

DRAGON NEWS[©]

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DRAGON NEWS IS PUBLISHED BY THE NORTHERN OHIO VARANID ASSOCIATION

FROM THE EDITOR

It's once again that time of year here in the midwest when families get ready for the holidays by stringing lights, decking halls, trimming trees, cooking holiday feasts, singing carols and trying to figure out an efficient and effective way to keep their varanids warm and cozy for the long winter months ahead. Over the next couple of months, N.O.V.A. would like to hear from the membership about the "winter" husbandry practices they use to effectively manage their animal(s) during the colder months. The results of this survey will be published in the next issue or two. I would like to mention that *all* husbandry tips are welcome and encouraged. So send them in!

Readers will begin to notice changes in the format of *DRAGON NEWS* over the course of the next several issues. The changes are meant to keep the newsletter fresh and informative to all readers from amateur to professional varanophiles. One change in this issue is the absence of the species care sheet. We are not doing away with them, just spacing them a little farther apart (the next one will be on the mangrove monitor, *V. indicus*, in the next issue!). Any ideas relating to the format of the newsletter are always welcome. Another change that may have made itself immediately evident is the lack of a table of contents. We felt that members were going to read the newsletter from cover to cover anyway and space in the newsletter is at a premium. If enough members disagree with this change, we will reinstate the contents page.

**THE NORTHERN OHIO VARANID ASSOCIATION
IS DEDICATED TO THE UNDERSTANDING AND CARE OF CAPTIVE
MONITOR LIZARDS.**

Ever since the article in the Dec. 1997 issue of *REPTILES* magazine, we have been swamped with questions about N.O.V.A. and *DRAGON NEWS*. The two biggest questions were; "How do I join?" and "Do you have any back issues of the newsletter that I can buy?". The first question was easily taken care of. The question about the availability and price of back issues will be addressed later in this newsletter in the "classifieds" section.

As many members already know, N.O.V.A. is organizing an all-varanid symposium tentatively scheduled for early 1999. Any suggestions by members as to a site for this event are welcome. A list of sponsors and speakers will appear in the pages of this newsletter as the information becomes available. An all-varanid swap meet is being considered for this event also.

A N.O.V.A. t-shirt design has been completed and the shirts themselves will be available in the near future. The proceeds of the t-shirt sales will go towards bringing in quality speakers to the symposium and possibly facility rental if necessary.

N.O.V.A. would like to wish every one of you a happy and prosperous holiday season. Our best wishes to you and your animals!

HAPPY MONITORING!



THE N.O.V.A. OFFICERS AND DRAGON NEWS STAFF

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CONSIDERATIONS

-SEND IN THOSE PICTURES!

-LET US KNOW ABOUT YOUR BREEDING SUCCESSES/FAILURES.

-WHAT IS THE FASCINATION WITH MONITOR LIZARDS? LET US KNOW WHAT YOU THINK.

N.O.V.A. WOULD LIKE TO THANK THE FOLLOWING PEOPLE:

-KELSEY ENGLE AND STEVE IRWIN OF THE QUEENSLAND REPTILE & FAUNA PARK FOR THE GOANNA PICS AND THE BREEDING DATA!

-ALL THE N.O.V.A. MEMBERS WHO SENT IN PICTURES AND ARTICLES!

N.O.V.A. WELCOMES NEW MEMBERS:

-Paul Massignani

-Lynn Stoecker

-Mark Kikta

-Wayne Karau

-Kevin Taylor

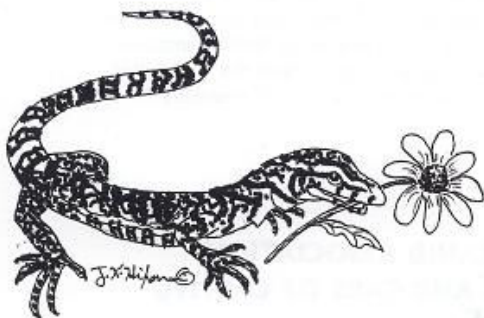
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-Patrick Nabors



The Monitor Lizards of Africa: A Pan-African Checklist

Part III: Benin

By Mark K. Bayless

This multi-part series will examine Country by Country the Monitor Lizards that live within the particular Country discussed. Some segments will be short, while others may take up several parts within themselves (i.e. Republic South Africa).

