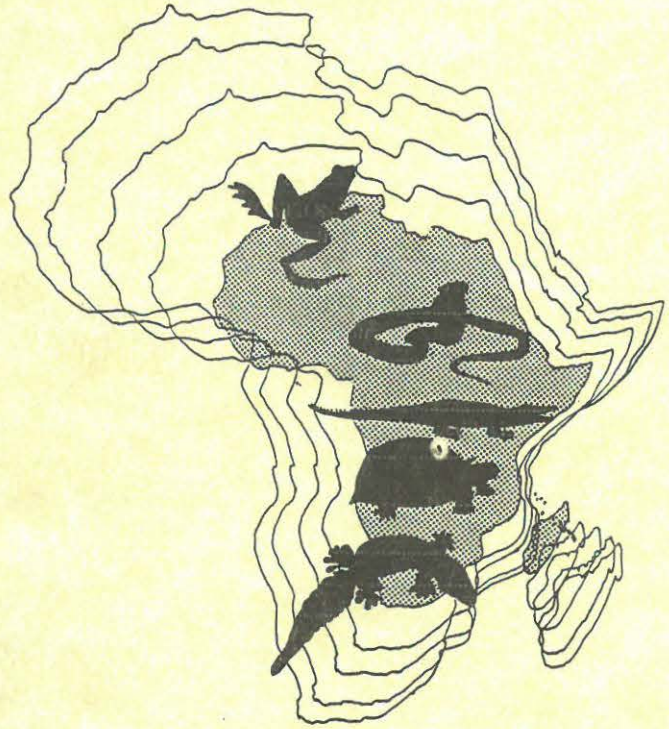
ISSN 1017 - 6187

AFRICAN HERP NEWS

HERPETOLOGICAL ASSOCIATION OF AFRICA

NEWSLETTER



JUNE 1991 NO. 15

AFRICAN HERP NEWS

NO. 15: JUN 1991

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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).

EDITORIAL

The *Second H.A.A. Symposium on African Herpetology* was held from 8-11 April 1991 at the National Museum in Bloemfontein. Apart from being a rather exhausting and at times nerve-racking experience for the organizers, all went well and I hope I am not mistaken when saying a good time was had by all. At this stage I would like to offer a collective "apology" to those authors who spent half their time signing an apparently never-ending supply of books for the many delegates eager to have "personalised" copies. I say this with tongue-in-cheek, of course, as the most severe symptom exhibited by an author was mild writer's cramp. The next *African Herp News* will be dedicated to the happenings and doings at the symposium, and I am sure that those H.A.A. members who were unable to attend will enjoy seeing photographs of some of southern Africa's well known herpetologists (and how they partake of their dinner).

Shortly after the suymposium I received a rather exciting letter from one of the delegates. This kind and loyal H.A.A. member offered a substantial financial contribution towards the publication of the Symposium Proceedings. Presenters of papers, posters and slide shows have already been sent instructions regarding the preparation of manuscripts. The *Proceedings will be published as H.A.A. Journal no. 40* and may appear as soon as the end of the year.

Preliminary discussions are already underway regarding the next H.A.A. symposium, which *may* be held during 1993. The symposium would commemorate the 50th year since the publication of V.F.M. FitzSimons now famous memoir *The Lizards of South Africa*, and would remind us of his invaluable contributions to southern African herpetology.

Now on to other matters. During 1985, Mr J.H. van Wyk, the H.A.A. Chairman at that time, issued a short questionnaire to enquire, *inter alia*, whether or not H.A.A. members were interested in having an index to the journals published. The results of the questionnaire were published in Newsletter no. 9 (1987), and indicated that 86% of responding members were indeed interested. Members will be pleased to know that Mr Rod Douglas has completed an *author index for H.A.A. Journals numbers 1 - 39, which will be published as a special issue of African Herp News (no. 17)* due out around December 1991. A subject index will also be published at a later date.

One last point regarding the above-mentioned questionnaire. An overwhelming 96% of members felt that a husbandry section in the newsletter was essential. Despite this, very few husbandry articles are submitted! Surely it is to the benefit of all concerned to make available breeding results and disseminate accumulated knowledge and experience. It is surely a sad state of affairs when someone who is extremely knowledgeable on a subject "witholds" such knowledge rather than share it with others for the ultimate benefit of the captive animal?

Finally, I would again like to thank those persons who submitted articles, notes and other material used in this issue of *African Herp News*. As a last thought, please remember that there are very few herpetological publications in Africa, and your contributions to the journal or newsletter are always much appreciated. If you have any information you feel will be of benefit to others, please write it down and send it to me.

Wishing you all the best.

Mike Bates
Chairman/Newsletter Editor

REPORT ON 2nd H.A.A. SYMPOSIUM ON AFRICAN HERPETOLOGY

The *Second H.A.A. Symposium on African Herpetology* was held from 8-11 April 1991 at the National Museum in Bloemfontein, South Africa.

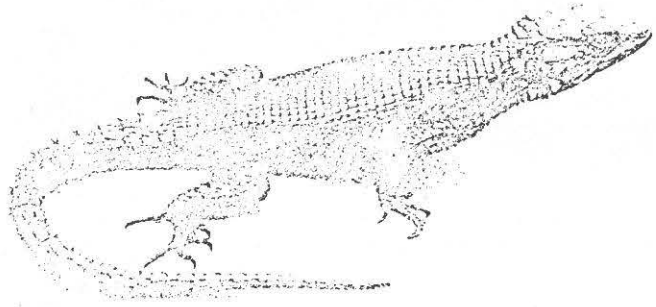
A total of 56 persons attended the symposium, including delegates from South Africa, Swaziland, Zimbabwe, Botswana, Germany and the United States. Forty-two papers, 13 posters, 6 slide shows and a computer program demonstration were presented. A variety of topics were covered, including taxonomy, zoogeography, regional distribution, ecology, evolution, reproduction, reptile relocation, parasitology, reptilian disease and reptile husbandry.

