

THE FORKED TONGUE

THE MONTHLY NEWSLETTER OF THE GREATER CINCINNATI HERPETOLOGICAL SOCIETY

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The Editor's Den

This month's forked Tongue focuses on the Red Acanthurus Monitor.

Calendar of Events

July 11, 2007 (Note that this is not the first Wednesday!) – Monthly Meeting featuring Will Bird and Phil Peak speaking on Snake conservation in Kentucky.

August 1, 2007 – Monthly Meeting featuring Dan Meakin, DVM, speaking on snake anatomy.

September 5, 2007-Monthly Meeting featuring Marc Frevola speaking on "Using herps for Learning in the Classroom."

October 3, 2007- Monthly Meeting featuring Jeff Davis speaking on the Eastern Massasauga, an Ohio Endangered Species.

Spiny-tailed goanna (Ackie)

By Daniel Bennett/mampam.com

The spiny-tailed goanna is found throughout northern Australia (except the east of Queensland) and also inhabits many islands off the northern and western coasts. It may be absent from areas of the Northern Territory inhabited by *V. baritji*. Three subspecies have been described; *V. acanthurus acanthurus* from easterly parts of the range, *V. acanthurus brachyurus* from the west and *V. acanthurus insulanicus* from Groote Eylandt and Marchinbar Island in the Gulf of Carpentaria. Storr (1980) did not consider *V. a. brachyurus* to be a valid subspecies, but he remarked on peculiarities in specimens from some islands (Barrow and South Murion) off Western Australia. Case & Schwaner (1993) noted that animals from Barrow Island were significantly smaller than those on the mainland. Specimens from southern locations tend to be more brightly coloured and have shorter tails than those from the north, with populations in the north-west Kimberleys and on islands in the Gulf of Carpentaria being virtually black

with only a few lighter markings (Storr 1980; King & Horner 1987). Colour and pattern do not differ significantly between juveniles and adults. They reach a maximum of about 60cm TL (25cm SVL). The spiny-tailed monitor lives in a variety of tropical and subtropical habitats and is particularly associated with rocky areas. However they will also live in trees (Stammer 1970) or in burrows (Swanson 1979) and have been collected from beneath spinifex grass (Smith 1976). In stony areas they like to shelter in rock crevices (where they use their spiny tails to wedge themselves into inaccessible cracks) or in burrows under slabs of rock (where they use the tail base to block the burrow entrance). The spiny tail is wielded like a club with considerable force (Thompson & Hosmer 1963; Swanson 1979; Stammer 1970; Auffenberg 1983a). The western "brachyurus" may be more arboreal in habit than "acanthurus". In areas without outlying rock they may spend the coolest parts of the year in tree hollows (Stammer 1970). Stammer also records that the lizards take refuge in labyrinths of burrows covering about 0.5m² but only 20cm deep. Bustard's (1970) remarks that this species lives in colonies are thought actually to refer to *V. storri* (Greer 1989) but the lizards' dispositions in captivity suggest that they could live in close association with each other. Females are encountered as often as males, but may not grow to as large a size (King & Rhodes 1982; Fitch 1981). Mating occurs in the late dry season (August - November) and a single clutch of 2-11 eggs is laid which hatch during the wet season (December and January) (King & Rhodes 1982). A nest examined in the Northern Territory had been dug into a mound of bulldozed soil and consisted of an "s" shaped tunnel terminating in an egg chamber 40cm below the surface. The tunnel had been refilled with soil and the eight newly hatched youngsters were digging themselves out (Husband 1979). Wilson & Knowles (1988) note that the severed tails of these animals are sometimes encountered and suggest that this armoured appendage is considered inedible and discarded by predators. The spiny-tailed goanna feeds mainly on invertebrates (particularly orthopterans and beetles) and other lizards (geckoes, agamids and skinks). They are known to be

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cannibalistic in captivity and may eat smaller varanids in the wild. Most specimens examined contain less than three prey animals in their stomachs (Losos & Greene 1988). The metabolic rate of this species is lower than that of similarly sized species, suggesting that they may catch a lot of food by ambushing it rather than actively seeking it out and chasing it down. Oxygen consumption has been measured at 0.057-0.196 ml of oxygen per kilo per hour (Dryden, Green et al 1990; Thompson & Withers 1994). Spiny-tailed goannas have been bred many times in captivity and third and fourth generation captive bred animals have been produced (e.g. Murphy 1972; Jauch 1984, Erdfelder 1984; Horn & Visser 1989; Thissen 1991, 1992; Visser 1993; Eidenmuller 1994).

ACANTHURUS MONITOR CARE SHEET

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http://www.proexotics.com/care_ackie.html

This caresheet addresses Acanthurus Monitor (Ackie monitor) availability, morphs, seasonality, sexing, and most importantly, setup and care.