Benin

The People's Republic of Benin (formerly Dohomey) is located in West Africa on the northern coast of the gulf of Guinea. This Country comprises an area of 43,483 square miles. Benin has no natural harbors, making access to this country's coast difficult. The original topography of this country's vegetation was dense semi-evergreen deciduous forest. Today, these forests are sparse, isolated islands in a sea of cultivated landscapes (i.e. coconut and oil palm plantations): these forests are now considered sacred, making up approximately 0.4% of Benin. They are protected by strong local traditions (Sayer, 1992).

The climate is typically equatorial, hot and humid, with a long dry season from December to March, in which the dry "harmattan" blows in a northeasterly direction. Usually in March, comes the rains, and locust swarms which ravage any crops that they interact with. The great rains begin in March and to July, with a short dry period from July to September, and a corresponding short wet period from September to November.

In Northern Benin, there is only one wet season, from May to September, with more rain in August. There is a dry season whereby the harmattan blows for four months straight! Temperatures range from 56°F to 104°F. Rainfall averages 38 inches per year.

The Savannah monitor, *Varanus exanthematicus*, and the Nile monitor, *Varanus niloticus*, inhabit this country, both found in savanna habitats. It is interesting to note that only three specimens between the two species (2 *V.e./1 V.n.n.*). It is not clear if this limited number of collected specimens from the field is indicative to how well, or dire a situation these species' are in Benin, but with such a high degree of farming/cultivation that has occurred in Benin, I suspect the latter is more likely than the former situation for these two species in this country.

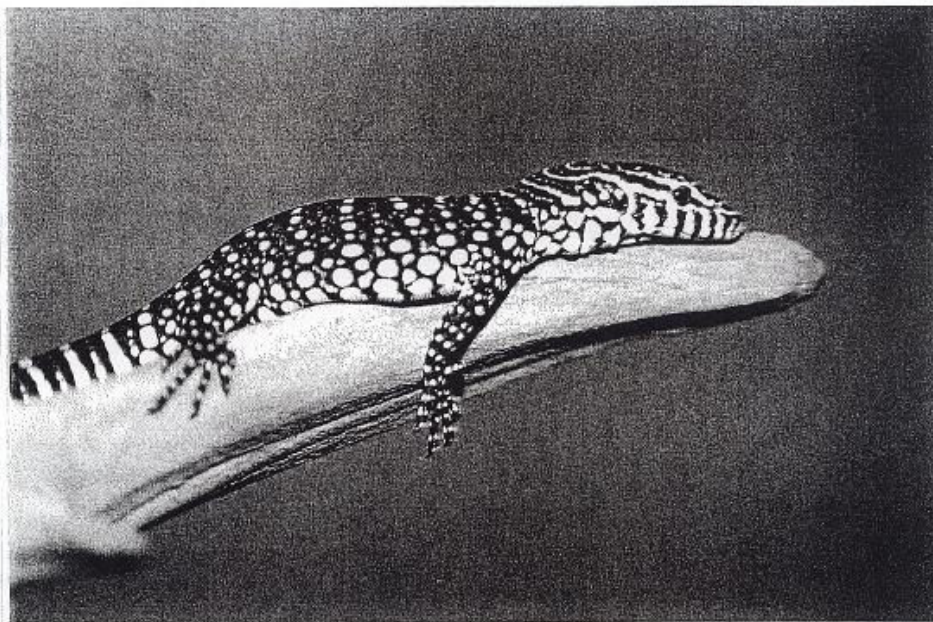
A more detailed account of the pan-African varanids is currently in preparation, of which this is a small segment of said document, involving over 1,800 locations and 300-plus references! If you have any locality data of any kind, photographs/slides of African varanids and/or their habitat data, I would very much appreciate hearing from you. Thank you.

Appreciation is extended to Dr. Kevin De Queiroz for his help and kindness at the National Museum of Natural History.

Literature Cited

Sayer, Jeffrey A., Caroline S. Harcourt, N. Mark Collins (editors). 1992. The Conservation Atlas of Tropical Forests Africa. Simon and Schuster, New York. 288p.