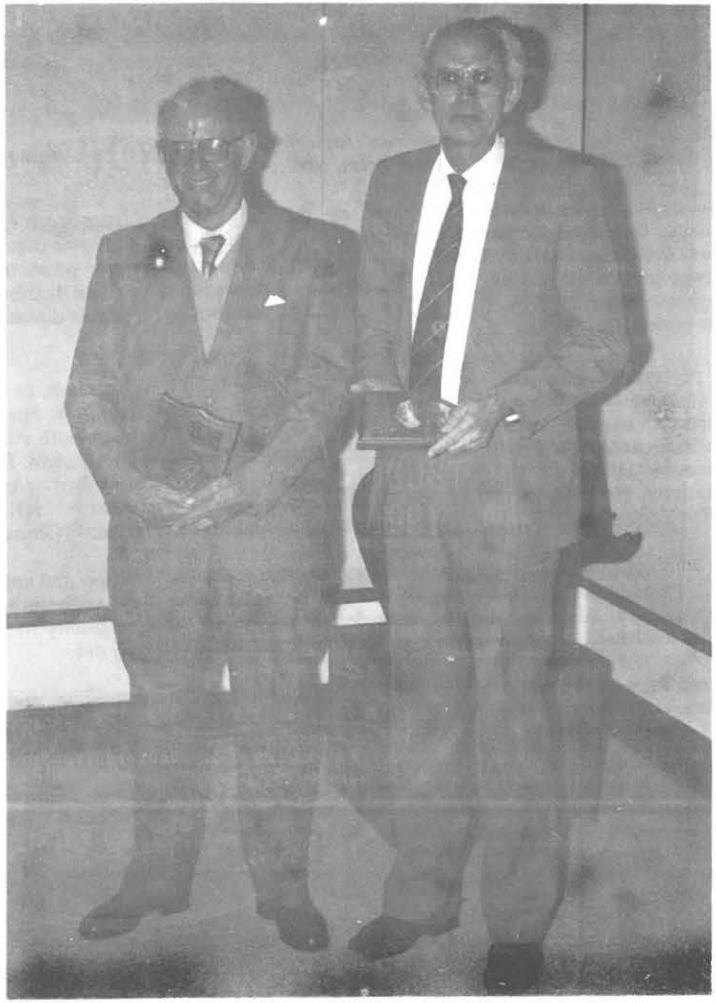
Most professional southern African herpetologists attended the symposium, as did a number of amateur herpetologists and other interested persons. Six Guest Speakers were invited, namely Prof. J.C. Poynton (University of Natal, Durban, South Africa), Dr D.G. Broadley (Natural History Museum, Bulawayo, Zimbabwe), Prof. A.M. Bauer (Villanova University, Villanova, United States), Mr B. Langerwerf (Agama International Herpetological Institute, Montevallo, United States), Mr S. McKeown (Chaffee Zoological Gardens, Fresno, United States) and Mr H.W. Henkel (Germany).

In my humble opinion, I would say that the symposium was a great success and enjoyed by all. It was good to see how much work is currently being done on herptiles in southern Africa. Also, I think that most delegates enjoyed the opportunity to meet others in their field, especially when it was for the first time - I certainly did.

The next issue of *African Herp News* will be dedicated to the symposium, and will include speeches, notes, details about the Award Ceremony (see p. 4) and photos of delegates at the Official Dinner.

Submitted by: Mike Bates, H.A.A. Symposium Chairman, Department of Herpetology, National Museum, P.O. Box 266, Bloemfontein, 9300 South Africa.





Dr. Donald G. Broadley (left) and Prof. John C. Poynton (right), the first two recipients of the H.A.A.'s new *Exceptional Contribution to African Herpetology Award*, at the Official Dinner during the recent H.A.A. Symposium on African Herpetology.

(Photo: L.H. du Preez)

REPORT ON 7th AFRICAN AMPHIBIAN SYMPOSIUM

The *7th Symposium on African Amphibians* organised by the ***African Amphibian Working Group*** was held from 21st to 23rd January 1991 at the Natural History Museum of Zimbabwe in Bulawayo, Zimbabwe.

Delegates from far and wide attended the symposium, the majority of whom presented papers on a wide variety of topics. Delegates from Swaziland, Zimbabwe, Malawi, South Africa, Tanzania, United Kingdom, Italy, Germany and the United States were present. The papers were on a variety of subjects including early development of anurans, multivariate analysis of populations, age structure of populations using skeletochronology, literature on African amphibians, regional distribution surveys, zoogeography, conservation of amphibians, physiology and life history parameters, phonotaxis studies, aspects of reproductive energetics, genetic variation, gene mapping and sperm competition within populations. The proceedings closed with a general discussion on work on African frogs and suggestions for the formulation of an IUCN African Amphibian Group were put forward.

After the symposium a field trip to the eastern districts of Zimbabwe was organised. Initially delegates were to visit Chirinda Forest to observe the peculiar breeding cycle of *Stephopaedes anotis*, an endemic toad. However, due to lack of rain it was decided instead to visit the Chimanimani Mountains, another region of specialised endemics. Here the endemic mountain toad, *Bufo fenoulheti grindleyi*, was observed, as well as its tadpoles. Unfortunately no trace of another endemic frog, *Arthroleptis troglodytes*, could be found despite spending much time in the deep cave which represents the type locality. A few other species that occur more widely in the eastern regions of Zimbabwe were also seen. After the Chimanimani Mountains the writer opted to make the trip to Chirinda Forest on his own. On arriving at Mount Silinda, an extensive mountain covered from base to top with a thick blanket of forest, it was indeed found to be rather dry. Nonetheless, a few hours were spent wondering through part of the forest and although no adult toads were found, one clutch of tadpoles at the metamorphosing stage was found. Photographs of the tadpoles and habitat were taken. The visit to Chirinda and the Chimanimani Mountains was an unforgettable experience and well worthwhile. Both areas are very different, fascinating, have unique flora and fauna and are well worth a visit.

Sincere thanks are due to Mr A. Kumirai, Director of the Natural History Museum, for providing the venue and facilities for the *7th Symposium on African Amphibians*. To the symposium organisers Dr. D.G. Broadley of the Natural History Museum, Bulawayo and Dr. A. Channing of the University of the Western Cape, a very big thank you for doing such a splendid job and for ensuring the smooth running of the symposium and the field trip. The delegates are thanked for their contributions and company which made the symposium a great success and the field trip so enjoyable for all participants. Finally, the writer acknowledges financial assistance from *The Conservation Trust of Swaziland* and *The Natural History Society of Swaziland* for making it possible for him to attend the symposium and to participate in the field trip.