Red and Yellow Ackies breed and hatch year round, but at the same time, they are still fairly rare in the trade, and are in steady high demand. Babies often sell out before hatching, so it is best to pre-purchase babies that are due to hatch in the coming weeks. This period may be anywhere from one week to twelve weeks, and it is best to get your order in early, for quickest availability. All of our monitors at Pro Exotics are approached with a similar strategy, varying here and there to account for feeding and humidity needs, but it basically breaks down to "keep 'em hot and feed 'em a lot!"

Acanthurus hatchlings are kept right out of the egg on a shallow soil substrate in 10 and 20 gallon tanks. It is important during this time to monitor the success of each hatchling. We want to be sure that each baby is getting a full share of food, and they have the easiest time learning to hunt and eat crickets. A simple setup helps accomplish this goal.

The soil also helps to insure complete sheds, and it is easier to keep visual track of each animal's toes and tail with a simple setup and substrate. This is important because any poorly shed toes and tails can be easily lost to circulation and scabbing problems. Be sure to keep your soil at a good moisture level. You will learn to balance out the moisture content by adding water regularly. This varies from cage to cage, but you should get a good feel for it within a week or two.

Our substrate preferences for monitors in our collection have changed with time, and while we used to use cypress mulch almost exclusively, we have now largely switched over to soil. After trying a few different soil mixes, we not only found a "store bought" mix that works well, but a locally purchased decomposed granite that works extremely well. It holds moisture and burrows beautifully. This decomposed granite is now our preferred substrate, and while we have had success with cypress and paper towels for hatchlings in the past, consider a soil mix for your permanent setup, your monitors will be much happier for it.

The other features in the baby setup include a nice sized water bowl, and multiple hide spots are created using the Wood Stacks. These stacks also provide an elevated basking spot on one side.

The cages and water bowls are cleaned daily and we also have a weekly soaking program for all of our monitors (including breeders).

Soaking your monitors weekly is not only recommended, but an important aspect of husbandry. Soaking in room temp water for 1 to 2 hours allows the animal to hydrate completely, as well as helps with any stuck sheds on the delicate toes and tails. You should use water that comes up to the shoulder (or body thickness) of your monitor, so they can easily keep their heads above water. We have used this technique for a few years now, and have had tremendous success. Keep in mind that when soaking baby monitors they often float on the water, not having enough mass to sink to the bottom and walk around in water up to their tiny shoulders. If they literally have to swim in the water for the entire 2 hours, they may die of exhaustion.

This is remedied by "soaking" your tiny animals on wet paper towels. Line your container with three or four layers of paper towels, then wet these down liberally. Add the animals to the container, and use a secure lid. They will walk on the paper towels, drink from the small pools of water, and get all the positive benefits of a good soak, without the added worry of drowning. Temperatures are another crucial factor (along with hydration and nutrition) to a healthy monitor. While it is generally true that Ackies are a hardy and "bulletproof" monitor, temperatures are still important to their success and well being.

We use basking spot temperatures of 120°-130° F for the Ackie babies, with ambient cage temperatures of 85° F. At night, it is important the temperatures do not drop below 80° F. If you insist on allowing the temps to drop below 80°, you may start to court respiratory infections, so it is important to use red bulbs, ceramic

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bulbs, heat panels, or whatever it takes to keep those temps up and your monitor healthy. Many large monitor breeders, including Pro Exotics, often run daylight cycles and temps 24 hours a day. This keeps temps up, metabolism high, and our monitors stay in the best of health. You don't have to run a 24/7 day cycle, but look at your night drop closely when brainstorming about your lethargic (or mouth bubbling, or non eating) monitor.

In order to monitor your temperatures accurately, we encourage our customers to use either a PE infrared Temp Gun or a digital thermometer with a probe. At Pro Exotics, we offer a great digital thermometer with a probe for \$15, and it includes a Minimum/Maximum setting (for keeping tabs on those overnight temps). You can mount the base of the thermometer inside the cage, in an area away from the basking spot, to measure the ambient temperature of the cage itself. Move the probe around the cage, check the basking spot, check the hide spots, check the "favorite" spot, check the far end of the cage. Check it all, and know what is happening. Find the range of your cage, from hottest spot to coldest spot, use the Min/Max reading to check your night drop, and make sure these temps fall within the parameters you have set. If they don't match, do what you need to do to get them there.

Changing a hot spot from 95° F to 130° F is often as simple as raising the basking spot a few inches toward the basking light.