Common Nile monitor, *V. niloticus niloticus*, from Benin. Photo by Gary Maynor jr.

ADDENDUM

WE WOULD LIKE TO CORRECT AN OMISSION IN THE LAST NEWSLETTER. AT THE END OF THE "DISTRIBUTION" AND "DESCRIPTION" SECTIONS OF THE NILE MONITOR CARE SHEET, THERE SHOULD HAVE APPEARED THE REFERENCE (Faust et al, 1996) REFERRING TO THE INFORMATION TAKEN FROM THE REPTILES MAGAZINE ARTICLE CITED AT THE END OF THE CARE SHEET.

While we are on the subject of the Nile monitor care sheet, N.O.V.A. member Gary Maynor jr. suggests a 98-102°F basking site and an average night time temperature of 70-72°F for the Nile monitor.



The Defensive Behaviors of *Varanus niloticus* in the Wild and in Captivity

By Gary L. Maynor Jr.

The Nile monitor, *Varanus niloticus*, (Linnaeus, 1766) has a reputation for being what most people would describe as mean and nasty, aggressive, bad-tempered, etc. In my opinion, Nile monitors are not aggressive, they are defensive. The word defensive, as used here, relates to a Nile monitor's ability to defend itself with a complete array of weapons at their disposal. These weapons are: fleeing, tail-lashing, defecation, hissing, inflating of the body, clawing and biting.

This author will attempt to convey his opinion that Nile monitors have been mislabeled as an aggressive species, instead of the more fitting description of defensive. A Nile monitor that has been *cornered* can instantly ready itself for defensive behavior. These varanids are very good at indicating that they do not want to be bothered. Hissing and tail lashing along with an inflated throat and body, are tell tale signs that these animals can, and will protect themselves. If the opportunity presents itself, a scared Nile monitor will also make use of its teeth. Nile monitors possess extremely strong jaws that are capable of delivering a very painful bite. Nile monitors also have long, pointed claws that are sometimes used in defense (Hoffman, 1989).

The key word is *cornered*. If the lizard has no choice but to stand its ground, and face an attacker, it will. So what is it that makes a Nile monitor feel threatened? Certainly it isn't a matter of the size of the perceived threat that leads the lizard to defend itself.

These varanids have been observed to disregard automobiles and large animals such as buffalo and hippopotamus. However, upon encountering human beings, most Nile monitors chose to flee the area and seek safe refuge. Sometimes these animals paid no attention to humans at all. These were in populated areas where the animals share the same area with the natives. Given the choice, Nile monitors usually prefer to flee rather than fight. This, however, is not always the case. In one instance, a threatened Nile monitor tail lashed a small boy (Edroma and Ssali, 1983).

Though effective, the aforementioned defensive behaviors are not the only means by which a Nile monitor can defend itself. Occasionally, a Nile monitor will lie completely still, faking death for quite some time (Rose, 1950).

The reactions of wild Nile monitors to automobiles, buffaloes, hippopotamus and people have been described, but what about a Nile monitor's reaction to a Savannah monitor (*V. exanthematicus*) that happened to cross its path? The Nile monitor and the Savannah monitor shared the land with each other and upon meeting face to face only threat postures, such as bowing of the neck and arching of the body, were seen. The lizards preferred to go their own way rather than fight one another (Yeboah, 1993).

Certainly all the behaviors listed were defensive ones. These Nile monitors were trying to protect themselves from perceived threats and potential enemies. The fact remains that these animals are passive until they instinctively sense the need to protect themselves and when they do decide to utilize their natural defensive mechanisms they do so vigorously.

So far I've mentioned wild Nile monitor behavior. But what about Nile monitors that are maintained in captivity? Can they learn to hold off on these instinctive behaviors and become comfortable in the presence of their keepers? The answer is yes. It will, however, take some time before your Nile monitor may become accustomed to human attention without feeling the urge to defend itself. The ability to grow accustomed to human beings depends largely on the animal in question. Not all Nile monitors are created equal in terms of their ability to adjust to the immediate presence of human beings.

