

The Tympanum

Herpetoculture in the 21st Century

(based on the keynote speech presented at the International Herpetological Symposium in Tucson, Arizona, 22 July 2010)

Herpetoculture has evolved and changed dramatically since the widespread successful captive breeding of many herp species began only about 30 to 40 years ago. In the 21st century, herpetoculture has become a significant economic force. Millions of dollars flow into the national economy from herpetoculture. It is interlaced and interconnected with all levels of the economy. It supports manufacturing, contributes to agriculture, and includes tens of thousands of American small businesses. It's estimated that several million people derive at least part of their personal income from herpetoculture.

But the most important contributions and accomplishments of herpetoculture may be to conservation and education.

The herp community has successfully reproduced in captivity a significant percentage of all reptile species, and a smaller but still impressive percentage of amphibian species. It has convincingly demonstrated that essentially all reptiles can be maintained and reproduced in captivity, and that this can be done by private keepers.

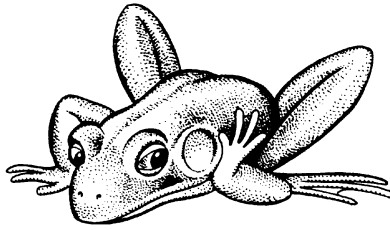
The herp community has documented its unequalled work in the maintenance and captive breeding of an entire class of vertebrate animal; data on the maintenance and reproductive husbandry of hundreds of reptiles are available online and published in magazines, regional publications and books. Even more impressive, the information generated by this endeavor has been shared—the herp community itself promotes the dissemination of the data that has been generated through regional and national meetings, annual symposia, videos, books, and an extensive and well-connected online community.

The herp community of the United States created and now supports viable self-sustaining captive populations of several hundred species of reptiles. This has been accomplished through a decentralized, nongovernmental, economically driven model of conservation. It is American private enterprise that has achieved this very impressive modern goal; not a penny of American taxpayer dollars has been spent in this endeavor.

What is now being attempted around the world for amphibians, wild felines, and many other rare vertebrates, has already been accomplished for reptiles. Reptiles are today more securely established in captivity than any other vertebrate group. This is truly one of the greatest conservation accomplishments of the past 20 years.

Today the vast majority of reptiles held in captivity in the United States are captive-bred animals. These are animals that have not been removed from the wild. The herp community is a producer of captive-bred animals and a protector of reptile species.

We feel that an important, but overlooked contribution of herpetoculture to public education regards the contact children



have with animals. Reptiles brought to classrooms are the only experience that many American children have with live animals. In schools across the United States, the most common animals to visit classrooms are captive reptiles—not dogs, cats, rodents, monkeys, or birds. It is snakes and lizards that are brought to educate and entertain children

more often than any other animals. Reptiles are used to teach lessons not only about animals, but also about the environment, ecology, natural history and conservation.

There are professional lecturers who tour American schools with reptiles. There are zoo-based educational programs that do the same. However, most school-based educational programs are done largely as a courtesy of private herpers; these programs rely on the time and effort of dedicated volunteers who present lectures and demonstrations to school kids, scouts, camps, and other groups of children and adults. This is the largest volunteer educational program involving animals and wildlife in the United States, now ongoing for more than 30 years.

But herpetoculture in the 21st century faces unprecedented and serious problems. At the turn of this century, herpetoculture was an unrecognized industry, politically unorganized and largely politically unaware. It coasted easily into the 21st century under the radar of regulation and legislation. Without any political guidance and without political organization, it never set about creating its own protective regulations. It did receive some political support from the Pet Industry Joint Advisory Council [PIJAC], but that came largely as an accidental effect from PIJAC's mission to protect the pet industry. Herpetoculture is not the pet industry, and herpetoculture was never a primary concern of PIJAC.

In this decade we have noticed that the word "pet" has acquired a negative connotation. It's sometimes implied that people with "pets" have a deep need to dominate animals, or they need to express affections that they cannot share with people, or they themselves are needy emotionally. There was a television show on Animal Planet Channel which stated that people with more than six animals in their homes were mentally ill and that maintaining animals was a version of "hoarding." We state here that we vehemently disagree with such bizarre assessments. This is an insidious tactic that the animal rights organizations are employing, and it is incredibly important to not let these demeaning and unfounded statements go unchallenged. Also, it often goes unsaid that there are valid reasons for keeping animals other than as pets.

