## CONTENTS

**EDITORIAL** .............................................................................................................................. 1

**HAA SYMPOSIUM 1991** ............................................................................................................. 2

**INSTITUTIONAL NEWS**
- Namibia .................................................................................................................................... 8
- Transvaal Division of Nature Conservation .............................................................................. 11

**SHORT COMMUNICATIONS**
- Note on the capture and handling of venomous snakes and the abuse of tongs, G.S.A. Rasmussen ...................................................................................................................... 12
- The "endangered" ones, Ernst Baard .......................................................................................... 16
- Bifid, trifid and branched tails in lizards, M.F. Bates ............................................................... 19
- To boast or not to boast?, Ernst Baard .................................................................................... 23

**REPRINTS**
- Rinkhals and bokmakierie encounter (Mirofro), Ron Moffat .................................................. 24
- Diet (Lilacbreasted Roller eats snake) (Witwatersrand Bird Club News), B. & E. Mortimer ...... 24

**FROM THE PRESS** ................................................................................................................. 25

**HERPETOLOGY 1989/90** ......................................................................................................... 33

**SYMPOSIA** .............................................................................................................................. 37

**APPEALS AND REQUESTS** .................................................................................................... 38

**OTHER SOCIETIES** .................................................................................................................. 40
The HERPETOLOGICAL ASSOCIATION OF AFRICA

Founded 1965

The HAA is dedicated to the study and conservation of African reptiles and amphibians. Membership is open to anyone with an interest in the African herpetofauna. Members receive the Journal of the Herpetological Association of Africa (which publishes technical articles—subject to peer review, notes, book reviews and bibliographies) and African Herp News (HAA Newsletter), which includes news items, husbandry hints, announcements, etc.

COMMITTEE OF THE HERPETOLOGICAL ASSOCIATION OF AFRICA

Chairman and Newsletter Editor
M.F. Bates, Herpetology Department, National Museum, P.O. Box 266, Bloemfontein, 9300.

Secretary and Treasurer
R.M. Douglas, Herpetology Department, National Museum, P.O. Box 266, Bloemfontein, 9300.

Journal Editor
W.R. Branch, Curator of Herpetology, Port Elizabeth Museum, P.O. Box 13147, Humewood, 6013.

Additional Committee Members

V.C. Carruthers, Windover Mountain Reserve, P.O. Box 368, Rivonia, 2128.


O. Bourquin, Natal Parks Board, P.O. Box 622, Pietermaritzburg, 3200.

Co-opted Journal Subeditor
R.C. Boycott, Malolotja Nature Reserve, P.O. Box 1797, Mbabane, Swaziland.

Honorary Life Members: Dr R. Laurent, Prof. J.C. Poynton, Dr Carl Gans, Dr D.G. Broadley.

African Herp News 14 Dec 1990

EDITORIAL

As most of you probably know by now, the Second H.A.A. Symposium on African Herpetology will take place at the National Museum in Bloemfontein from 8-11 April 1991 (see announcement on page 2).

To date, titles have been received for 31 papers, 8 posters and 2 slide shows. It is quite surprising however, to note that only 8 papers deal with reptile husbandry. Surely there are more husbandists around?

At this stage four Guest Speakers have been invited to the Symposium. They are Prof. J.C. Poynton (University of Natal), who is perhaps best known for *The Amphibia of Southern Africa: a faunal study* and the four part series *Amphibia Zambesiaca* (with Dr D.G. Broadley as co-author); Mr. Bert Langewerf (Agama International Herpetocultural Institute, United States of America), who is currently building up the world's largest lizard breeding farm and who has, so far in 1990, bred 750 lizards; Dr. D.G. Broadley (Natural History Museum of Zimbabwe), who revised *FitzSimon's Snakes of Southern Africa* and has reviewed and revised numerous African snake and lizard genera; and well-known herpetologist Prof. Aaron Bauer of Villanova University, United States of America. With Guest Speakers like these, how could anyone dare miss the Symposium?

Regarding the H.A.A. General Meeting, to be held during the forthcoming Symposium, I would like to remind members that any amendments to the H.A.A. Constitution which they may want to discuss, must be submitted to the Secretary in writing by 8 February 1991 (see African Herp News 13: 5-14).

Finally, I would like to thank those persons who contributed articles and news items for this issue of *African Herp News*.

All the best for 1991.

Mike Bates
Chairman/Newsletter Editor
SECOND HAA SYMPOSIUM ON AFRICAN HERPETOLOGY

NEW VENUE: NATIONAL MUSEUM, BLOEMFONTEIN
8-11 APRIL 1991

You are cordially invited to attend the second major symposium of the Herpetological Association of Africa, to be held at the National Museum in Bloemfontein.

Due to the slow response to Intention Forms sent out in August 1990, and in order to keep the registration fees below R250-00 the venue of the symposium has been changed from the University of the Orange Free State to the National Museum.

If you have returned a previous Intention Form it is not necessary to return the enclosed Intention Form. However, please note the change in venue and accommodation arrangements. Please return the enclosed Intention Form by 15 January 1991.

Members not returning an Intention Form will not receive further notifications.

REGISTRATION FEES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H.A.A. Members</td>
<td>R150-00</td>
</tr>
<tr>
<td>(fully paid up 1990)</td>
<td></td>
</tr>
<tr>
<td>Non-members</td>
<td>R180-00</td>
</tr>
<tr>
<td>Daily tariff</td>
<td>R 60-00</td>
</tr>
<tr>
<td>(members and non-members)</td>
<td></td>
</tr>
</tbody>
</table>

Registration forms will be sent out in January 1991. Payment by postal order or cheque to be made out to HAA Second Symposium and posted to H.A.A. Secretary/Treasurer, P.O. Box 266, Bloemfontein, 9300, R.S.A.

ACCOMMODATION

Accommodation will no longer be available at the University of the Orange Free State hostels. Delegates should organize their own accommodation. A map of Bloemfontein will be sent out at a later date. The following is a list of hotels/overnight accommodation within walking distance from the Symposium venue:

<table>
<thead>
<tr>
<th>Hotels and ratings</th>
<th>Approximate Tariffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLOEMFONTEIN SUN ****</td>
<td></td>
</tr>
<tr>
<td>East Burger Street</td>
<td></td>
</tr>
<tr>
<td>(051) 301911</td>
<td></td>
</tr>
<tr>
<td>HOLIDAY INN ***</td>
<td></td>
</tr>
<tr>
<td>Union Avenue</td>
<td></td>
</tr>
<tr>
<td>(051) 301111</td>
<td></td>
</tr>
<tr>
<td>HALEVY HOUSE ***</td>
<td></td>
</tr>
<tr>
<td>Markgraaf Street</td>
<td></td>
</tr>
<tr>
<td>(051) 480271</td>
<td></td>
</tr>
<tr>
<td>STANVILLE THE INN **</td>
<td></td>
</tr>
<tr>
<td>(Self-contained)</td>
<td></td>
</tr>
<tr>
<td>Zastron Street</td>
<td></td>
</tr>
<tr>
<td>(051) 477471</td>
<td></td>
</tr>
<tr>
<td>DIE HERBERG **</td>
<td></td>
</tr>
<tr>
<td>(self-contained)</td>
<td></td>
</tr>
<tr>
<td>Barnes Street</td>
<td></td>
</tr>
<tr>
<td>(051) 307500</td>
<td></td>
</tr>
<tr>
<td>CECIL HOTEL **</td>
<td></td>
</tr>
<tr>
<td>St. Andrew Street</td>
<td></td>
</tr>
<tr>
<td>(051) 481155</td>
<td></td>
</tr>
<tr>
<td>FONTEIN HOTEL *</td>
<td></td>
</tr>
<tr>
<td>Zastron Street</td>
<td></td>
</tr>
<tr>
<td>(051) 484791</td>
<td></td>
</tr>
</tbody>
</table>

N.B.: Tariffs expected to increase by 7,5-10% before April 1991. All tariffs excluding GST.
PAPERS, POSTERS AND SLIDE SHOWS

You are invited to present a paper, poster and/or slide show. Please indicate your preference and supply a provisional title on the Intention Form. Papers and/or abstracts (including those of posters) will be published in a future H.A.A. Journal if so desired by the author/s.