The Nile monitors which fail to adjust to human attention are the ones usually described as hostile, vicious or un-tameable. While it is definitely possible, it will take a considerable amount of time and effort on the part of the keeper, for a Nile monitor to become comfortable in your presence. Successful acceptance of the keeper usually requires a considerable amount of time spent handling the lizard accompanied by giving the lizard time to acclimate to a new environment.

For the disbelievers who cannot fathom the idea of a Nile monitor that does not bite, thrash the tail or defecate upon their keeper, I relate this story of my own Nile monitor...

In October of 1995, I purchased a tiny Ornate Nile monitor, *V. niloticus ornatus*. This animal displayed all of his natural defensive behaviors. He would not hesitate to bite the hand that fed him. He seemed to like defecating on me and lashing at me with his tail. After several months I noticed that this animal was slowly becoming accustomed to my presence. I spent a lot of time just observing the animal without touching him. Eventually I could pick him up without getting bitten or defecated on. He is now very comfortable in my presence and doesn't display any signs of feeling threatened.

The fact that my own Nile monitor has accepted me and no longer feels threatened by my presence only reinforces my belief that Nile monitors are not aggressive. They are defensive, sometimes wary animals that are always alert for signs of potential threats.

Literature Cited

Edroma, E.L. & Ssali, W.: Observations on the Nile monitor lizard (*Varanus niloticus*, L.) in Queen Elizabeth National Park, Uganda: African journal of Ecology, Volume 21, No. 3: pp. 198 & 199: September 1983

Hoffman, L.: Africa's Largest Lizard: Farmers Weekly; pg. 63: September 1989

Rose, W.: The Reptiles and Amphibians of Southern Africa; pg. 194; 1950

Yeboah, S.: Aspects of the Biology of two Sympatric Species of Monitor Lizards, *Varanus niloticus* and *Varanus exanthematicus* (Reptilia, Sauria) in Ghana; African Journal of Ecology, Volume 32; pg. 332; 1993



The Vet is out this issue.
He is working on something special
for the next issue!

NILE MONITORS

Got Questions? We've Got Answers



All Other Reptiles

Gary & Laurie Maynor
330-478-2961



The Jewel of Australia

A Look at the Queensland Reptile & Fauna Park

By John Hogston

Australia, a continent that is home to more than 25 species of monitor lizards (Goannas as the Aussies fondly know them), boasts of a vast array of zoos and fauna parks. Of these, one stands out above the rest when it comes to the study and breeding of varanid lizards. The *Queensland Reptile & Fauna Park*, located in Beerwah, Queensland.

Park History and Varanid Direction

The Queensland Reptile & Fauna Park was established in 1970 by Bob and Lyn Irwin (parents of the current park director Stephen Irwin). The Park displays Australian fauna, particularly reptiles, to promote education and conservation of wildlife and the important ecological role of their unique Australian wildlife.

It is the institution's aim to further scientific research on certain protected reptiles to assist in ensuring survival, natural development and biological diversity of wild populations. The Park has been recognized for their participation in providing essential information to: The Australian Museum, Queensland Museum, Senkenberg Museum, South Australian Museum, Edith Cowan University, Northern Territory University, Texas University, The Australian University, University of Queensland, Australian Nature Conservation Agency (ANCA) Endangered Species Unit, Centre for Reproduction of Endangered Species (CRES), National Trust of Fiji, Smithsonian Institute and St. John's Ambulance.

The Park's current research projects include studying wild populations of Perentie (*V. giganteus*), Canopy goanna (*V. keithhornei*), Rusty monitor (*V. semiremex*). Much valuable data has been collected already and will continue to be collected. Their many field trips are the highlights of their lives—enduring the arid Simpson desert, the steamy tropical lowland forests of Cape York Peninsula and the insect infested mangrove/estuarine wetlands.

The Queensland Reptile & Fauna Park has been breeding varanids since the mid 1970s. Unfortunately, records have not been kept on all breeding successes since 1984. Here are some of their current recordings.

