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VaraNews

— *Varanews is the newsletter of Varanix™, the Varanid Information eXchange.*
Varanix was founded to help promote responsible captive care of monitor lizards through education and the open exchange of information.

General

See the next to last page for general information about Varanix

Membership Renewals: Please note the new membership dues, shown on page 7: $12 U.S. and $15 outside the U.S. This $2 increase is to cover the costs of additional publications and an expanded newsletter.

Summary on the *Varanus*-related Papers Presented at the 1993 IHS Symposium

Mark K. Bayless

The 1993 International Herpetological Symposium took place June 17 - 20 in Miami, Florida. One of the speakers was noted herpetologist Professor Dr. Hans-Georg Horn. Dr. Horn has published numerous papers on the captive husbandry, reproduction, and aggressive behavior of monitor lizards.

Dr. Horn has observed that some varanid species are one-sided copulators (the male always mounting the female from the same side) while others are two-sided copulators, which includes *V. gilleni* and *V. varius*. This can be used as a taxonomic key in the phylogeny of varanids.

Dr. Horn stressed the importance of a varied diet rich in vitamins if one hopes for captive breeding success. He points to the poor condition frequently observed in green tree monitors, *V. prasinus*, entering the pet trade. More needs to be known about their natural diet and nutritional needs. It is also important to be familiar with a monitor's natural behavior.

Careful observation of the captive monitor is a key part of successful husbandry. Captive monitors exhibiting natural behavior is a good indication that the captive environment is in order. The best indication is observation of reproductive behavior.

Dr. Horn also reported that questions have been raised about the drug Baytril possibly causing cartilage damage in monitors.

Mr. William Zeigler, Curator of Herpetology at the Miami Metro Zoo, stated that of the 65 monitors he has had within the walls of his zoo, 25% have been gravid imports or have bred at the zoo.

He believes a captive environment with a large surface area may be a crucial factor in breeding varanids, especially the larger species. Height of the enclosure is also important, especially for arboreal species. Two to four temperature zones are important to allow the lizards to thermoregulate as they see fit.

Female *V. acanthurus* were observed to spend much of their time in the 100 F (37.8 C) temperature zone. Cooling periods may make a difference, but diet is the key to successful reproduction of this species, including seasonally-influenced food availability. Mr. Zeigler believes too few varanid-keepers take into consideration the "feast or famine" aspect of the natural diet of many varanids.

Overall, we need to learn more about monitor behavior. It is important to understand the various social interactions between male-male, male-female and female-female. Questions raised include: Do dominant males and dominant females pair for breeding? (MKB: I have observed this in *V. exanthematicus*.) Do female varanids cycle? Is hunting a group function in varanids?

Dr. William Branch, who has authored numerous papers on monitors, presented a paper on the herpetofauna of Richtersveld National Park and the Diamond Zone of southern Namibia. The excellent slide presentation was accompanied by an informative commentary and vocal imitations of some of the fauna inhabiting Namibia. During a discussion about *V. albigularis*, Dr. Branch indicated that when placed within close proximity of the puff adder, *Bitis arietans*, the White-throated monitor exhibits recognition and displays unique behavior when compared to its reaction to other snakes. (In Dr. Branch's paper on "The *Regenia* Registers of Gogga Brown", page 79 of Mertensiella #2, there is a color photo of *V. albigularis* feeding on a puff adder.)

Mr. Ray Pawley, Curator of Herpetology at the Brookfield Zoo, gave a presentation entitled "Herp-hopping Across the Palearctic in Spring". Mr. Pawley offered some stunning slides of the desert monitor, *V. griseus*, in its native Russia, and discussed, among other things, the deplorable conditions in this once-unified country.

A number of Varanix members attended and surely have fond recollections of this event. A varanid symposium in the U.S. is certainly needed!

Dr. Horn Receives International Award

Near the closing of the symposium on Sunday, IHS President Dr. Richard Ross presented Dr. Horn with the Joseph Laszlo (1935-1987) Award. He told the audience that day and night thoughout the entire symposium, Dr. Horn was constantly surrounded by groups of people wanting to speak with him. Reminiscent of Joseph Laszlo, Dr. Ross said there was no one he could think of better deserving of this award. Congratulations, Dr. Horn.

Mertensiella #2: Advances in monitor research

The work of Dr. Horn, Dr. Branch and other authorities on monitors are reported in this book. See the Notices section for availability information.

Acquiring Monitors in a Controlled Society

One member writres: "I live in Massachusetts. Ownership of monitor lizards is illegal without a permit issued through the Division of Fish and Wildlife. I have obtained a license to own the following species: *V. niloticus*, *V. dumerilii*, and *V. prasinus*. My problem is, as a result of the law, none of my local pet retailers are allowed to carry or order monitors, and part of my responsibilities as an owner is to be able to prove that I obtained any varanid through legitimate channels. If any of the Varanix readership are familiar with reputable, authorized, varanid dealers that can be utilized by people like myself, the information would be greatly appreciated."

Editor: You are invited to respond. When recommending a dealer, please pay special attention to the "reputable" part. It would be most reassuring if you shared some of your experiences with the dealer.