At the beginning of this decade we were impressed with the general treatment that herps were receiving in the public eye. Animal Planet Channel, National Geographic TV, Discovery Channel and others were generally supportive and aired generally factual documentaries. We noted that snakes and other herps were being used in advertising images, a very new trend—an issue of *Vogue* or *Vanity Fair* then almost always had at least one advertisement with an artsy image that included a snake.

But a number of complications and impediments to the integration of herps into the public consciousness have arisen. For one thing, the 24-hour-a-day news cycle on cable TV has not been kind to herpetoculture. There simply is not enough real news in which the American public has any interest. The extreme competition between news channels for viewers has placed any and every “animal incident” at the top of the news hour.

On cable television shows, it has worked out like this: programmers realized that people were interested in sharks and snakes, and at first they did documentaries. Then they realized that even more viewers were interested in people being attacked and eaten by sharks and snakes. At some point, the dominant “animal programs” on TV started to have titles like “Venom,” “Bitten,” “I Can’t Believe I Survived,” “Nightmares in Nature” and “The Deadliest Killer Animals.” Interestingly, a major advertiser of this type of show is the Humane Society of the United States, one of the largest and wealthiest animal-rights organizations. Based on the number of advertisements we see on the Animal Planet Channel, it appears that HSUS is an important advertiser to and influence on that channel.

There are two main categories of organizations with agendas to take out herpetoculture. One group is comprised of animal rights, animal welfare, and some environmental organizations. These include a spectrum of organizations that range from militant activists against all animal slavery, to more mild “scientific” organizations that insist that animal-human interactions are unhealthy, or that all exotic species are dangerous to the environment. No matter what you are doing with animals, there are one or more organizations that “speak for animals” that think you are wrong and should be stopped. Their shared agenda is that they want to take animals out of the hands of private citizens and the public.

Several of these groups are well organized, have memberships that number in the hundreds of thousands, annually raise tens of millions of dollars, lobby intensively to restrict or remove animals from public hands at every level of the government in every state, and have major political influence on legislation. Recently CNN hosted an hour show featuring many of the largest animal rights groups in a positive light.

The anti-animal programs often feature high-profile Hollywood personalities and musicians who are more than willing to express their dismay that people actually keep animals. They talk a lot about mistreated animals and they imply that most animals in captivity are horribly treated. It’s our observation that most of these celebrities are poorly informed and have little or no actual experience with animals.

These organizations cite a variety of reasons to support their agendas, ranging from the dangers exotic animals pose to health, safety, and the environment to beliefs in morality, philosophy and ethics. In fact, we can find very little evidence to support their claims of dangers to the public, and only a tiny percent of environmental problems caused by exotic species have been caused by vertebrate animals—plants are far and away the biggest offenders, followed by invertebrates, then followed by aquatic vertebrates. Still, the focus is on terrestrial vertebrates because they are better for fundraising. It really boils down to

groups of zealots very seriously attempting to enact and enforce their values, beliefs, and philosophy on the public through legislation, exactly similar to what fundamentalist religious groups are banned by law from doing.

Animal-rights organizations are supporting what we see as the Culture of Animal Fear. The public is purposely being made to fear animals. They are bombarded with stories on television and pervasively spread throughout the media about the dangers of salmonella, monkey pox, Q fever, brucellosis, rabies, death by constriction, death by envenomation, death by trampling, death by being eaten by your pet Nile monitors (or someone else’s pet Nile monitors). A body of citizens that fears animals can be expected to willingly give up its rights to them.

Perceived danger is different than actual danger—for example, in the United States, if you are a member of the public with no unusual exposure to animals, it’s statistically more likely that you will be killed by your neighbor’s dog, a runaway horse, or elephant than by a python. It’s more likely that you will be killed by a family member, lightning, a handgun, an automobile, or falling in the bathtub than by any sort of reptile. If you are a person who works with elephants, you are far more likely to be killed by an elephant than is a person who works with large pythons likely to be killed by a python. The chances of a random member of the public being killed by a python are roughly the same as that person winning the Texas Jackpot Lottery twice a month for 12 months in a row.