Submitted by: R.C. Boycott, Malolotja Nature Reserve, P.O. Box 1797, Mbabane, Swaziland.

NEW H.A.A. COMMITTEE MEMBERS

CO-OPTED SECRETARY/TREASURER

Mr Rod Douglas has resigned as Secretary/Treasurer of the H.A.A. after serving on the committee since 1985. The Committee extends its thanks and appreciation to Rod for over six years of hard work. Rod is in the process of handing over to **Mr Frank Farquharson**, who has kindly offered to take over as Co-opted Secretary/Treasurer for the remainder of the present committee's term of office. The Committee welcomes Frank and trusts that his time on the committee will be a pleasant one.

All correspondence pertaining to membership, financial matters, etc. should now be sent to Frank at the following address:

Mr F.L. Farquharson
Secretary/Treasurer: H.A.A.
P.O. Box 20142
Durban North
4016 South Africa

CO-OPTED ADDITIONAL COMMITTEE MEMBER

Mr Vincent Carruthers has resigned as Additional Committee Member after serving on the committee for a year. The H.A.A. Committee wish to thank Vincent for his participation since May 1990. The committee have voted **Mr Gerald Haagner** in as Co-opted Additional Committee Member. We welcome Gerald and hope he enjoys his term. Gerald's address is:

Mr G.V. Haagner
Port Elizabeth Museum
P.O. Box 13147
Humewood
6013 South Africa

AMENDMENTS TO THE THE CONSTITUTION OF THE HERPETOLOGICAL ASSOCIATION OF AFRICA

PASSED AND ACCEPTED AT THE GENERAL MEETING 2ND H.A.A SYMPOSIUM ON AFRICAN HERPETOLOGY BLOEMFONTEIN - 11 APRIL 1991

Rod Douglas

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

Since the finalization of the revised constitution, certain short-comings, practical applications, bulkiness and a necessity to tidy up some paragraphs, have become apparent. In order to rectify this, the following changes and amendments to the H.A.A. Constitution were put forward and accepted at the 2nd H.A.A. Symposium General Meeting. These changes should be read in conjunction with the H.A.A. Constitution as it appears in *African Herp News* **13:** 5-15.

PARAGRAPH IN CONSTITUTION:

1. INSERT.....**or the H.A.A.**
to read:

1. hereinafter referred to as the Association **or the H.A.A.**

****

2. DELETE.....the JOURNAL OF THE HERPETOLOGICAL ASSOCIATION OF AFRICA
and
DELETE.....H.A.A.

to read:

2. The mouthpiece of the Association shall be the JOURNAL (ISSN 0441-6651) and NEWSLETTER (ISSN 1017-6187).

****

4.1.5 **DELETE.....both inside and outside the Republic of South Africa**
to read:

4.1.5 To collate, publish and make available information of educational value to Association Members and the public at large.

****

4.2.4 **CHANGE PARAGRAPH**
to read:

4.2.4 The Association will encourage its members to donate private collections, preserved or other, to a legally recognized natural science or natural history institute which actively curates and maintains such collections.

****

5. **DELETE**.....the word **"Members"** throughout this paragraph
and
REPLACE WITH.....**Membership**
and
DELETE.....the word **"Student"**
and
REPLACE WITH.....**Scholar**
to read:

5. The Association shall consist of the following classes of membership:

Honorary Life Membership
Ordinary Membership
Scholar Membership (Africa only)

****

5.2.b **DELETE**.....**be allowed to vote or to**
and
REPLACE WITH.....**have voting rights and shall not**
to read:

5.2.b Overseas Membership: Members shall have full privileges but shall not have voting rights and shall not hold office unless co-opted by the Committee. Membership fees may be determined independently of

other categories and/or classes. Members shall be entitled to one copy of each issue of the Journal and Newsletter.

****

5.3 **DELETE**.....**ages**
and
REPLACE WITH.....**age of**
and
DELETE.....**Student**... throughout this paragraph
and
REPLACE WITH.....**Scholar**
and
DELETE.....**may**
and
INSERT.....**is**
and
DELETE.....**who**....**at**.....(proof may be required) **who** supports
and
INSERT....**and**
and
DELETE.....**or be allowed to vote.**
and
REPLACE WITH.....**and shall not have voting rights.**
and
DELETE....**receive one copy**
and
REPLACE WITH.....**be entitled to one issue**
to read:

Any person under **the** age of 18 years who is a recognized scholar (proof is **required)** and supports the aims and objectives of the Association **may become** a Scholar Member.
Scholar **Members** will be allowed all privileges of the Association except that **they** shall not hold office and shall not have voting rights.
Scholar Members shall be entitled to one issue of the Journal and Newsletter. This category shall only apply to applicants from Africa.

****

DELETE.....**Section 15.3**
and
REPLACE WITH.....**Para 14.3.**
to read:

6. Membership fees will be due and payable on the 1st January of each year and fees shall be determined from time to time by the Committee as set out under **Para. 14.3**.

****

7. **INSERT.....a rejoining fee as determined by the Committee may be charged to**

to read:

7. An Association entrance fee may be determined by the Committee and shall then be payable by all new Members on joining the Association and **a rejoining fee as determined by the Committee may be charged to** members who have fallen more than 15 months behind with membership fees.

****

9.9 **RENUMBER**.....Para. **9.9**
to read
9.10
and
RENUMBER.....Para. **9.10**
to read
9.11

****

9.9 **INSERT**.....new paragraph
to read:

9.9 **Committee Members not complying with duties and/or responsibilities contained herein or in any other minuted Association By-Laws may be asked by the Committee (under Para. 13.2) to resign from the Committee and may be replaced by a co-opted member, usually based on the highest number of votes obtained at the last election.**

****

10.5 **INSERT**.....**who must comply with Para. 10.2**
after
.....the Branch Chairman
and after
.....elected by the Branch Members

to read:

10.5 One Member from each Branch, normally the Branch Chairman, **who must comply with Para. 10.2**, may be elected by the Branch Members, **who must comply with Para. 10.2**, to stand on the H.A.A. Committee in order to represent the Branch's interests, views and opinions.