Along with the proper temperatures, feeding plays a key factor in the well being of the baby Ackies. Pro Exotics' diet consists of crickets, rodents, and thawed raw ground turkey. We supplement the food items with Miner-All nearly every feeding. Crickets are offered 4 days a week, chopped crawler mice (thawed) are offered once a week, and turkey is offered on once weekly as well. The crawlers must be chopped for babies and juvies because the monitors are still too small to eat an entire crawler mouse in one quick bite. We strongly encourage folks to feed meat no more than twice a week. Crickets should make up the bulk of a baby monitor's diet, and the animal will grow terrifically if fed on supplemented crickets alone. Meats are offered for additional protein and calories, but you must keep in mind these are small babies, and as such have small digestive systems. Loading them down with too much meat will not only encourage compaction and digestion problems, but it will act like monitor steroids on these guys, and you will then have an aggressive terror on your hands. Ackies don't seem to have the same potential for aggressiveness as other

monitors, but we still strongly encourage you to follow our recommended diet.

Once the Ackies are of a healthy juvenile size (and able to chew up larger, tougher insects), you can start adding other insects to the diet. We round out the Ackies diet with mealworms (including superworms for adult Ackies) and feeder roaches.

The big husbandry change many folks insist on making is offering a "wide and varied diet". We consider the above mentioned diet to be plenty wide and plenty varied. The additional foods that keepers feed to their monitors often come with an additional price. Wild caught food items typically harbor nasty parasites your monitor is not going to be equipped to handle. "Feeder goldfish" are some of the nastiest things available, you are not feeding an Oscar, you are feeding a captive lizard. Exotic foods like crayfish and crabs are not only expensive, but seasonal, and what exactly are you going to do when your new baby monitor gets hooked on food that costs \$8 per pound or more and refuses to eat anything else? Did I ever tell you about the guy who got baby rabbits to feed his ball python to "celebrate" Easter? Why??!! This stuff happens too frequently. Play it smart, feed a steady, proven, inexpensive diet, and have a terrifically healthy monitor.

For those of you wanting "a pair" of Ackies, or a "female" baby, you have to understand that monitors (of all types) are not visually sexable as babies, and there is absolutely no way to guarantee a particular sex when you are selling babies. Anyone who tells you different is trying to deceive you. Sexual characteristics start showing up as early as six months old, and as late as a year. You can look for head shapes, body shapes, hemipenal bulges, and other factors when trying to determine sex, but it is all still educated guess work. Unless a male monitor plainly everts a hemipene in your view, it is so very difficult to be sure of the sex of your animal (females will also evert a similar looking hemiclitoris, only confounding the situation). Some folks may have a "female" monitor for 3 years before it has suddenly everted a hemipene that wasn't thought to have existed in the first place.

However (and with dwarf monitors that's a pretty BIG however), a pretty interesting and intriguing theory about the social sexing of hatchling dwarf monitors has emerged.

It is generally agreed (among the dwarf monitor breeders in the U.S.) that baby Ackies determine their gender according to social group after hatching. It is believed that one animal becomes a dominant male, and the other animals become female, basically. At this

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time, we have not had a customer report back to us with a male heavy group of Ackies purchased from Pro Exotics. Seeing as we group these animals immediately after hatching according to customer purchases and configurations, we have always had two Ackies be a pair, three Ackies be a trio (1.2), five Ackies be either 1.4 or 2.3, but not one instance of a heavy male group.

Of course, this is no guarantee that when you are purchasing older animals, one from this guy, two from that guy, that you can then group them and have them magically be a compatible trio, in fact, grouping unfamiliar adult animals often leads to trouble, as opposed to compatibility. Once an animal has become either male or female, there is no indication that there is any turning back. The reality is there has been no scientific research (that I am aware of) lending any credibility to this theory at all. But it does seem to work for us, and for a number of other breeders as well.

As for the differences between the Red and Yellow Ackies (aside from the price), there are only a few. While both animals grow to the 2-3 foot range, and there is variance between both reds and yellows, generally the reds are a bit larger than the yellows. Both our red and yellow breeder animals hover around the 2 ft mark, but I have heard reports of animals of up to 3 ft, and we have personally hatched animals (Yellows) that seem to stay in the 14 inch range as adults.

The reds may also be a little feistier than the yellows, but keep that in perspective, as both are extremely cool, and easy to tame and interact with.

Many keepers and hobbyists buy their Ackies with hopes of breeding them. That is a fine goal, and certainly very attainable. It takes patience, time and commitment. Your best bet is to start with a hatchling group of animals (not with a group of unfamiliar adults), raise them to adult size, and work from there on your breeding strategy. We often breed Ackies at 9 and 10 months old, whereas it may take a new breeder 10 months to 2 years to get the kinks out, and the animals properly cycled. We will not cover breeding here, except to say the Ackie project is one of the very best to work with if captive breeding is your ultimate goal.