And mention of pythons brings us to the other group of people who appear to be committed to eradicating herpetoculture. That is invasive species biologists. Besides the proposed action to place nine snake species on the Injurious Wildlife List of the Lacey Act, there recently have been several laws proposed and papers published that would seriously and negatively affect the future of herpetoculture. And there have been a significant number of both academic and contract researchers who in the past several years have taken the trouble to announce to the media that invasive pythons and other snakes pose great dangers to the public, and also to the ecosystems of the Southeast and beyond.

In fact, most invasive-species biologists do not act on an actual agenda to eradicate herpetoculture. Rather it is an unfortunate consequence of the science itself. One reason that invasive-species biologists are a tribulation to herpetoculture is that one of their functions is to create ecological risk analyses. This is a fancy way of saying “predicting the future.” One problem with risk analysis is that the deck is stacked in favor of always predicting that a species could become invasive. When the prediction is that a species poses a hazard, the predictor can never be proven wrong—the target species simply has not become a problem yet. But if one assigns low risk, and then the species does go on to be a problem, one is clearly wrong.

Another reason why invasive-species biologists are big trouble for herpetoculture is that they have vested interests in the outcomes of their analyses. A type of law that they particularly favor is the white list / black list type of law. With this type of law, all species are placed by default on a black list, that being the list of animals that cannot be possessed or transported, or

imported, or some other action. In order for a blacklisted species to be placed on the white list, an invasive species biologist must determine the probability that species might create problems in the future. So invasive species biologists naturally tend to think this type of law is a good idea.

There is no better example of invasive-snake biologists affecting herpetoculture than the situation now ongoing with the risk assessments performed by Rodda et al (2008) for Burmese pythons and by Reed and Rodda (2009) for four python species, four anaconda species, and boa constrictors. Both Rodda and Reed are biologists involved with brown treesnake research; Rodda supervises the project for USGS. Both biologists are now working together to place more species on the Injurious Wildlife List. It seems obvious to us that they have a vested commercial and professional interest in seeing more species added to the list.

The brown treesnake, *Boiga irregularis*, at this time is the only snake species on the Injurious Wildlife List. Both authors, Reed and particularly Rodda, have worked on the brown treesnake problem in Guam for years. Over the past 20 years, somewhere around \$100 million of taxpayer money has been spent for research on that species. Rodda and Reed are quick to point out that it was never their object to eradicate the brown treesnake in Guam, only to study it.

These guys are experts at getting money for research on injurious species. The addition of nine more snake species means more money, more grants, more research. Already more than \$3 million have been given to Burmese python research in Florida in which these two are involved, and the species isn't even on the injurious Wildlife List yet. Already Reed and Rodda have made statements that they don't believe that their efforts can eradicate Burmese pythons in the Everglades; they only want to study them.

The action to place these nine snake species on the injurious wildlife list is proposed because of the risk assessments undertaken by these two authors and their predictions that Burmese pythons could spread from coast to coast. We here state that their predictions that climate for Burmese pythons was favorable in Washington DC, Oklahoma City, Organ Pipe Monument, and Utah were absurd.

When we were finally able to examine the climate data set on which all of their analyses, predictions and conclusions are based, we found the data to be corrupt, the analyses and conclusions incorrect (Barker and Barker, 2010). Yes, Burmese pythons are in the Everglades, but the frightening prediction that giant constrictors could and would spread across the United States is baseless.

US Fish and Wildlife Service and National Park Service paid tens of thousands of dollars of taxpayer money for that report. Congressmen and Senators have stood before committees holding the impressively thick 302-page USGS report in their hands and declaring that "this report is all the science that is needed to enact the proposal to add the species to the Injurious Wildlife List." In fact, the report is bogus.