New Caledonia: A Footnote

Sean McKeown, Curator of Reptiles & Amphibians at the Chaffee Zoological Gardens in Fresno, CA offered some comments on the write-up in Varanews 3(3):1-2 entitled "A Report of Varanus on New Caledonia".

The region in the South Pacific referred to as "Melanesia" should have been "Micronesia". Sean also suggests that the observer reporting the incident may have seen a skink *(Scincidae)* running through the jungle. Certain species of skinks on New Caledonia may attain sizes similar to varanids and lose their tails much easier. (Relayed to Mark Bayless at the 1993 IHS Symposium.)

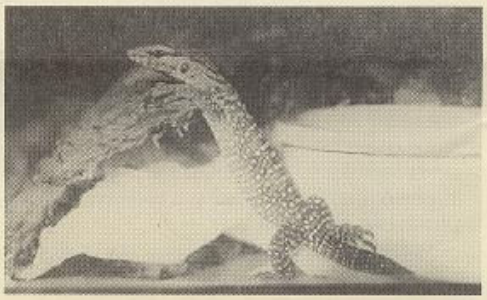
Breeding the Bengal Monitor in Captivity

text and photos by Danny Gorman

Success has finally come after a lot of hard work and patience. On July 6, 1993 the first of eleven baby *Varanus bengalensis nebulosus* successfully hatched after an incubation period of 252 days. The eggs were incubated between 84.6 - 85.4 F (29.2 - 29.7 C). I also have eggs incubating from a second female *V. bengalensis* which have less than one month to go.

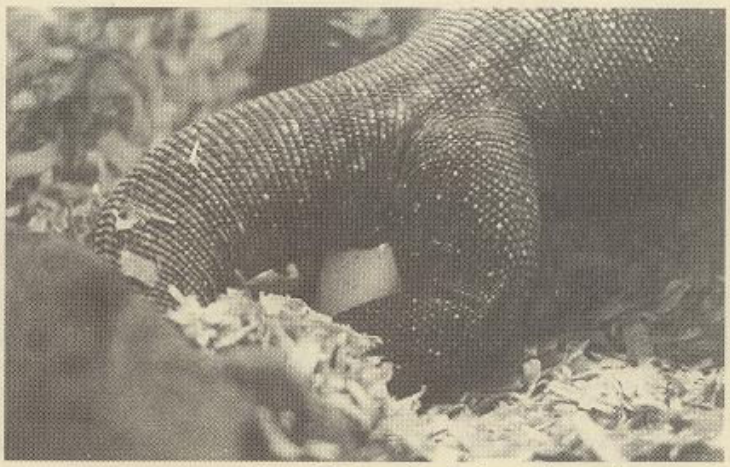
Both females double clutched last summer. The first female's clutch was lost due to incubator failure. The second female's was eaten by the male and other female. All eggs hatched this year were from the second clutch laid by each female.

This is the first published record of a successful breeding of this species and breeding between subspecies in the U. S. I am currently preparing for more eggs this breeding season since the male was seen copulating with one of the females. In my spare time, I am working on a more detailed article on breeding this species in captivity. Future plans include working with various zoos in a breeding program.



Hatchling *Varanus bengalensis*

Varanus bengalensis eggs



Egg deposition by female *Varanus bengalensis*

Scientific Names Explained

Etymology of Varanid Names

by Robert George Sprackland

When I was young and reading my first books about dinosaurs, I enjoyed the strange, adult-unfriendly names of the prehistoric animals. There was a feeling of being let in on a great secret when the books would explain, in parentheses, how to properly pronounce the names and then explain the meanings in English. This fascination led me to study Latin and Greek in high school and college, and eventually to my reviving these translations in my own book, "Giant Lizards." To my surprise, one of the first things people mention to me when talking about "Giant Lizards" is how much they enjoyed the etymology sections.

There is a strong link of history between the names of many animals and the biologists who named them. For example, it was natural for Australian herpetologist Ludwig Glauert to honor varanid notable Robert Mertens by naming a new monitor after him in 1951. It was both a return compliment and thanks for allowing access to the Australian collection that Mertens named one of his new monitors after Glauert in 1957. Likewise, Dumeril's monitor was named to honor the French naturalist who produced the first world-wide review of herpetology.

Giacomo Doria was an Italian zoologist of the latter half of the nineteenth and early twentieth centuries, who curated the collections coming into Genoa from New Guinea. Much of Doria's descriptions were co-authored with Germany's Wilhelm Peters of Berlin's Humboldt Museum. Among the varanids they described were *V. salvadorii*, after a collector, and *V. beccarii*, named for a noted explorer. Dr. Odouardo Beccari was, along with Luigi D' Albertis, the first European scientist to explore western New Guinea. Together, these two naturalists provided specimens of most of the herpetological taxa of New Guinea (D'Albertis, of course, is best known to herpetologists as the namesake for the white-lipped python, *Liasis albertisii*). Incidentally, Doria's museum was named after him (and remains so to this day). His ancestors included Genoese hero General Andrea Doria, who helped keep Genoa from being annexed by nearby France, and for whom the ill—fated steamship was named. Doria's descendant is a curator at the museum today.