****

12.1 New **paragraph** to be inserted **after Para 12.**
to read:

12.1 **Not withstanding Para. 12: Where a membership is registered in a name other than that of a person, eg. any Institution such as a museum, zoological garden, reptile park, conservation body, library etc., such an Institution shall not have a voting right and neither shall any individuals who are not fully paid up Ordinary Members.**

****

13.1 **DELETE**.....**40**
and
REPLACE WITH.....**30**
and
DELETE.....**or two thirds of full membership.**
to read:

13.1 At any General Meeting **a** quorum shall be **30** Members.

****

13.2 **INSERT**.....**and will be based on the number of H.A.A. Committee votes present.**
to read:

13.2 At a Committee Meeting a quorum shall be half the full Committee plus one **and will be based on the number of H.A.A. Committee votes present**.

****

14.3 **DELETE**.....**Association**
and
INSERT.....**Committee as in Para 13.2**
to read:

14.3 Upon recommendation by the Committee, Membership fees, Entrance fees and any other charges shall be determined by the Committee as in Para. 13.2.

****

14.5 DELETE.....9.1
and
REPLACE WITH.....8.1
to read:

14.5 Subscriptions shall be due on the 1st of January of each and every year. Paragraph 8.1 shall be evoked if subscriptions are not paid by the end of the three month period of grace.

****

14.7 DELETE....Paragraph 14.7 as it stands and insert newly worded paragraph
to read:

14.7 Any single expenditure over the amount calculated by the formula - Ordinary Membership Rate X 25 (eg. R20 X 25 = R500) must have Committee approval and shall be based on a binding quotation signed by either the supplier or the initiator and which must be submitted to the Treasurer for clearance before any such transaction is finalized. Paragraph 14.8 will be enforced for failure to comply with the above.

****

14.8 RENUMBER.....Para. 14.8
to read:

14.9

****

14.8 INSERT.....new paragraph
to read:

14.8 **The Herpetological Association of Africa shall not be liable for any payments which do not comply with Para. 14.7. Any Member not complying with Para. 14.7**

shall be personally liable for any such expense and neither the Member nor the Supplier shall have any claim whatsoever against the Association, its acting or past Committee or Members.

****

FURTHER PROPOSED AMENDMENTS TO THE CONSTITUTION OF THE HERPETOLOGICAL ASSOCIATION OF AFRICA

Rod Douglas

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

At the H.A.A. Committee Meeting held durong the 2nd H.A.A Symposium, 11 April 1991, the following proposed amendments to the H.A.A. Constitution were put forward. Unfortunately the Committee Meeting was held after the General Meeting and it was therefore not possible to put the amendments to the members or to a vote. African Members are therefore requested to vote on the proposals by **completing and returning the enclosed reply form to the above address, before the 30 September 1991.** The Committee will take it that those Members not replying on the enclosed form by the due date, accept the proposed amendments unconditionally.

5. INSERT....Institutional Membership
after

Scholar Membership
and

INSERT....Exchange Membership
after

Institutional Membership

****

5.4 RENUMBER....Para. 5.4
to read
5.6

****

5.4 INSERT....new paragraph
to read

5.4 **Institutional Membership:**

Any Institution or body which can be defined as a multi-user body, eg. museum, library, zoological garden, reptile park, university, conservation body, subscription agent, book agent etc., or where a membership is taken out in a name other than that of a person, may apply for Institutional Membership.
Institutional Members will be allowed full privileges of the Association except that they shall not hold office and shall not have voting rights as defined under Para. 12.1. Institutional Members shall be entitled to one copy of each issue of the Journal and Newsletter. Membership fees will be determined separately from those of other categories.

****

5.5 INSERT....new paragraph
to read

5..5 **Exchange Membership**: Any association, club, society or institution, as defined in Para. 5.4, which feels that there would be a **mutual** befit in the exchange of publications and/or literature between them and this Association may apply for exchange membership.
Exchange Membership carries no privileges whatsoever, with the exception that Exchange Members shall be entitled to one copy each of the Journal and Newsletter. No membership fees are payable for this category of membership.
Exchange Membership must be beneficial to the H.A.A. and must be approved by the H.A.A. Committee.

****

INCREASE

HERPETOLOGICAL ASSOCIATION OF AFRICA

MEMBERSHIP FEES AS AT 1 JANUARY 1992

AFRICAN MEMBERSHIP

ORDINARY MEMBERSHIP

1 year membership **R30.00.** Submit in Rand or equivalent U.S. Dollar plus 10%.
3 year membership **R84.00.** Submit in Rand or equivalent U.S. Dollar plus 10%.

SCHOLARS MEMBERSHIP

1 year membership **R20.00.** Submit in Rand or equivalent U.S. Dollar plus 10%.

OVERSEAS MEMBERSHIP

DOLLAR PAYMENTS

1 year membership **$20.00.** Submit in U.S. Dollars by personal cheque or money order.
3 year membership **$56.00.** Submit in U.S. Dollars by personal cheque or money order.

RAND PAYMENTS FROM OVERSEAS

1 year membership **R49.00.** Submit in ZAR or Rand by bankers draft or money order
3 year membership **R136.00.** Submit in ZAR or Rand by bankers draft or money order

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

THE SECRETARY/TREASURER
HERPETOLOGICAL ASSOCIATION OF AFRICA
P.O. BOX 20142
DURBAN NORTH
4016 REP. SOUTH AFRICA

PLEASE STATE IN WHICH YEAR YOU REQUIRE MEMBERSHIP TO BEGIN. MEMBERSHIP RUNS FROM 1 JANUARY TO 31 DECEMBER OF ANY YEAR. SHOULD MEMBERSHIP BE TAKEN OUT IN THE LATTER PART OF THE YEAR, YOU WILL RECEIVE ALL JOURNALS AND NEWSLETTERS PERTAINING TO THAT YEAR.

HERP-INFO

A NEW ADVERTISEMENT SECTION FOR *AFRICAN HERP NEWS*

After numerous requests from members, we have decided to start an advertisement section in *African Herp News*. This will start as from the next edition, *African Herp News* #16. The aim of this section is to provide a forum for bringing together the needs of breeders, keepers and enthusiasts in general. So, if you have specimens you wish to swop, need a specimen for breeding or a pet, have the odd specimen you want to dispose of or have equipment for sale, get your advert off for the next issue of *African Herp News*.