Legislation

In 2009, there was legislation identified as HR669 written and submitted to committee that would have outlawed the importation, transportation, and possession of all vertebrate species except 14 species on a white list. Interestingly, 10 of the 14 species that are on the white list are considered to be problematic invasive species in the United States. As is typical for black list/white list laws, in HR669 an unlisted species is, by default, placed on the black list until invasive species biologists perform risk assessments for that species, and then sign off that the species will not become invasive. Of course, here the problem is that in order to move an animal from the default black list to the white list, the contracted biologist has to, in effect, prove a negative, a logical impossibility. This law is strongly supported by Defenders of Wildlife, HSUS, and the Nature Conservancy; undoubtedly they didn't think it would be passed as written, but apparently they would have been happy with compromises to get the bill on the books. It's always—ALWAYS—easier to modify an existing bill than create a new one and get it passed. While this bill was being considered, six invasive-species biologists (Smith et al., 2009) published an opinion paper in *Science* supporting the need for this bill. This bill was rejected in committee because 50,000 letters from herpers were received by the committee. But the bill is not dead; it is being reworked and it will likely surface again, probably with a much larger white list.

Recently a law has been proposed that would ban the importation of amphibians into the United States unless each animal is certified free of chytrid fungus. This seems particularly ironic considering the problems of amphibians worldwide, including in the United States. This was proposed despite the well-publicized international project known as Amphibian Ark, a desperate effort to save some of the frog species by creating captive viable, self-sustaining populations.

In the past two years there have been actions at the state level throughout the country that are too numerous to list completely, but to mention a few: California entertained a proposal to ban importation, transportation and possession of all amphibians and turtles; Ohio looks like it is going to ban exotic animals because governor Ted Strickland doesn't want HSUS to support an animal welfare initiative that would affect Ohio farmers; Texas decided that its roadsides are wildlife refuges and it's illegal to molest or impede the progress of any herps in the area from the fence on one side of the road to the fence on the other; despite three years of work on a plan for "reptiles of concern" created by multi-agency participants, including representatives of the private community, the Florida legislature chose to completely ignore that plan and passed by unanimous votes (116 to 0 and 35 to 0) a ban on private ownership of any of those species, unless the person is a commercial importer, distributor, or breeder.

Miscellaneous Digressions

The following is a mix of unrelated points that we think are important. These are some of the insights that have come to us in our growing awareness of the problems that will increasingly plague herpetoculture.

- The world is changed from 50 years ago at the beginning of

the Golden Age of Herpetoculture. For one thing, there has been a global human population increase of more than four billion people in that time. In 2011 human population will surpass seven billion. At this time, humans are the most numerous animal species larger than 3 pounds on planet Earth.

- The world is a tough place for most herps, and many species will need to be set up in captivity, or they will be lost. It is great if endangered or extirpated species can be released from captivity into reconstituted ecosystems, but for the most part, re-establishment of exotics species in the wild is a myth. Tigers are one of the greatest examples. It is likely that in the near future, tigers will go extinct in nature, and they will never be re-established. The same seems likely for most species that lose their places in nature. We believe this has finally become obvious in the case of the world's beleaguered frogs and almost all Asian turtles. Either they will be moved into captivity, many forever, or they will be lost to extinction.

For decades, we have advocated the importance of the maintenance of ancillary captive populations of herp species—not for the purpose of release into reconstituted habitats, but more simply and hopefully that our generation could guard them long enough to hand them over to future generations.

- Few private individuals are capable of maintaining colonies of gorillas, okapis, or giraffes. But private keepers can and do maintain colonies of herps, orchids, ferns, cacti, rodents and other small organisms. They should be encouraged to do so, maybe with tax incentives for maintaining endangered organisms. We can best protect what we allow to live with us. It is critical that the zoo herp community and the private herp community come to some understanding and figure out a way to work together. Both communities need each other to do what must be done.

- The saying “Better extinct than only in captivity” has been a mantra for conservationists and their agencies for at least 40 years now. Over the years we have heard this repeated by academics, environmentalists, animal rights people, and conservationists. We find it to be one of the most offensive statements we've ever heard uttered. It has always been our opinion that it is up to us, this generation, to save what we can by any means possible. There are many species that can be maintained in captivity forever, and that seems to us to be the responsibility of our generation. Consider the Asian turtles, a number of which may now exist only in captivity. The disappearing amphibian phenomenon is worldwide. It is our observation that over the course of our lives, we've seen fewer and fewer reptiles right here in the USA.