<i>Varanus gouldii</i>	eggs hatched	25 Dec. 1984
	started hatching	16 Sep. 1985
	eggs laid	8 Nov. 1989
	started hatching	24 Jul. 1990
	eggs x 15 laid	7 Dec. 1991
	started hatching	29 Aug. 1992
	eggs x 13 laid	4 Nov. 1992
	started hatching	29 Jul. 1993

<i>Varanus giganteus</i>	eggs laid	31 Dec. 1987
	started hatching	22 Aug. 1987
	eggs laid	21 Dec. 1987
	eggs laid	20 Nov. 1988
	started hatching	18 Jun. 1989
	eggs x 5 laid	7 Dec. 1991
<i>Varanus mertensi</i>	started hatching	13 Aug. 1992
	eggs x 800g laid	28 Nov. 1992
	started hatching	14 Jul. 1993
	*current eggs laid 1240g	Oct. 1994
	eggs laid	25 Feb. 1985
	started hatching	13 Nov. 1985
<i>Varanus indicus</i> (Aust. form)	eggs laid	19 Feb. 1986
	started hatching	26 Sep. 1986
	eggs laid	12 Apr. 1987
	started hatching	26 Oct. 1987
	eggs laid	22 Feb. 1991
	started hatching	7 Aug. 1991
<i>Varanus Varius</i>	*current eggs laid 24 Feb. 1995	
	eggs laid	28 Jan. 1990
	started hatching	23 Jul. 1990
	eggs laid	2 Jan. 1992
	started hatching	22 May 1992
	The Park incubates and hatches at least one clutch of eggs annually and is currently incubating a clutch.	
<i>Varanus keithornei</i>	They recently incubated and hatched their first clutch of eggs (details later).	

Other species that they have bred since the 1970s are *V. spenceri* and *V. acanthurus*. The above records are a percentage of breeding records, many successful hatchings have taken place with no records.

Not all neonates hatch simultaneously. The longest recording they have from the first hatched to the last hatched, was with *V. giganteus*. The first neonate hatched on 14th July, 1993 and the last neonate hatched on 4th August, 1993; a period of 21 days.

Incubation Technique

A mixture of vermiculite and water, 1:1 by weight, is placed on the bottom of a plastic container. Then the eggs are gently placed and covered with the vermiculite mix. A lid seals the plastic container which is then placed into an incubator. The incubator temperature can be 28C - 32C, however, they have found 30C to be the optimum temperature.

One factor they have found to be detrimental to healthy eggs, is disturbing them during incubation. Any egg movement during the first month of incubation can be fatal.

Another factor detrimental to Varanid eggs, is not locating them soon after they have been laid. Excessive temperatures, moisture, dryness and insect infestation will kill the eggs before they make it to the incubator. Therefore, it is important to know when a female is gravid and when and where she has laid. Not always easy to detect, as Varanids are experts at camouflaging their nest site and may lay during the cover of night (Irwin, et al 1996).

They have found the easiest technique to determine when an obviously gravid female has laid, is to offer food. If they suspect a female is gravid, they will offer her small amounts of food daily; prior to egg deposition she will refuse food. After the eggs have been laid she will develop a voracious appetite, which will confirm eggs have been laid somewhere in the enclosure. (Irwin 1996).

N.O.V.A. would like to thank Steve Irwin and Kelsey Engle of the Queensland Reptile & Fauna Park for all of the data for this article and for their eagerness to contribute to the success of DRAGON NEWS. For those readers who do not already know, Kelsey Engle is the curator of the Park and N.O.V.A.'s contact and Australian taxon advisor.

Literature Cited

- Irwin, S., Engle, K., and Mackness, B. 1996. Nocturnal Nesting by Captive Varanid Lizards. *Herpetological Review* 27(4).
Irwin, S. 1996. An Innovative Strategy For The Detection Of Egg-Deposition In Captive Varanid Reptiles. *Herpetofauna* 26(1).



Capture, Field Observations and Husbandry of the Rare Canopy Goanna

By Steve Irwin

Queensland Reptile & Fauna Park
Glasshouse Mountains Tourist Road
Beerwah Queensland 4519

(THIS ARTICLE WAS ORIGINALLY PUBLISHED IN *THYLACINUS* VOL. 21 NO. 2, 1996. IT IS REPRINTED HERE WITH PERMISSION OF THE AUTHOR. THIS IS PART 1 OF 2.)