Classified advertisement rates:

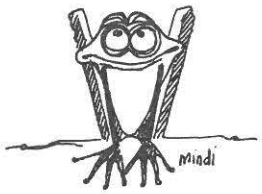
H.A.A. members:	No charge.
Non members:	R7.50 or $3.00 per 50 words or part thereof. Over 50 words R4.00 or $2.00 per 15 words or part thereof.

Page rates: (all persons and intitutions)

Half-page:	R30.00 or $12.00
Full-page:	R60.00 or $24.00

Advertisements with payment made payable to the H.A.A. should be sent to: **Rod Douglas (Herp-Info), National Museum, P.O. Box 266, Bloemfontein, 9300.** (Tel.(W) 051-479609, (H) 051-365052)

The Editor retains the right to exclude any advertisement from publication. The Editor will presume that any persons placing advertisements and/or responding to advertisements shall be fully aware of any regulations and laws governing the sale of reptiles and amphibians in his/her area, and no correspondence will be entered into as regards these matters. Neither the Editor nor the H.A.A. shall be held responsible for any legalities or claims arising from advertisements.



HERPETOFAUNA ON STAMPS

(Part 1)

O. Bourquin

Natal Parks Board, P.O. Box 662, Pietermaritzburg, 3200

There are surprisingly large numbers of postage stamps on which amphibians and reptiles are depicted in one form or another. Depictions range from symbolic herpetofauna, mythical reptiles such as dragons and sea-monsters, stylized animals, extinct herpetofauna and recognisable extant reptiles and amphibians.

Apart from the stamps themselves, envelope cover designs, postcards and cancellations also depict herpetofauna.

The most commonly depicted snake symbol on postal items is the caduceus - the staff of Hermes, the messenger god. This depicts two snakes twined around a staff (often winged). Over 1700 stamps from over 100 countries in the world depict the caduceus. The next most common symbol is the Staff of Aesculapius (the god of medicine) which is represented by a staff with a single snake twined around it. This is represented on over 800 stamps worldwide. Other symbolic and stylized herpetofauna may be found on stamps in varius motifs or forms such as crests, badges, flags, mosaics, paintings, illustrations, carvings, hieroglyphics, ornaments, jewellery, textiles, toys, boat prows, coins and other oddments.

Thirty-six countries feature prehistoric reptiles and amphibians with about 155 stamps involved. Identifiable extant species are represented as follows:

Taxon	Countries	No. of stamps
Lizards	104	309
Snakes	72	248
Sea turtles	61	192
Crocodiles	56	169
Amphibians	47	125
Tortoises	42	99
Terrapins	27	39
Tuatara	2	6
Totals	176	1187

The first stamps depicting recognisable reptiles and amphibians were printed during 1894, and the following table indicates the relatively unpopular nature of reptiles and amphibians as themes for stamps - certainly for the first half of this century!

Country	Year	Species
North Borneo	1894	*Crocodylus porosus*
Labuan	1894	*Crocodylus porosus* (same design as North Borneo)
Liberia	1906	*Agama* sp.
Liberia	1921	*Bitis gabonica;* *Crocodylus niloticus*
Cayman Islands	1933	*Eretmochelys imbricata* and *Chelonia mydas*
Basutoland	1933	*Crocodylus niloticus*
Ascension Islands	1934	*Eretmochelys imbricata*
Cayman Islands	1935	*Geochelone elephantopus;* *Varanus komodoensis*
Mocambique	1937	*Python sebae;* *Crocodylus niloticus*
Seychelles	1938	*Testudo gigantea*
Cayman Islands	1938	*Eretmochelys imbricata*
Basutoland	1938	*Crocodylus niloticus*
Mocambique	1939	*Python sebae;* *Crocodylus niloticus*
Belgium	1939	*Crocodylus niloticus*
Seychelles	1941	*Testudo gigantea*
Seychelles	1942	*Testudo gigantea*
French West Africa	1947	*Crocodylus niloticus*
French Equatorial Africa	1947	*Python* sp.
Chile	1948	*Proctotretus chilensis*
Cayman Islands	1950	*Chelonia mydas*

After 1950, things moved apace with the first amphibian stamps being issued by Yugoslavia and Trieste in 1954 (*Proteus anguinensis*), and the first terrapins on stamps appearing in 1965 (Ryuku Isles - *Cuoria flavomarginata*), and issues representing other taxa being produced far more regularly.

Further articles on herps on postage items will be produced, provided you readers find the subject interesting. I would welcome any suggestions as to the kind of information you would like to get.

The first stamp dipicting a recognisable reptile.
1894: *Crocodylus porosus*

The first stamp series showing a recognisable lizard.
1906: *Agama* sp.

The first stamp showing a recognisable snake.
1921: *Bitis gabonica*

Hermes and his caduceus.

Aesculapius staff, here part of the World Health Organization Logo.

INSTITUTIONAL NEWS:

MANYELETI MORTALITY

(News from Manyeleti Reptile Centre, Gazankulu)

When Gerald Haagner and I started making an all-out effort to put the **Manyeleti Reptile Centre** back on its feet after the disastrous fire in September 1989, we had very high hopes for the institution. So high, in fact, that we readily agreed to Mike Bates' suggestion that we try and run a regular "feature" article on the concurrent doings of the Centre in *African Herp News.* Readers may recall the "Manyeleti Morsels" in issue no. 13 last year. We really believed that we were going places.

We missed the last newsletter by virtue of lack of time to write anything down - we suddenly found ourselves involved in a life or death struggle trying to convince a sceptical Gazankulu Government that the continued existence of Manyeleti Reptile Centre Research Section was actually highly desirable. Ironically, we have managed an insert into this newsletter only to report on the final cessation of the research activities of the Centre.

As of 1 April 1991, the research section of Manyeleti Reptile Centre will "officially" no longer exist. This decision was based upon purely financial grounds - it was felt that the Gazankulu Division of Nature Conservation could no longer continue to support such specialist research over and above other pressing conservation priorities.

At the end of the day it is not an unreasonable point of view. Environmental conservation does not come cheap and most of South Africa's National State Conservation budgets are already strained to the limit. Unfortunately in this situation, much-needed reptile research takes on the aspect of an unaffordable luxury and is consequently done without.