Many names are references to geography. The specific names *timorensis, jobiensis,* and *bengalensis* refer to the Indonesian islands of Timor and Jobi, and the Indian city Bengal, respectively. Other names, such as *indicus* (of India) are in error, though in this case may be loosely accepted as meaning the East Indies. *Varanus telenesetes* was so named because it is known from the tiny eastern New Guinea island, far from the nearest population of its relatives, the green tree monitor; *telenesetes* translates into "far island dweller."

Sometimes the name given to a monitor seems strangely inappropriate. Gray named an Australian giant *Varanus giganteus*, because the mounted specimen he had was larger than any other monitor he had seen. Believing it to be the world's largest lizard, he so named it. Ironically, a much larger species, *V. salvator*, had been named in 1758 by Linneaus. However, his type specimen was an illustration in a book, Seba's Thesaurus, so Linnaeus had no first-hand knowledge of the lizard. Neither were Seba's specimens likely to have changed Linnaeus's mind, for the illustrations clearly show a young specimen. Today, an illustration may not be used as a type specimen, but old conventions for naming remain intact.

The varanids are unusual in that about half of all species names are given to honor people's names: *baritji, beccarii, bogerti, cumingi, dumerilii, gilleni, glauerti, gouldii, horni, kingorum, koniecznyi, mertensi, mitchelli, rosenbergi, salvadorii, spenceri,* and *teriae*. Bogert, Dumeril, Glauert, Mertens, and Mitchell were all herpetological curators at museums. Horn, Cuming, and Konieczny are names of amateurs who have contributed to our knowledge of varanids, the former as a pioneer of captive monitor breeding, the latter a collector of middle-eastern specimens. Gould was the Audubon of Australian bird life, while Rosenberg was a photographer at a German zoo, who helped Mertens prepare his monograph of varanids. Baritji is an Australian aboriginal word for "White", a friend and colleague of the describers of the species, while *kingorum* (the plural of "King") is the only species named for two zoologists, the unrelated, but coincidentally surnamed, Max and Dennis King. F. J. Gillen was chief telegrapher at Alice Springs, though authors Lucas and Frost do not explain why the lizard was named for this individual. The same authors later named a monitor for Australian herpetologist Walter Spencer.

Many taxonomists prefer to provide a name that reflects some anatomical feature of the new species, describing a short, spiny, or lined tail *(brevicauda, acanthurus,* and *caudolineatus,* respectively). Such names describe the white throat *(albigularis)*, yellow scales *(flavescens)*, calloused palms *(glebopalma)*, or cloudy pattern *(nebulosus)* of the monitor.

It is ironic that in a group so often described as relatively uniform, taxonomists have always been able to find some distinguishing character, be it geographical, biographical, or anatomical, which can be used to name varanids. Of course, we varanophiles know that such "uniformity" is more myth that fact...

Husbandry Tips & Tricks

How are you dealing with the environmental necessities of captive care for your varanid? This is where you can share helpful hints on topics such as feeding, heating, water systems, habitat design and maintenance with the readership.

Dumeril's Monitor Medical Experience

Craig Taylor shares the following experience:

In January of this year I purchased a juvenile *V. dumerilii* (24 in TL , weight 220 g) from a local exotic pet supplier. The animal appeared healthy and active at the time of purchase and was given a routine visual examination by veterinarian Dr. Cynthia Stadler. No fecal exam was done at this time. The monitor quickly settled into its new home and began eating fuzzy/hopper mice at the rate of 2 fuzzy or 1 hopper mouse every three days.

Wanting to eventually feed using previously killed frozen rodents, I began offering fresh killed mice. On April 1st, I offered a thawed mouse. Next came fresh-killed followed by a thawed mouse again on April 18th. This mouse was regurgitated about 24 hours later (Possible reasons: mouse too big, temperature change; I don't really know.).

After that, the monitor lost all interest in eating. Different foods were tried (tiger shrimp, wet cat food, monkey biscuits soaked in orange juice, cooked chicken) with no success. A fecal specimen revealed nematodes; at the time, the monitor weighed 286 g. Dr. Stadler prescribed .15 cc Panacur orally 3 times at 2 week intervals. Four weeks after going off-feed (weight 267 g), a bacteria culture was performed. An oral dose of Flagyl was administered and a cloacal smear was taken. One week later the culture returned positive with excessive amounts of 3 different bacteria (*Klebsiella pneumoniae, Citrobacter* sp., and a third unable to speciate). Dr. Stadler prescribed .12 cc Baytril injected into the muscle of alternate upper front legs for 10 days.

The monitor didn't exactly appear to enjoy the injections, but I'm happy to report that it began eating regularly within 5 days of the start of treatment (1 tiger shrimp every 2 days). At the end of the 10 day treatment its weight was up to 297 grams and again appeared healthy and active. I am concerned, however, about providing nutrient supplements when feeding exclusively on tiger shrimp, as the monitor is still adamantly opposed to eating rodents.