The canopy goanna was first described as *Odatia keithornei* (Wells & Wellington, 1985), on the basis of three specimens collected by Greg Czechura in 1978 from Buthen Buthen, Nesbit River, Cape York Peninsula, Queensland. Sprackland (1991) described *Varanus teriae* on the basis of the same material without any reference to Wells & Wellington's earlier description. Covacevich & Couper (1994) have recently synonymised both taxa as *Varanus keithornei*, (Wells & Wellington, 1985).

HISTORY

The first specimen, collected in August 1978 by Gregory Czechura of the Queensland Museum is the holotype marked QM J31566. Two additional specimens were then collected by officers in the Queensland National Parks & Wildlife Service, in close proximity to the first specimen. They are paratypes marked QM J35450 and QM J35451, (Czechura, 1980). These adult black specimens were collected by shooting them out of the canopy with a .22 calibre rifle, often taking more than one shot to kill or dislodge the specimen (Czechura 1980 pers. comm.).

Canopy goannas are an arboreal monitor lizard capable of moving through foliage, trees, canopy and vines very quickly and unobtrusively. They have thin, streamlined bodies, very long prehensile tails and sticky pads on their feet, which enable them to grip thin branches and move quickly and stealthily through the finest of foliage. Their arboreal body structure and black colouration make them a very cryptic and difficult species to locate or capture. When disturbed or threatened they will move to the opposite side of a branch, tree or foliage, become motionless, then rely on camouflage. If disturbed whilst on the ground, they scurry up the nearest tree to a safe height, generally from 3 to 15m. They have been observed in a variety of forest types throughout the McIlwraith and Iron Range areas. Czechura collected the holotype in semi deciduous mesophyll vine forest (alt. 60-100m). The paratypes were collected in deciduous vine thicket (alt. 280-300m) and eucalyptus dominated open forest within 50m of deciduous vine thicket (alt. 520-540m) (J. Winters, pers. comm.) (Czechura, 1980). I have observed them in upland and lowland rainforest (alt. 10-500m) and melaleuca, bulgaroo swamp (alt. 0-10m) (S.T.B&L. Irwin, pers. obs.). Two goannas from the *prasinus* group have also been observed in the Torres Strait and the northern tip of mainland Australia. A single observation of *Varanus prasinus* by J M Whittier and D.D. Moeller has been recorded on Moa Island, Torres Strait, in closed mesic forest (alt. 180m). This specimen was bright green with black chevrons along its back (Whittier & Moeller 1993). An observation of a bright green specimen with wide black crossbands was recorded 6km west of Somerset in vine scrub (alt. 0-50m) (M White, pers. obs.). These two observations of green and black specimens, the bright green *V. prasinus* found in southern Papua New Guinea and black *V. keithornei* found in McIlwraith and Iron Ranges, present a need to further taxonomic evaluation of the *prasinus* group in Australia.

There appears to be an increase in melanism towards southern populations of this group.

Until recently the canopy goanna's habitat has been difficult to survey. It is restricted in geographic distribution and the terrain is difficult for humans to traverse. Their fluid locomotion through dense vine scrub, up trees and across the canopy, combined with their melanistic colouration and camouflage skills, make this goanna very elusive. This species has been listed as rare by Glen J Ingram and Robert J Raven in 'An Atlas of Queensland's Frogs, Reptiles, Birds & Mammals', Queensland Museum, 1991, and rare or insufficiently known by Cogger, Cammeron, Saddler and Egger in the 'Action Plan for Australian Reptiles', ANCA Endangered Species Program 124, 1993. There are no known live specimens in captivity in the world and there is little known of their natural history and biology. The Queensland Reptile & Fauna Park is recognised for its long term breeding of Australian goanna species and on these grounds applied for a permit to collect three canopy goannas from the wild for scientific and educational purposes.

CAPTURE

On 15th October 1993 a permit was granted by the Department of Environment and Heritage to capture from the wild, three canopy goannas (one male and two females). Stephen, Bob, Terri and Lyn Irwin went into Cape York Peninsula in November of 1993 to capture the three specimens in Iron Range, north-east Queensland, Cape York Peninsula.