The public section of the Centre is still to continue, however, and will still be referred to as the "Manyeleti Reptile Centre" - although it won't be quite the same.

That's the way the cookie crumbles folks, and we have to live with it. And yet, when I look back on the Centre's activities over the last few years, I feel a sneaking sense of satisfaction. We accomplished much of what we set out to do. The concept of the Reptile Centre collating herpetological data through captive studies undoubtedly worked.

The Centre in its heyday bred several difficult and little known reptile species, including *Atheris superciliaris, Naja melanoleuca, Aspidelaps scutatus intermedius, Gerrhosaurus major* and *Varanus albigularis.* In accordance with our policy, most of these species were maintained under semi-natural conditions, and quite apart from the distinction in actually breeding the beasts, we were also able to extrapolate a great deal of hitherto unrecorded information about their natural histories.

We observed male combat in Lowland Vipers, Green Mambas, Vine Snakes and Savanna Leguaans. We noted egg-guarding behaviour in Forest Cobras and Shield-nosed Snakes. We were able to stimulate male agonistic behaviour similar to reproductive male combat in Rufous Beaked Snakes. We expanded upon current knowledge of egg-sizes, times of oviposition and dietary preferences in a number of southern African reptile species. The life-history notes in the H.A.A. Journal will bear testimony to this.

Then of course, Gerald's indefatigable efforts, faithfully preserving every "dead-on-road" specimen he encountered, be it bird, beast or fowl, has enriched the wet collections of several museums. Nor do I believe that anyone is likely to overlook Gerald's particular contibutions to the field of snake venom poisoning and the treatment thereof, either!

So the day of the **Manyeleti Reptile Centre** has ended. And here at the end, our thanks must go to the memberships of the *Herpetological Association of Africa, Transvaal Herpetological Association* and the *East Rand Herpetological Association* as well as the natural history societies of the Universities of the Witwatersrand and Pretoria, whose constant moral and on occasion, material support, at least allowed us to go as far as we did. We could not have done it without your help chaps. Thank you all.

Submitted by: Dave Morgan, Manyeleti Reptile Centre, P.O. Manyeleti, 1362, Gazankulu.

"I don't mind you taking your pet frog for a stroll, but do you have to hop?"

SHORT COMMUNICATIONS:

HERPETOLOGICAL REPORT FROM THE TULI CIRCLE (7 TO 18 APRIL 1990)

G.S.A. Rasmussen

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

INTRODUCTION

It is felt very salient to point out that the area to be surveyed had just suffered nine years of drought. Furthermore, prior to our arrival, apr. 75 mm of rain had fallen, which had unfortunately scoured the countryside to a great extent, taking with it the superficial layer, including, I suspect, a great deal of fauna. This was particularly so on the east bank of the Shashi river, where heavy erosion due to cattle and goats was evident. The west bank of the Shashi, namely the Tuli Circle, being a hunting reserve, appeared to have been less affected. Nevertheless, a measure of impact was noted, particularly in the riverine area. As a result, certain habitats, whilst investigated, proved disappointing.

METHODS

Due to the conditions, the collection of specimens necessitated very thorough and extensive searching. The majority of specimens were found by rock and stone turning, bark removal from vertical trunks and total opening of decayed logs. In the latter case, a rake proved useful to check the substrate. It is important to point out that *Macrotermes* termites were conspicuous by their absence.

A drift fence of 50 m was set up, but apart from one *Gerrhosaurus flavigularis* (Yellowthroated plated lizard), it served only as a canteen for the local baboon population, which were ubiquitous. It was decided that in future, the pitfall buckets should be sunk much deeper to accommodate larger species, and at the same time reduce scavenging.

Water traps were tried, but due to the availability of water in the Shashi, they proved unsuccessful, except for crickets.

Lizards were collected by hand where possible to avoid damage, but if this appeared impossible, .22 dust shot was used and proved most effective. Sometimes, particularily with small geckos, it proved *too* effective.

As we were not engaging on a taxonomic survey, collecting was limited to voucher specimens (deposited in the collection of the Natural History Museum of Zimbabwe, Bulawayo) only to confirm regional distribution. These were kept to an essential minimum, having due respect for the current environmental conditions.

RESULTS

Systematic discussion on reptiles

CHELONII

Pelomedusidae

Pelusios sinuatus/Serrated hinged terrapin
Found both in the beds of fragmites in the Shashi and permanent water pools in the Circle.

Testudinidae

Geochelone pardalis babcocki/Leopard tortoise
Judging by the spoor, they were fairly common in the better grassed areas, particularly in the circle. One specimen had been punctured through the plastron and carapace by a Ground Hornbill.

SAURIA

Gekkonidae

Hemidactylus mabouia/Tropical house gecko
A fairly common species found either in stone crevices or on constructions such as bridges, pumphouses, etc. It did however appear to occur close to a permanent/semi-permanent water source in most cases. Specimens generally seemed to rely on their camouflage to avoid capture by day, and flattened themselves close to the substrate.

Lygodactylus c. capensis/Cape dwarf gecko
Apparently a common species throughout the region surveyed and found on constructions, trees and decaying logs.

Lygodactylus bradfieldi/Kalahari dwarf gecko
This is the furthest east this species has been recorded. It is a possible point for conjecture that the nine years of drought have created favourable conditions for the dispersal of the species into the area, hence a recent range extension, possibly at the expense of *Lygodactylus c. capensis*. However, to unravel the penetration of this species

this far east requires another field survey. Its habitat generally was in dead/decayed logs in mopani scrub.

Afroedura t. transvaalica/Transvaal flat gecko
One specimen was found at Sentinel in a hollow log at the base of a kopje. No others were sighted, but time at Sentinel was limited.

Pachydactylus bibronii/Bibron's thick-toed gecko
This species did not appear to be particularly common, but in its location it did appear to express a preference for areas with more cover (riverine, denser woodland). They were to be found in termite mounds and dead/decayed logs.

Pachydactylus punctatus/Spotted thick-toed gecko
This species was ubiquitous in location and habitat. It was however seldom found in vertical tree trunks, but was very common under stones.

Scincidae

Mabuya quinquetaeniata margaritifer/Rainbow rock skink
These were not as common as expected and appeared to be confined to colonies on very steep outcrops near to a permanent/semi-permanent water source. Only three colonies were found at Tuli.