Editor: Try rubbing the rodent with the shrimp to mask the scent. Other reader tips?

Notes on the Captive Diets

naclerio

Diet is a common theme in many reader questions. The following summary is based on general reader experiences and comments; they are not the result of a rigorous study.

A monitor's diet in the wild is often quite varied and differs from specie to specie. In captivity, the most common diets seem to be based on a rodent or canned dog/cat food staple and often include strips of beef/fish/chicken, occasional eggs and goldfish.

With a whole animal diet, it's important to know the source of the food item. Nutritional value depends on the quality of the food animal. It should have been raised on a wholesome diet. A clean rearing environment is important to minimize the risk of monitor medical problems; many food animals can harbor parasites. This is one reason an annual fecal exam is recommended, even in a stable captive environment.

When using prepared foods, it's important to be aware they are formulated for mammals, not reptiles. Fed as a sole diet, the monitor may get too much of one nutrient and too little of another. (Mike Fost, pers. comm.)

Strips of beef, chicken, etc., are high in phosphorus and lacking in calcium. Vitamin E is destroyed when fish, crayfish, etc. are frozen (Cauble, DVM, pers. comm.). Vitamin supplements are often used to compensate for the differences. Common brands include powdered supplements: Nekton-Rep®, Vitalife® and Reptivite®. Bird vitamins, such as SuperPreen® and Avitron® (liquid), are also used. Applications reported include: every feeding, every other feeding, lightly powdered, heavily powdered. Unfortunately, there is no precise way to measure the amount of supplements required to mimic the nutritional balance in the wild.

In the wild, the savannah monitor has been reported to eat baby tortoises, grasshoppers, crickets, millipedes centipedes, caterpillars, snails, beetles, scorpions, frogs and lizard eggs. Occasion items include small rodents, baby birds and small lizards. Suggestions for savannah monitor's captive diet: crickets, earthworms, king mealworms, and mice (according to the size of the monitor). Occasional offerings include quality-brand canned cat food (Balsai, 1992).

The Nile monitor's wild diet includes: fish, snails, crabs, mussels, insects, small mammals, lizards and eggs (especially those of the Nile crocodile).

I feed my Nile monitors one to three times a week with occasion 2 week fasts. Other than the primary weekly feeding, typically rat, crayfish and maybe egg (chicken or quail)*, meals are light: vitamin-supplemented strips of beef/chicken/fish, crayfish, or dry lamb & rice dog food. I hope to include snails in the near future. Occasionally they get Hill's Zu/Preem Feline Diet, "formulated to be fed as the sole ration for all non-domestic carnivores in the families *Felidae, Canidae* and *Hyaenidae*". (This is not domestic cat food; it can be ordered by any store selling Hill's pet foods. Remember Mike's previous comments.)

One of my preoccupations is "helping" the monitors maintains firm stools, making cleanup as quick and easy as it's going to get. This dietary balance has been effective.

* Eggs taken in the wild are often fertilized and not like store-bought eggs. I used to feed an occasional raw chicken egg, but after hearing of possible risks of salmonella, I offer now an occasional hard-boiled egg. (Quail eggs I feed raw.) Would anyone care to summarize the risks of feeding raw eggs, or any other area of nutrition, for readers?

Literature Cited

Balsai, Michael. 1992. Care and maintenance of savannah monitors. Advanced Vivarium Series. Lakeside, CA. pp. 55

Edroma, E. L. & W. Ssali. 1983. Observations on the Nile monitor lizard (*V. niloticus*, L.) in Queen Elizabeth National Park, Uganda. Afr. J. Ecol. 21(3):197-201

Pienaar, U., W. Haacke, & N. Jacobsen. The Reptiles of Kruger National Park.

Captive Housing Tips for a Dumeril's Monitor, *V. dumerilii*

by Nick Freer

The author offers the following tips on captive enclosures based on his experience with the Dumeril's monitor.

Furnishings: hide and climb spot

Cork bark does very well under certain circumstances. It's lightweight, durable and can be cut to size. It seems to be about 6 - 8 dollars a pound, and comes in semi-flat and cylindrical shapes in various diameters and lengths. It's very textured and is great for climbing.

I wouldn't use cork if your monitor defecates everywhere. It has too many nooks and crannies making it impossible to clean. My Dumeril's monitor, now 32 in long, regularly defecates in his pool, and is not very destructive with furniture. He has a half-round cork-bark shelter to crawl under at one end. His terrarium is 30 in. high with a branch running diagonally across it from top to bottom.

Behind the branch he has a vertical, hollow cork-bark log about 25 inches high with an inside diameter of 8 inches. I made it by fitting together two halves which are hinged on one side. I drilled small holes and used black nylon zip ties, like those used for electrical work, to hold them together. This provides a hiding place that is still accessible to the keeper, has over 2 feet of vertical climbing area because of the highly textured bark, a perch at the top and it looks quite natural. Some stores (but not many) seem to carry it. Glades Herp sells it.