GUEST SPEAKERS

Prof. J.C. Poynton (University of Natal)
Provisional title: Amphibian diversity and species turnover in southern Africa.

Burt Langewerf (Agama Institute, United States of America)
Provisional title: The maintenance and care of lizards in captivity.

Dr. D.G. Broadley (Natural History Museum of Zimbabwe)
Dr. Broadley's attendance at the Symposium still to be confirmed.

Prof. Aaron M. Bauer (Villanova University, United States of America)
Provisional title: Still to be submitted.

IMPORTANT DATES

Final announcement and registration form to be sent out - January 1991.
Final date for registration - 30 February 1991.

ENQUIRIES AND ADDRESS FOR INTENTION FORMS

Mike Bates
HAA Symposium Organizer
National Museum
P.O. Box 266
Bloemfontein, 9300
Republic of South Africa
Tel. (051) 479609

HAA Symposium Committee:
Mike Bates, Rod Douglas and
Alex Flemming
National Museum
P.O. Box 266
Bloemfontein, 9300

PAPERS

Baard, E.H.W. Dynamics of a Geometric tortoise population in the southwestern Cape Province.


Bates, M.F. The herpetofauna of the Orange Free State.


Bodhiji, T. Research on the Gaboon Adder, Bitis g. gabonica in Zululand.

Branch, W.R. Homopus "bergeri"- a new land tortoise from the rocky mountains of southern Namibia.

Burger, M. Tortoise mortalities along electric fence on Thomas Baines Nature Reserve.

Channing, A. The "oh, ah" effect: Zoogeography of the Kassininae.


Flemming, A.F. The reproductive cycle of the viviparous lizard Pseudocordylus m. melanotus (Sauria: Cordylidae) in the Orange Free State.

Haache, W.D. Topic: systematic zoogeography.

Haagner, G.V. Notes on the captive propagation of the Rough-scaled plated lizard, Gerrhosaurus major.

Haagner, G.V. & Morgan, D.R. Captive propagation of the Intermediate shield-nose snake (Aspidelaps scutatus intermedius) with notes on reproductive behaviour and growth.

Haagner, G.V., Patterson, R.W. & Morgan, D.R. Captive propagation of the South African rock python, Python sebae natalensis in South Africa.

Herselman, Yolande M., Mouton, P. le F.N. & Van Wyk, J.H. The genera of the family Cordylidae as paraphyletic taxa.

Jacobsen, N.H.G. Transvaal Afroedura.

Langewerf, B. The maintenance and care of lizards in captivity.


Morgan, D.R. & Haagner G.V. The captive propagation of the Lowland viper (*Atheris superciliaris*).

Morgan, D.R. & Haagner, G.V. The Manyeleli Reptile Centre - a different approach to reptile husbandry and research.

Mouton, P. le F.N. & Van Wyk, J.H. Evolutionary tendencies in the function of colour in the lizard family Cordylidae.

Passmore, N. Male calling behaviour in *Hyperolius marmoratus*.

Patterson, R. Reproduction and husbandry of *Python sebae natalensis*.

Poynton, J.C. Amphibian diversity and species turnover in southern Africa.

Smith, G.N. Season of calling and associated control factors of a northern Transvaal anuran population.

Spawls, S. Activity patterns in nocturnal West African savanna snakes.

Tomsett, G. Checklist of the reptiles of the West Coast National Park.

Van Heerden, A.J., Mouton, P. le F.N. & Van Wyk, J.H. Description of a contact zone between the lizard species *Cordylus cordylus* and *Cordylus niger*.

Visser, J. Sperm of some South African frogs.

Visser, J. The 'large-eyed' *Lamprophis fuliginosus* from the arid areas of the Cape Province and Namibia.

---

**POSTERS**

Badenhorst, N.C., Mouton, P. le F.N. & Van Wyk, J.H. Climates associated with the occurrence of melanistic cordylid populations in the southwestern Cape.


Herselman, Yolande M., Mouton, P. le F.N. & Van Wyk, J.H. The status of the races of the graceful crag lizard *Pseudocordylus capensis*.


Lambiris, A.J.L. Surgical repair of chelonian shell defects.

Van Wyk, J.H. Synchrony of male and female reproductive cycles in *Cordylus giganteus*.

Van Wyk, J.H. The frequency of reproduction in females of *Cordylus giganteus*.

Van Wyk, J.H. & Mouton, P. le F.N. Glandular epidermal structures of cordylid lizards.

**SLIDE SHOW**

Spawls, S. Slides of African reptiles and amphibians.

Channing, A. Some little known tropical frogs.

NAME (and title)

POSTAL ADDRESS: ______________________________________ POSTAL CODE: __________

Tel (H) __________________________ (W) __________________________

I am interested in attending the following days of the Symposium and would like to receive further information.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Apr</td>
<td>Apr</td>
<td>Apr</td>
<td>Apr</td>
<td>Apr</td>
</tr>
</tbody>
</table>
CURRENT HERPETOLOGICAL RESEARCH AND RELATED ACTIVITIES IN NAMIBIA

Namibia has a wide diversity of landscape and a broad herpetofaunal diversity to match. At last count, 52 species of frogs and 222 species of reptiles occur or are expected to occur here. The greatest diversity of frogs and amphibious reptiles are found in the Caprivi strip as one would expect, and the Namib Desert hosts the largest diversity of endemic and near-endemic reptiles; fully 90% of Namibia's endemic herpetofauna (mainly Gekkonidae) are from the Namib, pro-Namib and adjacent areas.

Past workers have had a great interest in the Namib Desert, more so that any other area in Namibia, and this in-part led to the establishment of the Namib Desert Research Station at Gobabeb in 1963. The presence of this station has ensured that the momentum created by earlier researchers would be sustained. The station has been involved with studies which have led to approximately 40 papers on Namib Desert herpetology, about 8% of the station's entire output.

The State Museum of Namibia houses the national collection, and very occasionally houses a national herpetologist as well. During the past 20 years, herpetologists have been in residence for a total of only four years. Consequently, most recent work has been done by visiting foreign scientists. This historical situation is also reflected in the paucity of type material lodged in the museum; of Namibia's 27 species of endemic herpetofauna, only 6 species are represented by holotype or paratype material. The State Museum currently houses 7500 reptile specimens and 850 amphibian specimens, and is being curated by R.E. Griffin (Curator of Arachnids, Myriapods and Lower Vertebrates).

