caging is appropriate for the type of animal you plan to keep — and that it is escape proof! If real (or artificial sunlight) is required, don't settle for less, or you've likely doomed your pet to a nasty death.
4. Ascertain your pet's nutritional requirements and make sure you can devote the time and money necessary for purchasing and preparing the right food on an appropriate schedule.
5. Many keepers are avid about breeding their pets. Social needs are enormously variable from species to species, but most amphibians and reptiles are not social and do not need companions. In many instances, adding an additional animal to a confined space may create stress that can lead to immunocompromise and disease. An iguana has a home range in the wild that can cover several acres of land. How big is the cage you can provide?
6. Have an escape strategy for when you want to get rid of your pet (or its offspring). Perhaps the pet store or animal dealer from which you obtained it will permit you to return it, or you might be able to take it to an animal rehabber who may have better contacts. If all else fails, take it to a veterinarian or animal shelter to be euthanatized. Sound awful? Well, think about what may happen to the animal before you hand over the money for it. DO NOT LET THE ANIMAL GO, even if it is a species that is found locally. If you have exotic and native herps, be sure to keep them in separate cages (or, better yet, separate rooms). The release of pets may result in the transfer of deadly pathogens to populations of native species. Such a situation can be far more dangerous to wildlife than the animals competing with or preying on each other.
7. Avoid confrontations with neighbors. Be respectful of their concerns and fears. Educate them, but don't try to force them to accept your exotic pet. If you want to take your pet outside, do it in a private place. One incident is all that's needed to set non-herpers on the warpath. That, in turn, will inevitably lead to knee-jerk responses from local politicians. Ultimately, it all boils down to common sense.

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Andros Island Rock Iguana (*Cyclura cychlura cychlura*) (see article on p. 8). *Photograph by Charles R. Knapp.*