Heating: thermostats and timers

I have been using several of the microclimate® thermostats being sold by Bob Clark [12316 Val Verde Drive, Oklahoma City, OK 73142; ph. no. (405) 747-0797]. They seem to work quite well. I am using the DL1 plus and the Vivguard models. Unlike standard thermostats where heat output is 100% until it reaches desired temp and then clicks off until it drops to a certain point, these units control heat output by dimming or brightening the light bulbs. Both units have remote temp control senors so the units can (and should) be mounted outside the enclosure. The control sensor cable is about 5 ft long and should be positioned somewhere in the middle, so if you have a large enclosure it might be a problem. The Vivguard unit has an independent temperature probe with a digital display so temperatures can be measured at various places in the cage.

Both models can handle up to 250 watts, though the DL1 plus is available in a high load model. My large terrarium is 24 in. ft deep, 30 in. high and 68 in. long. Two 100 watt floodlights at one end are sufficient to give a temperature gradient of 95 - 96 F (35 - 35.6 C) at the basking spot on the branch over the pool dropping to 80 F (26.7 C) at the opposite end. The bulbs are wired in parallel (make sure no wires touch; these units can be sensitive) so if one bulb burns out, the other remains on.

Both the DL1 Plus and Vivguard models have night differential. You need a standard appliance plug-in 24 hour timer. The night temperature kicks on and the light dims accordingly so you have both temperature drop and light reduction. Since monitors are diurnal this gives them 2 cues to sleep.

The Vivguard also records high and low temperatures reached and has settable alarms (not really of much use if you're not around to hear the alarm, which sounds for about a minute.) The independent probe is tied into the alarm, so if you stick it by the heat source the alarm goes off even though the cage temperature is correct.

I secured the control sensor to the branch with the small clips used to run telephone wire along the baseboard of the house: a plastic hook on a small nail that you hammer in. I used clear vinyl aquarium tubing to protect the cable from monitor claws. The tubing was slit spirally and wrapped around the cable. (This may not be secure enough for larger monitors.)

With the DL1 plus you use a plain thermometer at different points and position the control sensor and adjust the control knob accordingly. The DL1 Plus costs about $125 and the Vivguard about $200. The Vivguard is probably unnecessary for most applications although the independent probe is nice.

I've seen other brands of thermostat marketed but have no experience with them. Anyone with comments or experience on these should write in.

Varanus exanthematicus: *Field Study, Sort of*

Sometimes it's a senationalized television news filler; other times it might appear in a supermarket tabloid. Some are filled with dread it could happen to them.

Many of us wish we were so lucky: a monitor lizard shows up on our doorstep, or in this case, woodpile.

For the past few months, I have been getting occasional reports from a co-worker who has had a savannah monitor, *Varanus exanthematicus*, take up residence in his back yard, the primary spot being the woodpile. Without realizing it, John's been performing something of a field study. His "reports" on the monitor include:

- Often seen basking, the monitor, approx. 2 ft TL, will quickly scurry into the woodpile at the distant sight of humans.
- Sometimes rests inside a 6-in diameter drain pipe.
- Seen once on the back porch.
- Seen eating snails.
- Seen basking by the bird bath.
- Neighbors have seen it up to 200 feet away. No recent reports indicate the monitor has ventured beyond 75 - 100 ft from the wood pile (though, this may simply be because no one has been asked).
- Chicken eggs have been put out; none taken to date.
- Both wet and dry cat food have been put out; sometimes a little of each is eaten.

This is taking place in an area that is suitable for a savannah monitor: daytime summer temperatures are 80+ F (20+ C), with days often reaching 90+F (32+ C); nights are warm, 65+ F (18+ C). The terrain is rolling hills with scattered brush cover.

In July/early August, it was often spotted basking in a tomato patch. The monitor had grown some; it may have been catching rodents that liked to feed on the tomatoes (which is why it may not have been interested in the dog/cat food). I've been trying to get John to take some photos, but he said the monitor will dash into a hide spot at the first sign of human movement.

As long as temperatures are favorable, John is letting the monitor continue to live in his yard (especially since it has remained there for over 2 months anyway). As fall approaches, he is going to set up a cage-type trap with dog/cat food as a lure.

An ironic twist to all this is that John was one of those people who always had the standard set of "lizard-yuks". When he found out I also have dogs, I gained some respect. (If you met John, you'd understand.) He may even get accustomed to his new friend and construct a permanent outdoor enclosure for it. (He's also had baby owls show up in his yard for "parental" attention.)

On the serious side, this monitor escaped from a neighbor a few doors away. When the owner found out the escaped monitor was living in John's backyard, he was unconcerned, shrugging his shoulders and saying the lizard was always getting out of its cage.

This attitude is no good for anyone involved; unfortunately, the culprit is the least affected, the monitor and the varanophile the most. How do we help keep people like this from jeopardizing our privilege of keeping monitors? naclerio

Tired of waiting for a response to your varanid questions? If you have a computer and modem...

Marry the growing interest in reptiles and the affordability of "friendly" home computing and you have an evolving electronic global herptile community. Inexpensive new software is making it easy to go online to the electronic bulletin boards (BBS) and services now offering Reptile forums and discussion areas. Bob Hole writes that America OnLine has a Monitor Lizard folder in the Reptiles and Marinelife area of the pet section.