Current activities involving Namibian reptiles and amphibians can be split into three broad categories: 1) Research conducted by the Ministry of Wildlife, Conservation and Tourism, this being conservation orientated; 2) commercial enterprises (three crocodile farms are active in Namibia, and one reptile park is now under construction), and 3) research conducted by local and foreign visiting scientists, which is usually academic in nature. Below is a list of active programmes in the latter category:

Comparative Reproductive Biology and Behavioural Ecology of *Agama aculeata* and *Agama planiceps* in the Windhoek area, N. Heideman (University of Namibia). A long-term programme.


Ecophysiology and Biology of *Angolosaurus skoogi* in the Northern Namib Dunes, M.K. Stryy (Desert Ecological Research Unit, Gobabeb). A broad programme and evolving long-term programme, involving a number of specialist visiting scientists, in particular D. Mitchell (University of the Witwatersrand) and B. Clark (University of the Witwatersrand).
yet been found to exclude local wildlife from the canal. We are currently testing a number of structures, several of which show promise. Mortality rates are intensively measured twice a year, during winter and summer.

We are also engaged in a *Python anchietae* captive-breeding programme, which is a joint venture with the Transvaal Snake Park. Our involvement revolves around our desire to make captive-bred specimens available to foreign research and educational institutions, and to supply specimens to known (legitimate) breeding programmes to ensure genetic diversity of these captive populations. A spin-off of this programme may be a reduced demand for wild-caught specimens.

The latest addition to our programme is a capture-mark-release programme on the Green Turtles which aggregate at the mouth of the Kunene River. The disjunct population of Nile Soft-Shelled Turtles which also occur there, are also opportunistically marked.

Lastly, another aspect of the conservation side of Namibian herpetology deals with the illegal trade in local reptiles. This is a South African-based market, centering around Johannesburg and Cape Town. Animals are illegally collected and exported from Namibia, illegally imported into the Republic of South Africa, and supplied to local and overseas collectors, foreign markets and museums (as preserved specimens). To our knowledge, this activity has not yet caused any serious conservation problems. The majority of Namibian species of conservation concern are protected by their habitat and habitat. The habitats of some rupicolous species are, however, limited in extent and may be destroyed by unscrupulous collectors. Stricter border control, since Namibian independence, and increased fines (up to R20 000 for some reptile species) may discourage some collectors.

Submitted by: Mike Griffin, Biologist - Small Terrestrial Animals, Ministry of Wildlife, Conservation and Tourism, P.O. Box 13306, Windhoek, Namibia, 9000.
NOTES ON THE CAPTURE AND HANDLING OF VENOMOUS SNAKES AND THE ABUSE OF TONGS

G.S.A. Rasmussen

Chipangali Wildlife Trust, P.O.Box 1057, Bulawayo, Zimbabwe

Having watched over the years the emergence of tongs into the field of herpetology, it has come to my notice with some distress that they seem not only to be regarded as an aid to handling venomous snakes, but also as a 'cure all' to avoid getting bitten. Often I might add, at the expense of the very snakes we are aiming to protect. Tongs appear to have emerged in the United States of America after the idea of venomoids was rejected (venomoids are snakes whose venom glands were surgically removed) and have become regarded as the next best thing.

All good collectors are now aware that minimal stress during capture and in captivity results in healthier snakes far more likely to breed. Tongs, I thus personally fear, can be totally counter-productive for the following reasons:

i) Even in the most careful hands there is little possibility of having much sense of feel, and even with the best will in the world, if a snake such as a large mamba starts struggling, one's own instinct will tend to tighten the grip to a point that could be detrimental to the snake concerned.

ii) They are used as a short-cut to handling venomous snakes by personnel neither ready nor responsible enough to be capturing them (it is not as though we are short of harmless species!).

iii) The injuries they do cause are generally serious, often long-term, lingering and in many cases fatal.

Just recently I had the misfortune to witness and receive first-hand, reliable accounts of snakes damaged by tongs. This sickened me so much that I was prompted to submit this report, hopefully to the benefit of all - in particular the snakes.

Case 1
Gaboon Viper male sent out on breeding loan was returned listless and died some months later. An X-ray and post-mortem showed several cracked ribs and internal bleeding. It was subsequently found that tongs were used at the establishment without any attendant awareness as to their dangers.

Case 2
A Green Mamba in a captive collection suffered paralysis for a section of apr. 30 cm due to one of the back vertebrae being misaligned and trapping a nerve.

Furthermore, it is a well-known fact that a large percentage of snakes captured by venomoids were damaged through the use of tongs, and subsequently died.

Personally, I do not use tongs to handle snakes in any circumstances and know a lot of collectors who manage their collections quite well without them. This I thus feel indicates that in any collection their use should certainly be minimal rather than ad libitum (if at all!).

The piece of equipment I have found totally satisfactory for nearly all applications is nothing other than a hook/press stick combined. A few sizes are generally desirable to be compatible with the different cage sizes and obviously the snakes themselves. For field work I generally prefer the larger size which is more of an all-purpose tool, and is more suited to the larger species.

In the case of captive handling, I recommend the following procedure, and suggest that collectors bear in mind that snakes do not thrive on excessive handling, and this should be kept to an absolute minimum. When simply needing snakes out of the way for cleaning purposes, possibly the easiest is the use of a catch-box and slide which evokes no stress on behalf of the snake. For mambas and cobras, which are more often than not particularly keen to use such a facility, I feel this system cannot be bettered.

Large, heavy-bodied snakes such as Puffadders and Gaboon Vipers on the other hand, often cannot be bothered to move and the easiest and gentlest method is to simply use a pair of hook sticks to support the body and lift them into a nearby tank.

Large cobras and Boomslangs are often moved simply by supporting the body with a hook stick and holding the tail. It is felt salient to point out that the internal angle of the crook should be correct to both minimize the movement of the snake in question and at the same time support it. With smaller snakes it is simply easier to hook them out. I strongly recommend that lethal snakes are well out of the way when attending to cages for cleaning or to adjust cage furniture. It is all too common to see handlers trying to fish faeces out from some awkward spot in a cage in a hurried manner with half an eye fixed on the occupant. Generally the end result is half a job done. Thorough and proper cleaning cannot truthfully be carried out with poisonous occupants inside.

Obviously from time to time it will be both expedient and necessary to handle one's charges, and here my standard press stick with a 25 cm splay on the head serves as an excellent tool. The wide splay facilitates speedier pinning down, particularly when catching snakes for the first time. In the case of mambas and cobras it also serves as an excellent device for slowing them down in the field. Under controlled conditions it is often a good idea to place a sack down on which to pin the head. This lessens the risk of canker and reduces the likelihood of damage. Well-managed and properly handled snakes are without doubt far less aggressive.

With regard to field capture, I still maintain the use of the press-stick so described and do not recommend the use of make-shift sticks and bags, for they only increase the risk of damage to the snake and of the catcher getting bitten. If suitable equipment is not to
hand and capture cannot be executed without risk to either snake or handler, exercise restraint and let it be the snake’s lucky day for a change.