- It would be a positive move for the US Endangered Species Act to be amended to grant to captive-bred endangered species a different, less strict status, following the example of CITES. One has only to look at the large, captive populations of Fiji iguanas and radiated tortoises in Europe where they are considered CITES II species and are privately owned and captive-bred. They are common and they exist in viable self-sustaining populations. Recently it has been reported that population numbers of radiated tortoises have plummeted in the past decade and the species is on the way to extinction in the wild. Why are U.S.

zoos still freezing eggs instead of hatching them?

- We hear of plans to restore the Everglades region back to its original pristine condition. We are pretty sure that will never happen, not for the Everglades or for any other ecosystem. Ecosystems change, they evolve through time. Conservationists and preservationists need to manage ecosystems into the future, not return them to some imagined snapshot of their past. The Everglades of the past probably could not handle the mercury and Agent Orange that have been dumped on it, the drier conditions, or the fertilizer and pesticides that now flow through it.

It's noteworthy that this year the United Nations added Everglades National Park to its List of World Heritage in Danger. A decrease in water quality and flow due to agricultural and urban development was cited as the main reason for the listing, not pythons. Established exotic species in the Everglades are an issue of concern, no doubt, but consider that the Burmese python is but one of the more than 2400 species of exotic plants and animals that have been found in the Everglades.

It's probably correct to state that every ecosystem in the world has established exotic species. Some exotic species become problems and are then classified as invasive species. However, the effects of most established exotic species on their foreign ecosystems are benign or even beneficial. The public is warned that the deadly Burmese pythons will upset the “delicate” and “fragile” ecosystem of the Everglades. To us, Burmese pythons are more correctly considered as yet one more established exotic species in the ecosystem with the most exotic species in the world. However, the researchers in Florida get more money if they refer to them as invasive species.

- We are disappointed to learn that the Nature Conservancy is no friend of herpetoculture. So far as we can find, they support every law and ordinance restricting herp ownership. Their name and logo appear on the alarming and incorrect National Environmental Council on Invasive Species [NECIS] handout about the dangers of anacondas and pythons. They have given testimony supporting the Reed and Rodda USGS report. Officials of the Nature Conservancy communicated with Reed and Rodda during the preparation of the USGS report and requested that several more pythons and boas be added to the report. In one email, received in the FOIA request filed by USARK, Robert Reed writes to a Nature Conservancy official that they are really going to like this report. As the saying goes, if it looks like a fish and smells like a fish and hangs around with fish, then. . . .

- Considering the numbers of herps that annually are bred in the United States, there is no excuse for the importation of wild-caught herps for the pet trade. The time has come for herpers to support the creation of the Wild Reptile Conservation Act. A separate Wild Amphibian Conservation Act is also important. We propose that these laws be based on the Wild Bird Conservation Act of 1992. They would ban the importations of large numbers of wild-caught or wild-bred herps for the pet industry. Captive-bred animals could be imported. Small numbers of wild-caught animals necessary for genetic heterogeneity in captive populations could be imported. Scientific specimens could be imported by Zoos and academic institutions. Interstate transport and international exports of herps captive bred in the

United States would be allowed. Commerce in these animals would be allowed.

- Recently a herper friend of ours moved to central Texas. He looked at houses in our area only to learn that the bylaws in every single subdivision allowed a resident ONLY one or two dogs and one or two cats. In some, aquarium fish were okay, but others specified that “aquarium pets” were not allowed. Most subdivisions required pets to be neutered. Herps of any sort were specifically and completely banned. It was illegal in every one to possess a pet mouse. This was the case in more than a dozen subdivisions in a fairly rural area of central Texas—most featuring 5- to 10-acre lots. We were shocked. Few herpers realize the difficulties they will face when they look to purchase a home.

USARK

We have related only a portion of the very negative and very scary things that will increasingly affect herpetoculture this year and in the foreseeable future. Things have never been grimmer, and it seems likely that they will get worse before they get better. So we will now tell you now about the best thing that has happened this past decade. That is USARK.