Mabuya varia/Variable skink
Very common and of almost ubiquitous occurrence. It certainly appeared to be the predominant *Mabuya* species. Common locations were under and on stones, logs and even open ground.

Mabuya s. striata/Common striped skink
A fairly common species occurring in isolated colonies. The stripes were exceptionally well defined, which is an interesting point as the same was to be found with specimens of *Psammophis s. subtaeniatus*. They were generally found on trees, but only in areas where the density of cover was respectable. They were thus not found in mopani scrub and few were found on the east bank. This species appears to be selected against in the current climate of drought and erosion.

Lygosoma s. sundevallii/Sundevall's writhing skink
A fairly common skink found under logs inhabited by micro-termites. They were often buried in the substrate and routine digging under logs procured specimens. Their locations varied from mopani scrub to the top of hillocks. They seemed able to rely solely on the humus from decaying logs as a substrate.

Panaspis wahlbergii/Wahlberg's snake-eyed skink
A common skink that appeared to occur sympatrically with *Lygosoma s. sundevalli.*

Lacertidae

Nucras taeniolata holubi/Ornate scrub lizard
Not as common as expected, and virtually non-existent in the overgrazed areas, possibly due to predation. They were however found in the centre of the Circle, wherever there was cover in the form of grass tussocks.

Varanidae

Varanus albigularis/Rock leguaan
A common species with numerous sightings. The stomach contents of the specimen collected comprised millipedes, centipedes and tree cockroaches.

Gerrhosauridae

Gerrhosaurus flavigularis/Yellow-throated plated lizard
Not as common as expected, although the habit in places seemed ideal. It was, however, to be found in the riverine area and mopani scrub in the centre of the Circle.

Cordylidae

Cordylus tropidosternum jonesii/Tropical girdled lizard
Very common with a number of juveniles occurring singly with presumably parent females. They were generally to be found in the very arid mopani scrub, in dead logs, presumably preying on the micro-termites within.

Platysaurus intermedius rhodesianus/Common rock lizard
Abundant in the kopjies at Sentinel but absent at Tuli.

AMPHISBAENIA

Amphisbaenidae

Zygaspis quadrifrons/Kalahari round-snouted worm-lizard
Found in deep litter substrate under stones or logs in riverine areas.

SERPENTES

Leptotyphlopidae

Leptotyphlops longicaudus/Long-tailed worm snake
Not common, possibly due to lack of substrate. The specimen obtained was found under a stone on the first terrace of the riverine area at the base of a kopje.

Leptotyphlops s. scutifrons/Peters' worm snake
A seemingly unusual location under a stone in very dry mopani scrub.

Boidae

Python sebae natalensis/Southern African python
One specimen was found close to the river bed and appeared to have been feeding on fish that were trapped in pools as the river receded.

Colubridae

Psammophis s. subtaeniatus/Western stripe-bellied sand snake
A fairly common species, obviously flourishing under arid conditions; generally sighted in the scrub areas either sunning or waiting in hollow mopani logs, possibly to ambush prey.

Prosymna sundevallii lineata/Lineolate shovel-snout
Located on the first terrace of the riverine area, under a stone at the base of a kopje.

Telescopus s. semiannulatus/Tiger snake
Surprisingly found in extremely arid conditions in Mopani scrubland under bark on a vertical dead tree. However, there appeared to be a good food supply in the form of *Pachydactylus punctatus.*

Dasypeltis scabra/Common egg-eater
Dry arid mopani acacia scrub under the bark of a fallen tree. A few sporadic vacant *Quelea* nests were noted in the vicinity.

Elapidae

Naja haje annulifera/Banded cobra
Found in firewood close to the Warden's camp during early morning in the riverine area.

Dendroaspis polylepis/Black mamba
A common species at Sentinel Ranch, apparently feeding on hyraxes and bush squirrels. The specimen caught was found at the base of a kopje.

Viperidae

Bitis caudalis/Horned adder
Found in the centre of the Tuli Circle in the bed of the river close to a semi-permanent pool. A pair were found under large rocks and it was suspected that they were feeding on newly metamorphosed frogs which were abundant in the pools.

DISCUSSION

The major points for discussion are the marked variation in species diversity east and west of the Shashi and the possible effect of nine years of drought on the distribution of species.

Due to cattle and goat pressure, the east side has not weathered the drought as well as the west side, which is a hunting reserve. The east side thus has little or no substrate in places and is far more vulnerable to flash flooding. The effects of the latter were noted on our arrival. Furthermore, as the landscape is barer, the herpetofauna is probably far more vulnerable to predation from birds and baboons. Another factor to be considered is that due to the lack of substrate, there could well be a shortage of suitable egg laying sites, and certain species, depending on their egg laying habitat and seasonal timing, will either be favoured or locally extinguished.

As previously mentioned, there appeared to be a definite lack of *Macrotermes* and *Hodotermes* (harvester termites), and this possibly has an impact on the herpetofauna of the area. *Macrotermes* not only play an important part in the food chain, but for some species are the staple diet.

It is felt that the cause of the paucity of harvester termites could lie in one of three areas or a combination thereof:

1. Nine years of drought and overgrazing creating an acute shortage of grass which is the primary constituent in the life cycle of harvesters.
2. The lack of substrate due to sheet erosion creating poor root systems and leaving very few vertical stumps for the *Macrotermes* to use as a basis for a termitarium. It was noted particularly in the areas grazed by cattle that nearly all the dead stumps were fallen and even certain living trees were easily pushed over.
3. The mounds that did exist were soft in their construction and thus susceptible to erosion damage. This is possibly due to a low clay content. Although this is probably primarily a topographical feature, it could well be exacerbated by current climes.

When discussing the *Macrotermes,* it is the alates in particular that we are concerned with, for two reasons. Firstly, certain reptile species rely on them directly as the annual boost feed with which to lay down the major fat stores in the adipose tissue for the winter period, and furthermore to peak their condition for breeding. This group would include nearly the whole of the suborder Sauria which, apart from being herptiles themselves, are in turn a major source of food for apr. 50% of the suborder Serpentes. This is particularly relevant to juvenile snakes, which often feed on lizards until they are large enough to tackle other prey. Hence any reduction in saurians could result in increased juvenile mortality in Serpentes.