As far as the capture of Boomslangs, large mambas and cobras are concerned, it is the only case I would sanction the use of a mechanical tool for initial capture. Solely for the reason that the former are generally too long to be safely held by the tail away from the body, and the latter are inaccessible on the terminal twigs of trees. In such cases I definitely prefer a noose in preference to tongs. My reasoning for this is that a splayed noose moulds to the body of the snake rather than crushing it. Furthermore it can be used to simply bring the first third of the body into the open where the head can be pinned down in the usual manner. I do not attempt to noose the head due to the complicated structure of bones in that region, some of which are very fragile. Ideally, 30-40 cm away from the head is best. A noose also has the major advantage of being easily controlled. Once it is at minimum pressure, the line can be folded back and there is no risk of ‘heat of the moment’ accidental tightening. I must stress however, that I only use a noose when it is definitely warranted and not as routine. It is felt salient to point out at this stage that on one’s return with specimens from the field, it is always advisable to ensure that their mouths are clean. Often grit or dirt can enter the mouth during capture, thus causing the risk of canker or mouth rot.

With respect to bagging, the use of a bag inverted and puppet fashion is often the safest. Do however ensure that the bag is securely tied before letting go! Furthermore, check all bags thoroughly before use. Many accidents have happened as a result of negligence in this department. When using sacks however, as any form of feeling is limited, the safest way is to drop/toss the head in with a flick and have the sack closed simultaneously with a noose. The reason for using a noose is that due to the thickness of the cloth, it is not easy to secure the neck properly prior to tying. Highly venomous snakes should be at the very least double-bagged, but ideally should be placed in a bag within a box. Many handlers, and even worse, unsuspecting personnel, have been bitten as a direct result of simply failing to follow the latter procedure. Analysis of the prelude to case histories often serves to highlight areas where more care can be taken and hopefully save oneself from the same trauma.

On a final note, beware of ‘flying puffadders’ and relegate your tongs to what is perhaps their best use: ‘feeding mice to mambas’. 
The Cape Platanna and Micro Frog, largely sympatric at most localities where they are found, have been subjected to severe pressure throughout their distribution ranges. The natural waterbodies and surrounding habitat in which these frogs previously occurred have been converted to either horticultural land (e.g. the Cape Flats and greater Cape Town metropolitan area) or new residential areas, or have been infested by almost impenetrable thickets of Australian acacias, port jackson flats and greater Cape Town metropolitan area (Baard, 1988). Presently these two species are known from only a handful of localities in the south-western Cape (Picker & De Villiers, 1988; De Villiers, 1988). The Cape Platanna further suffers from cross-breeding with its cousin, the Common Platanna (Xenopus laevis), and concern among interested herpetologists has led to the founding of the Cape Platanna Conservation Committee (CPCC). The CPCC has as one of its main objectives the conservation of genetically pure X. gilli breeding stock in the wild.

The Table Mountain Ghost Frog and Hewitt's Ghost Frog are the two South African frogs with possibly the smallest distribution ranges. H. rosei is known from only nine localities on the eastern slopes of the mountain (Boycott, 1988a). Not only does this have severe implications for the conservation of this species (Boycott & De Villiers, 1986), but man-made constructions (reservoirs, weirs, etc.) and unwise forestry management may exterminate it on the eastern side of Table Mountain.

Hewitt's Ghost Frog has not done much better. Known from only four streams in the Loerie and Otterford Forest Reserves in the Elandsberg Mountains of the eastern Cape, this species is threatened by habitat loss due to the over-utilization of its habitat for forestry practices (Boycott, 1988b). Forest fires also pose a threat.

References
BIFID, TRIFID AND BRANCHED TAILS IN LIZARDS

M.F. Bates

National Museums, P.O. Box 266, Bloemfontein, 9300

It is a well-known fact that many lizard species are able to shed their tails when attacked by a predator, and subsequently grow a new tail similar in shape and size to the original (Arnold, 1988). However, if the tail is broken on one side only but not shed, a new growth may occur on the ruptured side resulting in a forked or bifurcated tail (Das, 1932; Rose, 1950; Jacobsen, 1985). The tail can also be injured on opposite sides or at various points and result in a trifurcated or "branched" appearance (Das, 1932).

From laboratory experiments on *Gecko verticillatus* Laurenti, Das (1932) found that when only the muscular coating of original and regenerated tails was severed, a lateral outgrowth or accessory tail lacking a supporting skeletal structure was usually produced. He regarded such outgrowths as merely elongated fleshy lobes. However, when the wound was deep enough to affect the vertebral column of the original tail or central cartilaginous tube of the regenerated tail, an accessory cartilaginous tube developed from the point of injury and extended as a supporting structure inside the accessory regenerated tail (Das, 1932). The above findings are contrary to Rose's (1950) statement that "any mutilation of the regrown portion (of the tail) will be followed by healing of the wound only".

Bifid and trifid tails have been recorded in a large number of lizard species representing many families (for references see Sood, 1939). More recent reports include those for Gekkonidae (Haacke, 1975, 1976 a-b; Bates, 1989), Scincidae (Broadley, 1977: 65), Gerrhosauridae (Jacobsen, 1985:61) and Agamidae (Baig, 1988).

Das (1932) stated that "the production of double or triple tails in lizards is by no means an uncommon phenomenon under natural conditions", while FitzSimons (1943) and Rose (1950) state that bifurcation or even trifurcation of the regrown portion of the tails of geckos is not infrequent. However, Bates (1989: 231) found only three bifurcate and one trifurcate tails in a sample of 170 regenerate-tailed *Pachydactylus c. capensis* (sec Bates 1989), housed at the National Museum, were examined. The above specimens were X-rayed to determine the skeletal structure of the tail.

To determine the frequency in occurrence of bifid and trifid tails in scincid lizards, specimens of 7 species of *Mabuya* in the wet collection of the National Museum were examined (Table 1). Broken tails showing no signs of regeneration were not included in sample sizes. Four specimens of the gecko *P.c. capensis* with bifid (3) and trifid (1) tails (see Bates 1989), housed at the National Museum, were also examined. The above specimens were X-rayed to determine the skeletal structure of the tail.

The tail of a *Mabuya occidentalis* (National Museum, Bloemfontein catalogue number: NMB RS699) from Montrose farm, Kalahari Gemsbok National Park, had a branched appearance (Fig. 1). The skin had a snout-vent length of 83.0 mm, a greatest tail...
length of 110.5 mm and apr. 50.4 mm of the original tail still remained. Examination of radiographs showed that cartilaginous rods were present in all branches of the regenerated tail (see a and b in Fig. 1).

Two specimens of *M. striata punctatissima* had bifurcate tails. Although unclear, radiographs of the tail of NMB R1312 suggest that the tail had regenerated from just anterior to the branching, and that both branches contained a cartilaginous rod. The tail of NMB R4334 was similar, but one branch had no distinct cartilaginous rod and would appear to represent a fleshy lobe (cf. Das, 1932). The tail of one *M. s. sulcata* was distinctly bifurcated (NMB R6310).

The tail of one *Pachydactylus c. capensis* (NMB R1599) was trifurcated. The regenerated portion of the tail represented about 60% of the total tail length, and there were two accessory regenerated tails without cartilaginous rods ("fleshy lobes") on opposite sides near the terminal end of the tail (Fig. 2).

Three other *P. c. capensis* had tails bifurcated near their terminal end. The tail of NMB R4183, measuring apr. 35.4 mm, was regenerated from near the base and has an accessory regenerated tail measuring 2.4 mm at its terminal end which grew back towards the body at an angle of apr. 45° to the tail. Both the central regenerated tail and the branch contained a cartilaginous rod. The tail of NMB R4033 is similar, but the tail branches grow away from the tail. Specimen NMB R2106 was not X-rayed, but the regenerated tail has an indication of a bifurcated terminal tail tip.