If you frequent these services, please consider passing along the valuable bits of information you come across to Varanix members not yet online. You might ask the sysop and author if it is okay to publish excerpts in Varanews, letting them know the information will be printed in context and full credits are given. The following message thread that appeared in the Reptiles & Exotics section of the Pets Forum on CompuServe is an example of the dialog that takes place.

#: 296639 S6/Reptiles/Exotic
09-Sep-92 20:43:18
Sb: #monitor
Fm: Karen Rosenthal, DVM, MS 70632,3562
To: Mark Miller (Staff) 76702,1127 (X)

Mark: I had a client bring in a Timor monitor that he identified as *Varanus timorensis*. It seemed to be thriving on geckos, wax worms, and crickets. It was doing well in its aquarium. Anything else that you can tell me about its natural history would be appreciated. Thank you as always.

#: 296784 S6/Reptiles/Exotic
10-Sep-92 00:54:00
Sb: #296639-#monitor
Fm: Mark Miller (Staff) 76702,1127
To: Karen Rosenthal, DVM, MS 70632,3562 (X)

The Timor monitor is a ground/tree dweller from Northern Australia. Although early imports (1960's) came from the island of Timor, I suspect that recent imports come from New Guinea and not Timor or Australia (proper).

They grow to about 35 inches and are among the handful of species of *Varanus* that are bred in captivity. They are, of course, carnivores, and although might eat insects when they are young, they require a more substantial diet as they grow. I would suggest pinkies (with mouse milk in stomach) and mice for larger lizards as part of the diet. Although they seem to be resistant to bacterial infections via their diet (they eat carrion in the wild), I would not feed them chicks or uncooked eggs. I saw a Timor monitor that cultured *Salmonella* and *Campylobacter* after being fed chicks.

The lizard you mentioned might also do well to have a bit of Rep-Cal added to its diet - geckos and insects have a low Ca to Phos ratio.

When not feeding them whole prey animals, a bit of soy protein (textured type) mixed with beef heart or fish might prevent diarrhea. They seem to require fur, feathers, etc. in their diet for mechanical reasons otherwise they have poorly formed stools and lose too much water.

Most folks keep them around 84 degrees with a gradient of 5 degrees either way. A UV producing light is often suggested but I feel that a D3 supplement (and Ca) would make a UV light optional.

#: 296836 S6/Reptiles/Exotic
10-Sep-92 07:27:18
Sb: #296784-#monitor
Fm: Greg Naclerio 71320,721
To: Mark Miller (Staff) 76702,1127 (X)

I have a question about the soy protein mentioned in your brief bio on *V. timorensis*... would this mean tofu? I add this to my dogs' food, so I've got it around.

#: 297161 S6/Reptiles/Exotic
11-Sep-92 01:49:18
Sb: #296836-#monitor
Fm: Mark Miller (Staff) 76702,1127
To: Greg Naclerio 71320,721 (X)

Actually tofu is a more refined product. Raw soy protein is usually packed dry and looks like sawdust (it also tastes like sawdust). In "health food" stores it comes in powder, as well as the usual tofu-type forms (with moisture intact). The stuff I'm familiar with is called "textured soy protein".

Inquiries & Membership

One-year membership in Varanix:
USA: $12
Foreign: 15 $US

Members receive Varanews, published every even-numbered month. Varanews is free to zoos upon request. Newsletter exchanges considered.

Address all written inquiries & memberships to:

Varanix
8726D S. Sepulveda Bl. #243
Los Angeles, CA 90045 USA

Messages may be sent via modem:

- CompuServe: user ID: 71320,721
- Internet: gjn@triple-i.com
  71320,721@compuserve.com
- Herpetology Online Network: (215) 464-3562
  user ID: Greg Naclerio

Tel. (310) 768-8669 [Personal responses are often limited to calls of an urgent nature due to a busy schedule and odd hours. Questions of a general nature will be answered in Varanews.]

Back Issues (some may only be available as photocopies)

Num. 0: $1.50; Vol.(num.) 1(1) - 1(8), 2(1) - 2(6), 3(1) - current: $2 each.

When writing to Varanix . . .

Letters to Varanix often contain information of general interest to Varanews readership. When writing, please indicate if you do NOT want to be quoted or have your correspondence reprinted in part or otherwise. (The author will always be contacted prior to publication of questionable or controversial topics.)

Submissions for Publication

Please indicate any special conditions of publication, such as withholding mention of name or crediting a person/publication.

Editorial

- Submission in electronic form preferred on PC or Mac diskettes. Most data format accepted, including Word, WordPerfect, ASCII. Typed or handwritten submissions are, of course, most welcome.
- Submissions may be in English, French or German.
- Translations of non-English articles must be accompanied by a copy of the original work, including bibliography.

Graphics

Hand-drawn graphics:	up to 11x17 inches
Computer-generated:	EPS, TIFF, ...
Photos:	up to 11 x 17 in.
Slides:	35 mm color and b&w

Species Resource Panel

These individuals have volunteered to field specie-specific questions. In the case of a panel member returning a phone call, you are asked to pay for the call.