Our first sighting was on the 3rd of November 1993, at 11:10 hrs. The specimen was first seen on the ground scratching with its forefeet in a rotting log, obviously foraging for food. Sighting us, the juvenile canopy goanna quickly shot up the nearest tree, too quickly for me to get a hand on it. Once there were several metres between us, it turned and looked back down. Noticing that I was in pursuit, it continued to the top of the tree, which was 15-20m in height. Blending in with the branch tips and foliage, it was very difficult to keep located. I pursued him to the finest branches where I was unable to climb any further. Securing itself with its prehensile tail, it stretched out until making contact with another tree with its long slender forelegs and toes. It then easily transferred itself from my tree to the next via branch tips on the roof of the canopy. It was obviously feeling nervous about the commotion I was creating, as I attempted to swing from one tree to another and the ground crew's shouts of concern and caution. The goanna effortlessly transferred to yet another tree and we lost sight of it.

The tree it initially scurried up was noted and photographed. We were keen to come back to this same location in hope of finding the same specimen. We continued the search in other locations. At 16:30hrs that day, we were surveying a track when I heard a very slight rustle in the leaf-litter. I told everyone to freeze. We froze and seconds later I sighted a canopy goanna trying to get into the hollows of a dead tree which had a total height of 10m. The lizard was scared and desperately trying to hide in a hollow. It finally located a suitable hollow and disappeared into it. quickly scaled the tree up to the hollow, but could not locate the lizard. We then pulled the partially rotten, hollow log down to the ground with a rope, where we segmented it with an axe. The lizard was located in the middle of the tree, one and a half metres down from the hollow that it went into. We carefully prised the tree open and very easily captured the specimen. It very obligingly excreted and the faecal sample was collected. Whilst photographing the specimen, the stress from capture and handling caused it to evert what appeared to be hemogenes and was therefore assessed as being a male.

On the following day, 4th November 1993, we started our search at 08:00hrs at the locality we observed the first juvenile specimen the previous day. At 10:00hrs we observed that same specimen raking with its forelimbs in a rotting log on the ground. Carefully and stealthily we advanced upon the lizard. It allowed us to get within 2m before it felt threatened, then it scurried up the same tree that it utilized the day before and disappeared.

Again I climbed the tree but could not find any sign of the specimen. However, Terri noticed hollows in the tree which were the probable escape route. It was decided this was the juvenile goanna's home tree and we should come back the following day to search for it. Cutting down the tree and looking through the hollows was not an option as this technique would have resulted in excessive habitat destruction. The tree was 500mm in diameter and 15-20m in height, the majority of it being hollow but alive, bearing green leaves. That afternoon we went back to the location where we caught the male the previous day, crossed a small creek and were searching 75m from his hollow tree. At 14:05hrs I spotted a canopy goanna, raking leaf-litter in a very dense section of the rainforest. As soon as I saw it, it saw me and scurried quickly up a vine. Immediately I charged through the dense undergrowth, located the specimen several metres up the vine and heading for the thickest of canopies. I grasped the vine and shook it violently, dislodging the specimen into the dense undergrowth. It seemingly disappeared. Then in my peripheral vision, I noticed a small black object moving in a small shrub only 3m high. I quickly charged through the undergrowth, grabbed hold of the small shrub and was able to bend it down with one hand and secure the specimen with the other hand. Once captured, it excreted. The faecal sample was collected. Whilst photographing the specimen, cloacal movement was observed, but no hemipenial activity was noticed, therefore the lizard was assessed as being female. The vine which the goanna had scurried up led straight into the thickest of canopies, including masses of vines, extremely large fig trees and dense foliage which covered an area from the ground to in excess of 30m. If she had made it up the vine she would have been impossible to capture.

Within several metres of where she was first observed raking the leaf-litter, I noticed the same species of rotting wood as that in which the juvenile had been scratching and foraging the previous day. Obviously, this species of timber, once on the ground and rotting, provides habitat for species which the canopy goanna prey upon. Fresh scratchings, both in the rotting timber and the leaf-litter surrounding the area in which she was first sighted, were quite extensive and had been carried out over a period of many hours, perhaps over numerous days.