Although bifid and trifid tails are produced under natural conditions, following injuries caused accidentally or by predatory attacks (Das, 1932), their occurrence in *Mabuya* and *Pachydactylus c. capensis* (Bates, 1989) is apparently infrequent (Table 1).

It would be interesting to contemplate the affect a bifid or trifid tail has on a predator, bearing in mind that to be effective as a deterrent, the tail of a lizard must visually distract its predator by its size and movement. A branched tail is probably more conspicuous to potential predators than an original or "normal" regenerate, but the mobility and running speed of the lizard might well be reduced due to the tail being unbalanced and possibly getting stuck between rocks and/or vegetation. It should be remembered, however, that many lizards experience tail loss more than once during a lifetime, and a "branched" tail may be only a temporary condition.

<table>
<thead>
<tr>
<th>Species</th>
<th>No. of bifid* and branched&quot; tails</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>M. homalocephala smithii</em></td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><em>M. capensis</em></td>
<td>0</td>
<td>252</td>
</tr>
<tr>
<td><em>M. occidentalis</em></td>
<td>1**</td>
<td>11</td>
</tr>
<tr>
<td><em>M. varia</em></td>
<td>0</td>
<td>92</td>
</tr>
<tr>
<td><em>M. s. sulcata</em></td>
<td>0*</td>
<td>8</td>
</tr>
<tr>
<td><em>M. v. variagata</em></td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td><em>M. v. punctulata</em></td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td><em>M. s. srikiata</em></td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><em>M. s. sparsa</em></td>
<td>0</td>
<td>215</td>
</tr>
<tr>
<td><em>M. s. punctatissima</em></td>
<td>2*</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: *Mabuya occidentalis* (NMB R5699) with "branched" tail. The origin of the regenerated tail is indicated by an R, whereas the accessory branches are indicated by a and b.

Figure 2: Trifurcate tail of a *Pachydactylus c. capensis* (NMB R1599). The accessory tails (a and b) represent "fleshy lobes".
Acknowledgements

I would like to thank Mr. Gerald Haagner for donating a branch-tailed *Mabuya occidentalis* to the National Museum.

References


TO BOAST OR NOT TO BOAST?

(with apologies to William Shakespeare)

Ernst Baard

Jonkershoek Nature Conservation Station

Private Bag 5014

7600 Stellenbosch

The following quote from the book "GOGGA BROWN The life-story of Alfred Brown, South Africa's Hermit-Naturalist" by M.R. Drennan (undated), Maskew Miller, Cape Town, is taken from a herpetological novel by Angus Bellairs. This novel was published recently by the Durrell Institute of Conservation and Ecology, University of Kent at Canterbury, UK, on the occasion of the First World Congress of Herpetology (September 1989). The book review by Sherman A. Minton, Indiana University School of Medicine, Indianapolis, USA [*Herp Review* 20(4), 1989: 100] hails this as an entertaining story with a herpetological theme and a must for any herpetologist.

At the first attempt, reading the quote from "GOGGA BROWN" makes one feel uneasy about this boastful passage, but in retrospect one realizes that it is spiced with all the obvious characteristics of many a herpetologist who has suffered long, hot hours under the glaring sun at temperatures well into the forties, waiting or searching for that elusive lizard or snake (after missing it about an hour ago!). Well, eat your hearts out!

"Yet the real truth is that this low Order [the Reptiles] of the Animal Kingdom has a strange fascination for a rare intellect here and there. Moreover, it is usually to an exalted type of mind that these despised creatures make their appeal, for it is only a character combining nobility and humility of soul that is prepared to understand and to learn from the meanest things in Creation. In short it would appear that, whilst any one of us might become a naturalist in the realm of flowers or birds or even insects, it is only he who is ordained by God himself who is qualified to minister in that rejected Kingdom of creeping things."
RINKHALS AND BOKMAKIERIE ENCOUNTER
Ron Moffat
P.O. Box 15, Tweespruit, 9710

I was interested to read of the encounter with a Rinkhals by Redknobbed Coots *Fulica cristata* (Vickery 1989, *Mirafra* 6(4): 103). The other morning while having breakfast my wife and I noticed a Bokmakierie *Telophorus zeylonus* busy with something under the grape-vine. When I fetched my binoculars I was surprised to see that it was a Rinkhals *Hemachatus haemachatus* of about 10 inches long. He was trying to wedge it into a fork of the vine and after a number of attempts he succeeded and started tearing it to bits and eating it. While he was busy a Whitebrowed Sparrowweaver *Plocepasser mahali* wanted to join in the feast but the Bokmakierie grabbed the tail section of the snake and ran off with it. The head and about an inch and a half of the snake remained behind and I was able to see that it was a Rinkhals. I would very much have liked to see how he managed to catch and kill the rinkhals.

I see in Roberts Birds of Southern Africa that snakes are listed on the Bokmakierie's menu. It is the first time I have seen one eating a snake.

DIET

When we were at Sun City last year we spent quite a long time watching a Lilac-breasted Roller with what appeared to be a long, thin snake. The bird kept on working the snake back and forth through his beak, first having most of the snake hanging out on one side, then rapidly working it back so that most of it was hanging out on the other side. It seemed as though the bird was "softening" the snake, unless it was his method of killing it, but it didn't appear to be writhing. When the bird was satisfied it started at one end of the snake and gradually gulped it down. We wondered what the reason really was for the rapid working back and forth through the beak.

Bill and Elaine Mortimer

It seems most likely that the roller was getting the snake into a more digestible state. If any readers have any other ideas I would be pleased to hear them - ed. WBCN.

FROM THE PRESS

The Citizen, 15 June 1990.

BLACK MAMBA FOUND IN JHB MARKET

A Black Mamba was delivered to the Transvaal Snake Park in Halfway House yesterday after two security guards found the snake slithering around Johannesburg's City Deep fruit and vegetable market.

The curator of the Transvaal Snake Park, Mr Scott Gillespie said black mambas were not indigenous to the area and he believed the snake had probably been lying in a consignment of bananas when the fruit was brought to the market from the Northern Transvaal.

The large, grey, highly venomous snake was first spotted on Sunday by a farmer who had taken a consignment of beans to the market.

However, when he reported the matter to the Transvaal Snake Park he omitted to mention which market and as a result the incident could not be investigated further.

When the snake reared its head again yesterday, two quick thinking security guards caught it with a noose, bundled it into a 44 litre drum and, not sure whether it was dangerous or not, carted it off to the snake park.

When officials there gingerly opened the container they were confronted by a "fairly indignant", two-and-a-half metre, 10 to 15 year-old male black mamba, Mr Gillespie said.

He said the snake had since been quarantined in a terrarium until it could be safely returned to a suitable place in the wild.

Submitted by: Mrs Rose Bates, 548 Boeing Street, Elardus Park, Pretoria, 0181.

Pretoria News, 9 Oct 1990

ZOO A 1,2 m LEGUAAN RICHER

by Erk Janssen, Staff Reporter

Some people despise insects in their garden. Others hate snakes. But just about all think twice when they notice a 1,2 m leguaan in their yard.

Although Brett Gow and his wife thought nothing of a "mating call" and odd "tapping noises" outside their Flowers Street home, Capital Park, domestic Betty Sibanyoni proved them wrong.

A frantic call to Mr Gow, mentioning something "looking like a snake", convinced him to phone the zoo.