- Savannah (*exanthematicus*), White-throated (*albigularis*)
  Mark Bayless, 1406 Holly St., Berkeley, CA 94703
- Dumeril (*dumerilii*)
  Mike Fost, Zoo Atlanta, Reptile Dept, 800 Cherokee Ave. SE
  Atlanta, GA 30315-1440 (404) 624-5618 (daytime EST)
- Nile (*niloticus*)
  Greg Naclerio, <Varanix address to left>
- Yellow (*flavescens*)
  Ennis Berker, 9603 Woodlawn Dr., Portage MI 49002
- Mangrove (*indicus*)
  Joel Shaner, 110 Long Pine Dr., Madison Hts., VA 24572
- Timor (*timorensis*)
  Scott Stahl, DVM, 4001 Legato Rd., Fairfax, VA 22033 (703) 591-3304

Monitor Rescue Program (MRP)

This volunteer-sponsored program was established to place unwanted monitors in the permanent homes of experienced varanophiles. For a copy of the program description, send a legal-size SASE to Varanix, attn: Monitor Rescue Program.

All other questions should be directed to the MRP Administrator:

Wanda Olson (408) 274 9020, (408) 274 2555
4099 Timberline Dr.
San Jose CA 95121

What you read in these pages . . .

Articles appearing in Varanews represent the opinions and experiences of the respective authors. Though best efforts are made to insure accuracy of contents, the reader must recognize that the majority of available information is based on individual personal experiences and therefore difficult to verify.

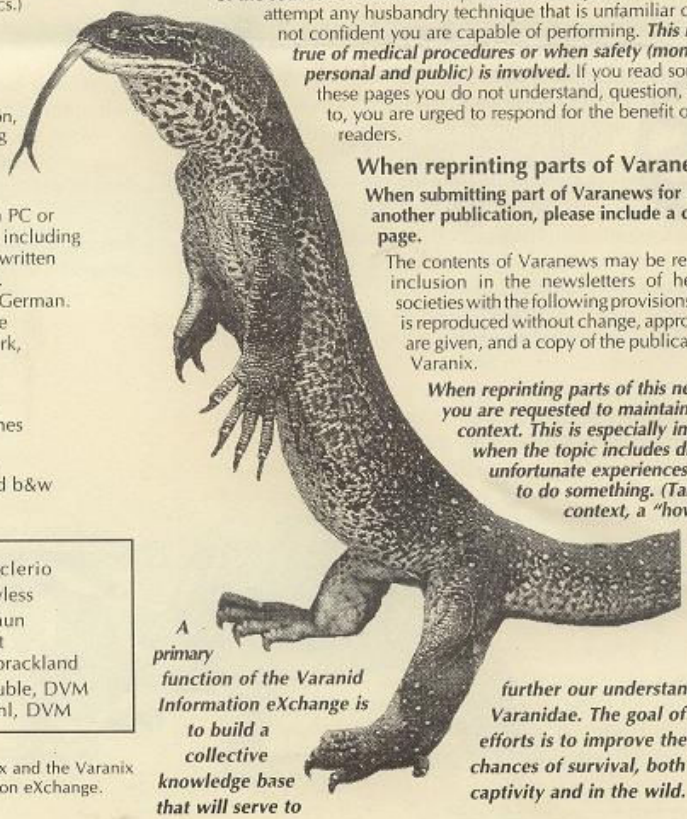
The reader is well-advised to evaluate everything heard and read, regardless of the source. Consult as many references as possible and never attempt any husbandry technique that is unfamiliar or you are not confident you are capable of performing. ***This is especially true of medical procedures or when safety (monitor, personal and public) is involved.*** If you read something in these pages you do not understand, question, or can add to, you are urged to respond for the benefit of other readers.

When reprinting parts of Varanews . . .

When submitting part of Varanews for reprint in another publication, please include a copy of this page.

The contents of Varanews may be reproduced for inclusion in the newsletters of herpetological societies with the following provisions: the material is reproduced without change, appropriate credits are given, and a copy of the publication is sent to Varanix.

When reprinting parts of this newsletter, you are requested to maintain the original context. This is especially important when the topic includes discussion of unfortunate experiences or how not to do something. (Taken out of context, a "how-not-to-do" may be interpreted as a "how-to-do".)



A primary function of the Varanid Information eXchange is to build a collective knowledge base that will serve to further our understanding of Varanidae. The goal of these efforts is to improve their chances of survival, both in captivity and in the wild.

Ads / Notices

Short line ads are free and must relate to the audience of this newsletter. They will be included as space allows. Varanix is not responsible for the quality of merchandise advertised and reserves the right to refuse any ad deemed inappropriate. You are encouraged to inform Varanix of your satisfaction/dissatisfaction with a product or service. Your comments will remain confidential.