On the next day, 5th November 1993, no specimens were sighted. That night we decided to shift our expedition to the McIlwraith Ranges where the holotypes and paratypes were collected (Czechura, 1980). We had also observed canopy goannas in this area during the late 1980's (B.L. & S. Irwin pers. obs.). The morning of 6th November 1993 at 08:00hrs, Terri and I, before leaving for the McIlwraith Ranges, went back to the location of the juvenile which had eluded us. Upon arriving we saw no signs of lizard activity. I scaled the tree and got up to a hollow which Terri had located previously. While sitting in the tree I examined its entirety, I even considered the possibilities of chainsawing and splitting by axe. This destructive technique was not an option. I turned to the hollow limb Terri sighted two days previous and snapped it off for a closer examination. The limb was 7m from the ground and 1m in length. Before discarding the limb, I peered into it and in total amazement, I discovered a canopy goanna curled up inside. I quickly jammed my shirt and tissues in each end of the hollow and descended to the ground, where Terri and I dismantled the limb and very easily captured our third canopy goanna. Upon capture and taking photographs, a faecal sample was collected and cloacal movement was observed without hemipenial activity, the lizard therefore was assessed as being a female.

The most interesting fact of this capture was the juvenile we observed on the first two days was living in the same tree as this adult female. Further research on wild populations is necessary to understand their social structure.

(THIS IS THE END OF THE FIRST PART OF THIS ARTICLE. PART TWO, ALONG WITH THE LITERATURE CITED LIST, WILL APPEAR IN THE NEXT ISSUE! STAY TUNED!)



CLASSIFIEDS

THIS SECTION IS OPEN TO ALL N.O.V.A. MEMBERS WHO WANT TO BUY OR SELL VARANIDS, TEGUS, OR OTHER RELATED PRODUCTS. NON-MEMBERS CAN PLACE ADS AT A RATE OF .50 A WORD (NO MINIMUM). DEALERS CAN PLACE .25 PAGE ADS AT \$20, .5 PAGE ADS AT \$35, AND FULL PAGE ADS AT \$50. NOTE: N.O.V.A. IS NOT RESPONSIBLE FOR THE QUALITY OF THE MERCHANDISE OR ANIMALS IN ANY AD.

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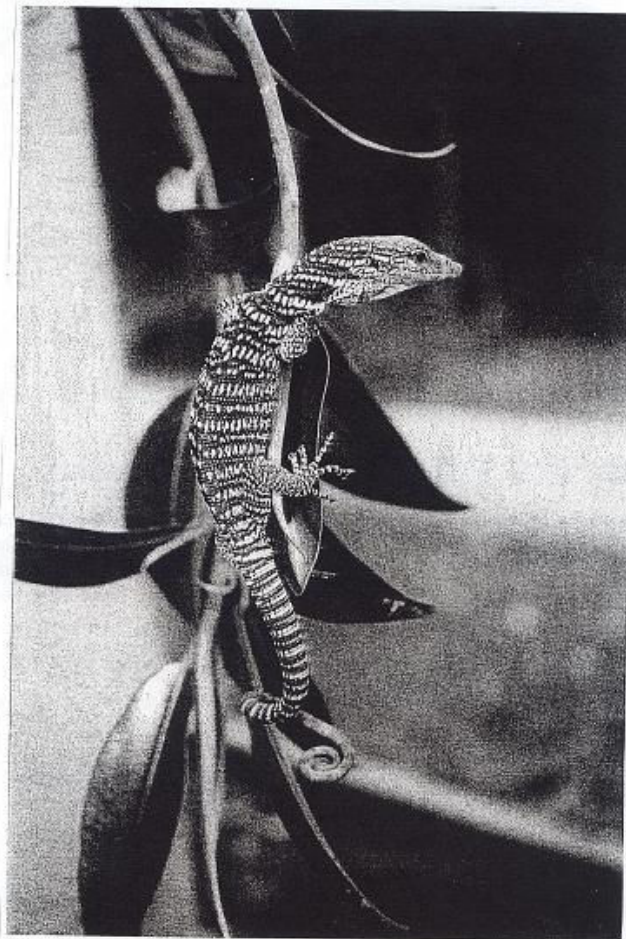
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