Mr Gow and a friend caught the leguaan and then Rina van Vuuren of the zoo grabbed the hissing 6 kg monster and carted it off.

Submitted by: Mrs Rose Bates, 548 Boeing Street, Elardus Park, Pretoria, 0181.
TURTLES RETURN TO 'BIRTH BEACH' TO LAY THEIR EGGS

The following is an interesting article which appeared in New Scientist, 23 June 1990, No. 1722:

"Female Green Turtles (Chelonia mydas) are remarkably faithful creatures, travelling thousands of kilometres from feeding grounds to return to the same beach each year to lay their eggs. But zoologists have long debated how the animals first decide where to nest. Do young females return to their natal beaches, or follow experienced females from their feeding grounds? Genetic analysis of several populations of marine turtles in the Caribbean Sea and the Atlantic Ocean suggests that turtles favour their place of birth (Science, vol. 248, p. 724).

Anne Meyland of the American Museum of Natural History in New York and her colleagues at the University of Georgia in Athens analysed the mitochondrial DNA of turtles on four different nesting beaches, or rookeries. This DNA is passed from mother to offspring in the cytoplasm of the egg. So if female turtles return faithfully to their natal beaches, turtles in different colonies should have evolved distinctive mitochondrial DNA. But if young females follow experienced breeders, maternal lineages would tend to be mixed together in any one colony.

The genetic analyses favour the natal homing theory. Three of the four rookeries studied had distinct mitochondrial DNA.

The fidelity to birthplace must occasionally break down, because green turtles have colonised oceanic islands and mainland coasts throughout the tropics. But the finding that most rookeries are genetically distinct has important implications for conservation. Protecting one colony will probably do little to safeguard others, the researchers conclude. Conservationists must intervene anew to save each one."


ADDER LITTLE SPICE TO YOUR DIET

by Dale Granger

Puffadder pie is the latest culinary offering to emerge from the ovens of a Hout Bay baker who tickles his clients' tastebuds with crocodile pie, elephant pie, ostrich pie, porcupine pie and shark pie.

According to Austrian chef Mr Robert Bruckner, his puffadder pie, which he started making only recently, is a world first.

"It's delicious and there's nothing wrong with it," he said. "People eat snails and frogs, and boy scouts are taught to survive on snake food."

"At the moment the snakes are hibernating and my clients have to be patient. People phone me saying they would like to try it, and I tell them to leave their number and I phone them back when one comes in," he said.

One puffadder makes about 15 pies, he said.

Mr Bruckner added that python pie would be 'ideal, but they are a protected species'.

He recommends that snakes be bred for food and their skins.

In future Mr Bruckner is hoping to whet appetites with baboon pie.

A HUNDRED SPECIES ARE DISAPPEARING A DAY

Wildlife: James Clarke

Twenty years ago it was thought there were about three million kinds of plants and animals on Earth. Ten years ago they were talking of five million.

Today it is thought there may be 30 million, of which 20 million are in the Amazon Forest alone. But only 1.4 million have been properly described by scientists.

Brian Huntley, editor of an important new book, *Biotic Diversity in Southern Africa*, edited by B J Huntley (Oxford University Press at R45), says the numbers may not be important: what is important is how to slow the rate of extinction going on around us.

Worldwide, possibly as many as 100 species of creatures and plants are disappearing - a day. This loss undermines the very foundation of ecological stability - the variety factor.

The greater the variety of living things, the greater the stability of an ecosystem. The Amazon forest is one of the world's most stable ecosystems because of this.

Reading the umpteen collected papers in this 400-page book, it becomes clear that the present rate of loss is unsustainable. The Earth is being mindlessly and irresponsibly altered.

Huntley, who expresses something akin to alarm about South Africa's own situation, says that not since the great asteroid shower or 65 million years ago, which may have wiped out the dinosaurs and the Age of Reptiles, has Earth experienced such an accelerated rate of extinctions.

One of Huntley's authors, Ian Macdonald of UCT, sees Southern Africa as one of the most man-altered regions on earth. MacDonald gives a useful overview of the impact of agriculture, and of forestry. He includes such detail as the death of large trees in South Africa's most protected area - Kruger Park - about 30 years ago.

It is true that elephants were largely to blame, but the elephants could not have demolished all those big, centuries-old leadwoods which, to this day, stand like grotesque monuments clawing at the sky. What killed them all so suddenly?

The only plausible explanation is that it was because boreholes, which were being sunk for new water holes at the time, lowered the water table.

Roy Siegfried's paper reveals some new, or at least refined statistics: there are 20 300 vascular plant species in South Africa - a surprising number for so small a region.

More interestingly "an extraordinarily high proportion of southern Africa's terrestrial vertebrate fauna, and possibly 74 percent of its vascular plant species, are represented by breeding populations in the region's nature reserves." It is remarkable, he says, because only six percent of the region is under reserves.

The book is a mixture of good and bad news and gives an overall impression of a country which is bumbling into the future and whose people do not really appreciate that survival lies in the soil, nowhere else.

Huntley, formerly of the CSIR and now head of Kirstenbosch, has done a great job pulling together a coherent set of thought-provoking papers written by top scientists: Mike Mentis on the economics of conservation; Tony Hall on the status of the fynbos region; Tony Farrer on the role of the CSIR's Red Data Book series; Jay O'Keefe on rivers; Alan Heydorn on marine life; Roelf Botha on national policy and dozens more.

One certainly gets one's money's worth because this all adds up to a valuable reference work.

Many of the papers are original and some are "recycled" but have been updated.

It is a pity that some of the papers are not addressed to the man-in-the-street and to politicians; a lot of jargon has crept in and a lot of pompous scientific faddishness.

Even Huntley himself (he is normally very aware of the need to be understood at all times by the widest possible audience) lapses with: "a global total of the general order of 10 to the power of 7" when what he means is that "there's about 100 million worldwide".

The book is well indexed and the bibliographies are valuable. A library without this book would not be worth tuppence.

Submitted by: Mrs Rose Bates, 548 Boeing Street, Elardus Park, Pretoria, 0181.
The following is an interesting article which appeared in Effective Farming, October 1990:

"Small farmers in Central America are raising green iguanas in the same manner in which they grow free range chickens. In that part of the world iguanas have been eaten both as a delicacy and as a staple food for over 7000 years. They are fairly adaptable creatures, being farmed from Mexico to Brazil.

Green iguanas, when full grown, are about two metres long and weigh six kilograms. They are cold blooded animals and therefore need sunshine to maintain their metabolism. Their food requirements are cheap and simple, including leaves, flowers and fruits, which can be second grade, and a protein supplement. In Central America they are kept in forests with widely spaced trees, and produce about 300 kg of meat a year per hectare.

Female iguanas are persuaded to lay their eggs in artificial egg-laying sites instead of in deep nests. The eggs are incubated in small cylinders made of screening that lie on top of the ground. As they hatch, the young iguanas, which are about five centimetres long, are protected by palm fronds or similar vegetation. Nearly 100 per cent survive in captivity, whereas in the natural state 95 per cent fall prey to predators.

The animals become sexually mature in two years, far more rapidly than in the wild, and also grow twice as quickly. Iguanas are being grown commercially in Panama, Costa Rica, Honduras and Guatemala already, and the programme is planned to spread shortly to El Salvador, Venezuela, Colombia and Nicaragua."