The United States Association of Reptiles Keepers, better known as USARK, is the political face of herpetoculture. It exists to protect and promote the rights and activities of herp keepers. It is a nonprofit, politically active organization. It is a small organization with a director, officers, and a board of directors. There currently are about 8,000 members, and membership is growing. They have been moderately successful in their fundraising, and they employ three good lobbyists in Washington, D.C. They have an economist under contract to create a formal economic impact assessment of herpetoculture in the United States. They have hired a technical writer, who recently wrote a 66-page “Request for Corrections” that was served to USGS to specify corrections that needed to be made in their report.

USARK was formed in the middle of the greatest problems we all have ever faced. Andrew Wyatt, the director, hit the ground running and USARK has become an effective and fairly formidable force. USARK has forged alliances with many other political groups in Washington, and it has good lines of communications with an increasing number of legislators.

But this is the deal. USARK is YOU. All of you reading this and every herper you know, you need to support USARK. You need to join, you need to get on their email list and you need to pay attention to the info they will send you.

Here is another unfortunate fact of life—not all herpers are created equal in the eyes of the government. What we mean by that is that an email or a letter to USGS or USFWS or DOI from a professional zoo herpetologist, from an academic with a PhD, or from a DVM or a MD is weighed more heavily than a letter from us or from any private herper. Understand that we are not saying we all should stop writing—quite the contrary, it has never been more important for us to flood Washington with our correspondence. What we are saying is that there has been a near silence from zoo professionals and from academics that we

do not understand and that future generations of herpers will never forgive. We need your voices.

We do acknowledge with gratitude that Steve Olson, the AZA vice-president of government affairs, and Rick Schwartz, director of the Nashville Zoo have successfully lobbied the AZA to submit a letter against the proposed listing of the nine constrictor species on the Injurious Wildlife List. Also, we all should be grateful to Elliott Jacobsen and Dale DeNardo for their efforts when they and 8 colleagues signed a letter severely criticizing the quality of the USGS report.

We’ve had people tell us “maybe I don’t want to support USARK, maybe I want to support another group” and we say to them, “you name a group that is better suited and working harder and we’ll support them.” But we’re here declaring that USARK is the best we have, it’s the best political organization we herpers have ever had, it’s all we have and if we don’t support it, then the younger keepers in the herp community will live to see the end of herpetoculture.

The Future of Herpetoculture

In conclusion: Americans are losing their animals. It’s not just reptiles, although they often are specifically targeted. Little by little, piece by piece, the rights to keep animals are being nibbled away. Today most Americans live in large cities, away from nature, alienated from animals other than small dogs and occasional cats. The average American simply doesn’t realize that his or her right to maintain animals is being systematically challenged and erased. Regulations to remove animals from all Americans are often framed as being for public safety, public health, or protection to the environment—this all sounds reasonable and desirable to a populace that has little interest and no experience with animals.

As the general population loses contact with animals, it begins to fear animals. The public is constantly being told that animals can cause injury, disease, and even death. However, with the removal of animals from society comes a loss of support for zoos, parks, conservation and environmental organizations. There results a general loss of curiosity about and knowledge of the natural world. People cannot be expected to love, respect, or support that which they have never experienced.

There are forces at play that seek to criminalize the captivity of all animals. Primarily because of our lack of political organization in the past, the herp community has been among the easiest targets. The past decade clearly shows a general trend of slow and insidious increases of restrictive regulations at every level of government throughout the country. City by city, county by county, state by state, anti-animal laws and ordinances have been methodically enacted across the USA. Agricultural guidelines turn into dangerous animal ordinances that turn into exotic animal ordinances that then become animal bans. It’s death by a thousand cuts.

USARK must receive the united support of the herp community in order to be able to protect our rights to maintain animals into the future. The future of herpetoculture is ours to shape, but we must organize. The herp community has the political power to deflect whatever happens to be the latest attempt to increase

popularity ratings by Congress or the media, but we must learn how to effectively wield that power through USARK. All persons with interests in live captive-bred reptiles and amphibians should join USARK and actively support it.

The day has come when political apathy is no longer an option.

Only united behind USARK can the herp community chart a secure course to a future where the efforts and accomplishments of this devoted community are appreciated, honored, and encouraged. **David G. Barker and Tracy M. Barker, vpi@beecreek.net**

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