Caring for a larger monitor is not much different from caring for a baby, in theory. It is harder to nail your temps in a larger cage, and you have to adjust a number of the details like diet and feeding, but most aspects of successful husbandry are based on the same line of thinking.

For an adult *Acanthurus* monitor, you should expect to provide at least a 3 ft. cage for a single adult, and a 4 ft. cage for a small group. You can certainly go larger, and I would encourage you to build the largest habitat that you can reasonably provide, as the Ackies will make use of every square inch.

We have used galvanized water troughs for our Ackie cages, and they have proven to be very successful. You will need to build your own lid for the trough, but the entire cage and setup is very affordable when compared to similar sized (but inappropriate) snake cages and other commercially available reptile setups.

We don't have specific plans for the troughs, we simply took the base idea from other experienced keepers and applied our own ideas and theory that we have learned from years of keeping reptiles, and the cages have turned out very well. The internet does not have a lot of monitor caging information available, but try some of the caging and monitor forums at kingsnake.com, and you will be able to see what other folks have done, some successfully, some not. I would certainly encourage you to base your Ackie cage around a galvanized water trough base, and build from there, it is easily the most durable, long lasting, economical choice available at this time.

As your Ackie grows, you can start introducing more rodents into the diet, the balance is really up to you. We continue to feed a diet of insects and meats to our adults, on about a 50/50 basis, and we have had good success, with strong, healthy, breeding adults.

Your feeding may gradually go from 7 days a week to 3, 4, or 5 days a week, and that is one of the details that varies from animal to animal. With the proper basking spots, and full size adult animal can still digest a lot of food, so once a week feeding (an old husbandry technique) is not recommended.

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Classified Advertising Policy

GCHS Members may run a free classified ad of 7 lines or less at no charge for an unlimited time; however, the ad will be canceled after one month unless the editor is informed to continue it. Please include scientific names for the animals with your ad as well as your phone number and area code.

Ads of up to 7 lines for non-member are \$2 per issue; ad charges for items more than 7 lines long are as follows:

Business card size	\$3 per issue
1/4 page	\$6 per issue
2 page	\$10 per issue
Full page	\$20 per issue

The GCHS is not liable for the quality of the merchandise advertised. The Society also reserves the right to refuse any ad considered inappropriate.

Requirements for Submitting Articles to the Forked Tongue

Articles can be submitted via 3.5" floppy disk or hard copy to Editor, GCHS 11470 Gatch Hill Road, Aurora, IN 47001.

Articles may be e-mailed to Grady Calhoun at gradycalhoun@earthlink.net.

Black and white photographs can be included with articles. Photo submissions should include your name, phone number, and description of photo on the back. Photos can be returned.

All time dependent submissions must be in the editor's possession no later than the meeting previous to the publication.

Classifieds

Rats and Mice for sale. Reasonable price. Call Jesse or Tom (513) 876-0579.

Discount: A 10% discount is offered to all card-carrying members of the GCHS at *All Creatures Animal Hospital*. Dr. Dan Meakin, All Creatures, 1894 Ohio Pike, Amelia, OH 45102, 513-797-7387.

Discount: A 10% discount is offered to all card carrying members of the GCHS at Dr. Dahlhausen's Veterinary Clinic, 5989 Meijer Dr., Suite 2, Milford, Ohio 513-576-0131

(Number to left of decimal indicates males; number to right of decimal indicates females; number to right of second decimal indicates number of unknown sex. For example, 3.2.1=3 males, 2 females, and 1 unsexed specimen)

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About the GCHS

The Greater Cincinnati Herpetological Society holds monthly meetings which typically consist of a short business section, a refreshment intermission, and a program related to herpetology. Both members and nonmembers are invited to attend. Membership is open to anyone with an interest in reptiles and amphibians. New members may sign up by mail or at the monthly meetings. Members receive monthly issues of *The Forked Tongue* and free classified advertising. Annual dues should be directed to the secretary at the society's mailing address, according to the rates below:

Student	\$10.00	Corresponding	
	\$10.00		
Individual	\$15.00	Sustaining	\$25.00
Family	\$20.00	Institutional	\$30.00
Contributing	\$50.00		

Why Be a Member?

Receive monthly issues of *The Forked Tongue*

§Meet individuals knowledgeable about herpetoculture

§Have access to captive-bred herps and feeder animals

§Participate in society-sponsored field trips, and outings.

§Receive a 10 percent discount on herp-related items and services when you show a valid membership card at the following establishments:

Delhi Pet Center (513) 451-4015

Kentucky Reptile Zoo (606) 663-9160

Harrison Pet Center (513) 367-1115

All Creatures Animal Hospital (513) 797-7387

Dr. Dahlhausen's Veterinary Clinic (513) 576-0131.

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