Submitted by: Barry Porter, Game Valley Estates, P.O. Box 78, Richmond, 3780.
VIPER VENOM IN STROKE RESEARCH

Venom from a vicious snake called the Malaysian pit viper is being injected into the veins of people who have suffered strokes in the hope of curing them.

'We have early indications that this venom-drug works, but it will be more than a year before it is sufficiently tested for it to go on the market,' said Mrs Carla Sherman, a nurse at the Health Science Centre at the University of Texas at San Antonio.

It is hoped that the drug will cure the 85% of stroke sufferers who get blood clots in the brain. This is because the Malaysian pit viper is one of the few species of snake whose venom kills its victims by causing internal bleeding. It contains an enzyme which breaks down and prevents blood clots.

The pit vipers are so named because they have a sensitive pit between each nostril and eye that enables them to aim their strikes at warm-blooded prey.

'We are carrying out our experiments with a drug company that owns a snake farm,' said Mrs Sherman. 'Every two weeks they "milk" their 400 snakes. Wearing protective gloves, they hold their heads over a bowl and force out the venom.

'We then do "double blind" tests on people who have suffered strokes within the past six hours. After that period, any brain damage suffered is believed to be irreparable. Half the patients get intravenous injections with a dilution of the venom, and half receive a dummy drug.

'Neither patient, doctor nor nurse knows at the time which patient is receiving the real drug and which the dummy. We thus test the efficiency of the drug by having a dummy to compare its effects with.

'It is too early to be sure yet whether the viper's venom is going to cure strokes. But four out of six patients who had one side of their bodies paralysed were able to walk after it.'

Submitted by: Johan Marais, Assagay Safari Park, Botha's Hill, 3660.


Editor: Copies of these articles can be ordered from the Secr./Treas. at 20 cents per page plus 30 cents for postage.

ABSTRACT

Chifundera, K. 1990. Snakes of Zaire and their bites. African Study Monographs 10(3): 137-157. The ophidiological survey made in Zaire revealed the presence of 152 species of snakes included in 60 genera and in 8 families. The family Colubridae contains the largest number of genera (45) and species (97). Their geographical distribution shows that the eastern part of Kivu region contains a wide variety of species (90 species). The density of Zairean snakes has not yet been known. But in some localities like Kamanyola in the Kivu province, the density is as high as 80 individuals per square kilometer for the vipers. Other areas like Kinsuka in the vicinity of Kinshasa has as many as 10 species within the same area. Snakes are found in the forest, the savanna and in the aquatic milieu. Some species are arboreal and others live in the mountain regions. Evolutionary considerations based on the anatomical observations indicate that the equatorial forest of the Northern Zaire contains some of the most ancient and conservative forms of snakes. Some are considered to be the most evolved and specialized form of snakes in the world.

The frequencies of the snake bites at the sanitary sectors are surveyed. According to the epidemiological data on snake bites, envenomations constitute a serious problem for the public health. Mortality is 6 to 14.3% (mean 8%) of the total snake bites from 1979 to 1986. Bites are most frequent during the agricultural activities. In the savanna of Kivu, which shows the tropical climate, the bites are recorded in the rainy season. The dangerous snakes have been identified: 79 species (51%) are venomous, including vipers, elapid and ophideroglyphous colubrids which are the most dangerous. The treatment of snake bites to reduce mortality and morbidity is applied according to the principles of modern medicine (using antivenom sera) and of the traditional methods (using traditional drugs). The phytotherapy against envenomation is known in Zaire and in many other countries of Africa. Phytochemical screening of these plant drugs is being made for testing their biological activities, and the pharmacological analysis is being carried out for the confirmation of the presence of any antivenomous substance.

Key Words: Zaire; Snakes; Snake bites; Treatment; Antivenomous plants.

NO MORE FEAR, VENOMOID SNAKES ARE FINALLY HERE!!

Have you ever dreamed of keeping venomous snakes but avoided doing so, because of the ever present danger to self, family, pets, friends and community?

Now your dreams can come true, thanks to the latest technology in venomoid surgery. You would be surprised how easy it is to handle and take care of your venomoid snakes. After frequent handling the snakes become very tame. Only you and us will know this great secret.

The most important advantage of the venom glands surgery compared to milking snakes, is that when you milk a snake, the venom regenerates immediately. However this surgery prevents the process.

What is venomoid surgery?

There are two types of operations:

1. The ordinary conventional way: Only the venom duct is separated and sealed, preventing the venom from flowing into the fangs. This method was very acceptable until now, however the duct can regenerate naturally. Sometimes, due to increasing pressure in the sealed glands, the seal can re-open and the venom can flow out into the hollow fangs. This can occur suddenly, like a time bomb and then you're in serious danger!

2. Our special method: The duct with the whole venom glands are taken out with no harm done to the muscles, blood vessels and nerve connections which are inside and surround them. This surgery is unnoticeable. Because the whole venom system has been removed, it can never be operational again as can occur with duct ligation.

This method had been examined on hundreds of different specimens of all ages (including hatchlings and newborn). Evaluation after several years revealed muscles and facial tissue had filled in the former venom glands space.

Another very conspicuous advantage is that the venomoid snakes behave normally and feed immediately (large prey must be killed). Unlike duct ligation method, which can result in high pressure in the sealed venom glands disturbing these snakes and may decrease their desire to breed or eat.

Why should your pet be venomoid:

1. Complete safety while handling your snake: about 620 snake lovers are bitten severely every year. All of them were sure: "It will never happen to me."

2. Total security for your family, friends, and the community (if your pet accidentally escapes).
(3) To totally eliminate venom gland infections.

(4) To avoid the necessity and heavy expense of storing antivenins - especially for rare species. Remember they must be replaced regularly to keep them fresh.

Venomoid surgery is not recommended for other than healthy snakes and snakes that are not going to be released back in the wild.

### VENOMOID SURGERY - PRICE LIST

<table>
<thead>
<tr>
<th>Your snake ($)</th>
<th>Our snake ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigmy rattlesnake</td>
<td>60</td>
</tr>
<tr>
<td>Diamondback rattlesnake 1'</td>
<td>79</td>
</tr>
<tr>
<td>Diamondback rattlesnake 3-5'</td>
<td>120</td>
</tr>
<tr>
<td>Copperhead</td>
<td>75</td>
</tr>
<tr>
<td>Yellow Tree Viper</td>
<td>95</td>
</tr>
<tr>
<td>Green Bamboo Viper</td>
<td>75</td>
</tr>
<tr>
<td>Palestinian viper</td>
<td>87</td>
</tr>
<tr>
<td>Sawscaled Viper</td>
<td>87</td>
</tr>
<tr>
<td>Gaboon Viper</td>
<td>220</td>
</tr>
<tr>
<td>Egyptian Cobra</td>
<td>160 Special offer only 289!!</td>
</tr>
<tr>
<td>Indian Cobra</td>
<td>167</td>
</tr>
<tr>
<td>Black Desert Cobra</td>
<td>305</td>
</tr>
<tr>
<td>Albino Monocle Cobra</td>
<td>245</td>
</tr>
<tr>
<td>Green Mamba</td>
<td>167</td>
</tr>
</tbody>
</table>

For each snake that undergoes venomoid surgery, the owner will receive a written guarantee that his/hers animal has been rendered harmless, accompanied by the whole venom glands system, mounted on a card with fully labeled anatomy.