Coffee Mugs: One side is original Varanix logo in black & green. The other has the species text piece shown below. $5.95 per cup. S&H: Add $3.50 for the first cup; $1.50 for each additional cup (US & Canada only). Allow 3 weeks for delivery.

komodoensismertensiprasinusvariusexanthematicuspanoptes
rudicollisindicusglauertisalvadoriikordensismitchelli
acanthurusprimordiusdumeriliiflavescensrosenbergi
timorensisbrevicaudagiganteusglebopalmaspenceri
albigulariscaudolineatusniloticusolivaceusgriseus
tristiskingorumsemiremexgouldiisalvatoreramiusgilleni
karlschmidtiocellatusnebulosustorribengalensispunctatus

§ PUBLICATIONS §

Write or call for a free booklist from the following vendors unless otherwise noted.

The Guide to Keeping Monitors. $5.99. The Reptile News Press, 17603 E. Tennessee Dr., Aurora, CO 80017. (303) 751-6923.

"This is a nice booklet for those new to the hobby and should reduce early mortality of captive monitors." [Mark Miller, Varanews 2(2)]

Herpetological Booksellers, P.O. Box 1906, Palm City, FL 34990-1906.

Mertensiella #2: Advances in Monitor Research This collection of papers (in English) by monitor research experts was presented at the First Multidisciplinary World Conference on Monitors in 1989. Price: $25 (includes surface mail); add $10 for air mail. Wolfgang Bischoff, Museum Alex. Koenig, Adenauerallee 150-164, 5300 Bonn 1, Germany.

Herpetology Books - Paul Gritis, 1731 W. Market #12, Bethehem, PA 18018 USA (215) 867-9723

§ ANACONDA TO ZOOXANTHELLA §

I'm working on a study of the African monitors *V. exanthematicus* & *V. albigularis* to improve husbandry techniques. Mark Bayless (address, page 7)

I would like to communicate with anyone who has experience with spiny-tail monitors, *V. acanthurus*. Neal Egge, P.O. Box 653, Kenai, AK 99611.

I'm studying varanid reproduction and would like info on breeding projects, esp. pre-courtship environmental conditions, courtship rituals, clutch size & egg incubation. Chris Nelling, 10 Criswell Ave., Mercersburg, PA 17236

HerpNet is an electronic forum for anyone with an interest in reptiles/amphibians. Participants include professional & amateur herpetologists, veterinarians, etc. HerpNet can be accessed at any modem speed. (215) 464-3562. Settings: N-8-1-F

Membership renewal is due if the mailing label says:

EXPIRES 3(4)

Please note that renewals are tracked by the Volume(Issue) of Varanews and not by date. Also, no other reminders are sent due to the time and expense involved in doing so.

Blue Ridge Herp Soc., P.O. Box 727, Brookneal VA 24528.

§ FOR SALE §

2.1 captive-bred freckled monitors *(V. tritis orientalis)*. $4500 for the group. Will consider trades for varanids listed in my wanted ad below. Jim. (602) 649-1399

§ WANTED §

Information on *V. dumerili* or *V. rudicollis*. Mike Fost, Zoo Atlanta Reptile House, 800 Cherokee Ave., SE, Atlanta GA 30315-1440. (404) 987-3933

Captive hatched and/or raised varanids, preferably hatchling to sub-adult. Wish list includes: *griseus, flavescens, bengalensis, albigularis* and most Australian varanids. Jim O'Dell. (602) 649-1399.

Hatchling or juvenile Asiatic water monitors, *V. salvator*. Captive-born preferred. Michael Pate. (502) 899-1900

Young *V. salvator*, captive-raised preferred Thomas Covington. 2601 John B Dennis Hwy #110, Kingsport, TN 37660. (615) 288-4549.

Preserved specimens of *V. indicus, V. jobiensis* & similar Australasian taxa for detailed systematic study. Locality data desired, but not essential. Put your freezer zoo to good use! Varanid Research, Young Forest Company, 1201 Geraldine Way #1, Belmont, CA 94002.

Adult female Burundi or ornate Nile *(V. n. ornatus)*. Dan (407) 631-9004.

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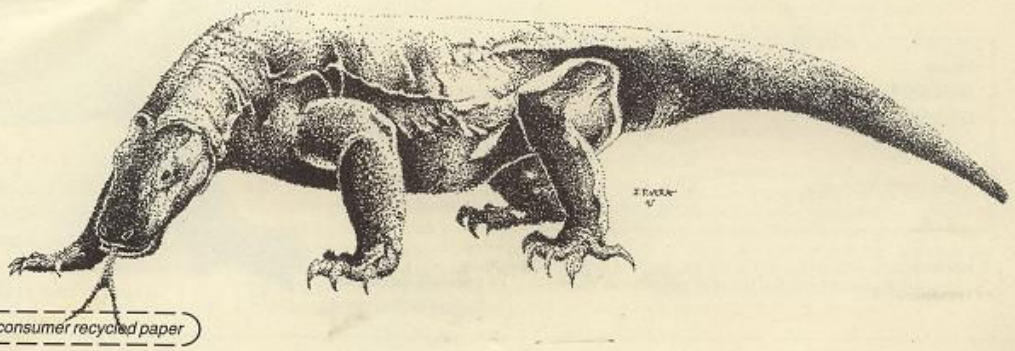

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