Any other snake can be ordered even if it’s not on the list.

All orders must be given 2-3 weeks before.

We give reductions for large orders.

As a final note, caution: (1) Similar care should be exercised with venomoid snakes as with other snakes, such as Boas and Pythons. Beware especially of the Crotalids and Viperids as they have long fangs, and are capable of inflicting a painful bite.

(2) Remember if you breed your venomoid snakes, the babies are still venomous, so don’t forget us next time!!

For further details we’re looking forward to hear from you.

Yours sincerely

Yaacov Pesach
Devenopet Laboratories
P.O. Box 11, Stone Ridge N.Y. 1248

---

**SYMPOSIA**

THE WORLD CONGRESS OF HERPETOLOGY ANNOUNCES

THE SECOND WORLD CONGRESS OF HERPETOLOGY

December 29, 1993 - January 5, 1994

at the University of Adelaide, Adelaide, South Australia

The Executive committee of WCH has considered the venues proposed during FWCH in Canterbury and after voting decided on Adelaide as the venue for the SWCH. This international congress is the second of a series that started in 1989 in Canterbury. This meeting will enable all persons interested in herpetology to meet and exchange information to promote the advance of knowledge and the conservation of the world’s amphibians and reptiles. The congress will consist of topical symposia, plenary speakers, poster sessions, workshops, displays, excursions, and meetings of ancillary groups. Subjects and moderators will be announced well in advance so that potential participants can volunteer. The meeting will be open to all persons. Registration will begin 1 January 1992.

Further announcements about registration, travelling arrangements, accommodation and program will be made in herpetological journals as soon as available.

The congress will offer you the opportunity to get acquainted with the unique and diverse Australian herpetofauna.

For further details and mail listing, write: Dr. M.J. Tyler, The University of Adelaide, Dept. Zoology, Box 498, G.P.O. Adelaide, South Australia 5001, Australia.

Sponsoring organizations and individuals are welcome. For further details write Dr. R.L. Carroll, Treasurer WCH, Department of Biology, McGill University, 1205 Docteur Penfield Avenue, Montreal, PQ, Canada H3A 1B1.
APPEALS AND REQUESTS

APPEAL FOR INFORMATION
CROCODILE ATTACKS ON HUMANS

I have been researching the incidence of crocodile attacks on humans over a number of years for a book to be published on this subject. Before completing this manuscript I am appealing for additional information, in particular, eye-witness accounts or details of attacks, such as locality, date, sex, age, race, actions of the victim when attacked, the nature of injuries inflicted, how the victim managed to escape death, or if attack proved fatal, whether the body was recovered, etc.

Of particular value would be photographs or colour transparencies of wounds or corpses, and details of medical treatment to wounds or survivors. Obviously all information of relevance will be acknowledged and included in the text.

Please write to me at the following address:

Tony Pooley
P.O. Box 295
Scottburgh
4180
Natal
South Africa

REQUEST FOR VARANID GUT CONTENTS AND GONADS

As part of an on-going study of the ecology of southern African varanids, we are making an appeal to southern African herpetologists for assistance in obtaining gut contents and gonads from monitor lizards (leguans). Varanids are protected species and we ask only that material be collected from natural casualties (eg. road kills, problem animals, etc.) or expelled food (eg. faeces or regurgitations). Specimens should not be killed intentionally.

Material should be preserved in buffered 10% formalin (particularly gonads) or 75% alcohol and tightly sealed in robust bottles, with a collection card listing: species, locality, date, sex, collector and approximate snout-vent length of the specimen. If the specimen remains sufficiently intact for deposition in a museum collection, its location and catalogue number is also helpful. Specimens can be sent (COD if necessary) to Dr W.R. Branch (Port Elizabeth Museum, P.O. Box 13147, Humewood 6013, South Africa).

We will acknowledge fully all assistance in the resultant publication(s).

Bill Branch (Port Elizabeth Museum) and Andy Phillips (Etosha Ecology Institute)

APPEAL FOR INFORMATION

I would like to hear from anyone with information and/or literature references on reproduction in Mabuya homalocephala and/or Chamaesaura macrolepis.

Johan Marais, Assagay Safari Park, Botha's Hill, 3660. Tel. no. (031) 7771205.

HELP REQUIRED

I am looking for:

i) any information on reproduction in southern African snakes,
ii) rare and unusual live snakes for photographic purposes and
iii) colour slides of southern African snakes

for use in the second edition of my book Snake vs Man, which will be a comprehensive field guide to the snakes of southern Africa. All assistance will be acknowledged.

Johan Marais, Assagay Safari Park, Botha's Hill, 3660. Tel. no. (031) 7771205.

AMPHIBIA ZAMBESIACA


Johan Marais, Assagay Safari Park, Botha's Hill, 3660. Tel. no. (031) 7771205.
The goal of Varanix, the Varanid Information Exchange, is to serve the interests of Varanids and Varanid-keepers throughout the world. A primary function of the Exchange is to build and maintain a knowledge base that will help improve the standard of living of these magnificent creatures in the captive world.

VaraNews is the newsletter of Varanix.

All inquiries about Varanix can be directed to:

Greg Naclerio
8726D S. Sepulveda Bl. #243
Los Angeles, CA 90045

Attn: Varanix

---

**HERPETOLOGICAL ASSOCIATION OF AFRICA**

**MEMBERSHIP FEES AS AT 1 JANUARY 1990**

**AFRICAN MEMBERSHIP**

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Fee in Rand or U.S. Dollars</th>
<th>Payment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary Membership</td>
<td>R20.00</td>
<td>Submit in Rand or equivalent U.S. Dollar plus 10%</td>
</tr>
<tr>
<td>3 year membership</td>
<td>R56.00</td>
<td>Submit in Rand or equivalent U.S. Dollar plus 10%</td>
</tr>
<tr>
<td>Scholars Membership</td>
<td>R15.00</td>
<td>Submit in Rand or equivalent U.S. Dollar plus 10%</td>
</tr>
</tbody>
</table>

**OVERSEAS MEMBERSHIP**

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Fee in Rand or U.S. Dollars</th>
<th>Payment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOLLAR PAYMENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year membership</td>
<td>$15.00</td>
<td>Submit in U.S. Dollars by personal cheque or money order.</td>
</tr>
<tr>
<td>3 year membership</td>
<td>$42.00</td>
<td>Submit in U.S. Dollars by personal cheque or money order.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RAND PAYMENT FROM OVERSEAS</th>
<th>Fee in Rand or U.S. Dollars</th>
<th>Payment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year membership</td>
<td>R29.00</td>
<td>Submit in ZAR or Rand by bankers draft or money order.</td>
</tr>
<tr>
<td>3 year membership</td>
<td>R79.00</td>
<td>Submit in ZAR or Rand by bankers draft or money order.</td>
</tr>
</tbody>
</table>

Owing to numerous problems, members are kindly requested not to submit payments directly to any Building Society or Bank account. All payments must be submitted to:

**THE SECRETARY/TREASURER**

HERPETOLOGICAL ASSOCIATION OF AFRICA
C/O NATIONAL MUSEUM
P.O. BOX 266
BLOEMFONTEIN
9300 REP. SOUTH AFRICA

Please state in which year you require membership to begin. Membership runs from 1 January to 31 December of any year. If membership is taken out in the latter part of the year, you will receive all journals and newsletters pertaining to that year.