Other orders to obviously benefit from both feeding patterns are Insectivora and Rodentia. It is interesting to note that on consultation with the Mammalogy section, both orders were conspicuous by
their absence; in particular, exceptionally low densities of indicator species such as *Mastomys natalensis* and *Aethomys namaquensis.* A shortage of the two afore-mentioned orders, for whatever reason, is seriously going to affect a number of species, in particular *Bitis a. arietans.* Obviously one must also consider the order Anura, which could suffer heavily due to a lack of alates. Again, a dearth of this order greatly limits herptile species numbers higher up in the food chain.

Having watched the fervour with which a great number of orders feed upon the alates when they appear, it is felt that for a number of species they play a vital part within their life cycle, to the point that the emergence or extinguishing of a species within a locality is directly attributable to the availability of alates.

On a smaller scale, species of the suborder Amphisbaenia, and in particular the genus *Monopeltis*, appear to rely on *Hodotermes* and *Odontotermes* as a primary food source. Again, snake predators such as *Amblyodipsas* would suffer.

Successful species

From observation and collection, it soon became apparent that one species at least was not only surviving but thriving, namely *Pachydactylus punctatus.* It appeared to be feeding on micro-termites, and being a small gecko, could manage quite well on less food. Furthermore, its microhabitat was underneath logs and large stones, and it was thus presumably safe from predation from *Papio ursinus* - for example, it was never found under loose bark. It is probable that this gecko and its eggs are the staple diet for a number of the predatory herptiles found, i.e. *Telescopus, Psammophis* and *Prosymna* (which is known to feed on reptile eggs). Furthermore, *Lygosoma s. sundevallii and Panaspis wahlbergii* also appeared to be thriving. Both are small species, and whilst they occupied a similar microhabitat under logs and stones, temporal separation of foraging activity probably aided co-habitation within the same ecological niche.

CONCLUSION

From what has been just a cursory look at the area it is felt that whilst certain species are thriving due to the drought and overgrazing on the east bank, the situation is far from satisfactory, and a more comprehensive study of the area would probably not only clarify the situation, but reinforce the need for some form of conservation measure. Furthermore, it was apparent that the use of the land west of the Shashi as a hunting reserve was desirable from a conservation point of view, as the fauna was more varied and coped better with the effect of the drought.

Notwithstanding the trials imposed, it transpired to be a very successful expedition. Out of 33 species collected, 15 represented new locality records.

The discovery of *Lygodactylus bradfieldi* as far east as Tuli has opened the door for another complete study, together with the environmental implications.

ACKNOWLEDGEMENTS

I can only attribute the success of this expedition to the hard work and undaunting efforts on behalf of T. Cussans and the groups who assisted from Falcon College and Plumtree College. Also thanks to the other sections for their contributions to the Herpetology section and their valuable comments on species inter-relationships. Finally, I would like to thank Dr D.G. Broadley of the Natural History Museum of Zimbabwe in Bulawayo for his assistance with identifications where necessary, and the preparation of this report.

DIARY

SATURDAY 7th April
After a late start attempting to group the convoy, we finally got away, and after a stop at Gwanda (where herpetology's cool-box for live specimens was appropriated to accomodate ice!), we finally reached the camp at Tuli, but not without sustaining a puncture first. During the initial unpacking, "scorpion" was shouted from the kitchen and herpetology collected its first specimen, *Parabuthus transvaalensis*. However, a trip to pay our respects to Headman Sibanda did procure the remains of a *Geochelone pardalis babcocki* (Leopard tortoise) which had been thoroughly opened up by a Ground hornbill. In the evening, determined to make a start on collecting, a small group of us went out with a torch to search for geckos. Surprisingly we found nothing except another scorpion and some moths! I am sure Arachnidae would not agree with the sentiment!

SUNDAY 8th April
Set off in high hopes to search the riverine area, expecting it to be exceptionally fruitful, and armed to the teeth with axe, crowbar, shovel, snake

sticks and revolver (a set-up to make the best dressed Mexican jealous!). After a whole morning of turning and reducing various logs to sawdust, examining every nook and cranny, we managed to produce the grand total of *nothing* herpetologically. We did however, have a good collection of arachnids. As we were working what I considered to be a good area, I began to wonder whether perhaps I should play Judas and join another group?

Undaunted, though slightly deflated, I decided that having worked the best area, I could not do worse, and proceeded to the arid mopani scrub near to camp. At last! So herptiles did indeed live in the area! We managed to procure 3 species of gecko (one of these being a new locality record), a live pair of girdled lizards (also a new locality record), a writhing skink and a snake-eyed skink. Thus encouraged, I decided that I would stay with herpetology after all!

MONDAY 9th April
Off to the Circle and with a lot of effort managed to procure three more species of lizard. Apart from the fact that herpetology was accused of waking the dead at the pioneer graveyard as a skink was dusted over! Back at camp, the drift fence was set up, and produced a Yellow-throated plated lizard half-an-hour later. This was certainly a promising sign. Little did we know that what we had just caught was to be our lot as far as the drift fence was concerned. Some consolation was to be found in the fact that at least the Plated lizard was a new locality record.

In the afternoon, 1 km downstream, we proceeded to do a full assessment of an area of logs and large boulders, only to procure one skink. Herpetology was beginning to get a reputation!

TUESDAY 10th April
Gordon MacDonald drove us to an area which was, as he put it, "Teeming, I am sure". We managed to restructure a kopje and landscape the riverine area to produce copies of what we had already found. We were however, proving excellent workers for Arachnidae, who in turn provided us with our first snake, a Lineolate shovel-snout. I was beginning to feel we ought to swap groups. Fed up with anything to do with the riverine area, we headed for another section of mopani scrub near the camp. We not only produced our own snake (a Stripe-bellied sand snake), but another species of gecko. As the sand snake was a new locality record, we felt appeased.

WEDNESDAY 11th April
Still working the east bank, but no new specimens. Volunteers for herpetology getting a bit thinner!

THURSDAY 12th April
Working well upstream and collected a Long-tailed worm snake on the first terrace. I then sighted a rainbow rock skink which promptly disappeared. As we had yet to even sight yet alone collect a specimen, I organised a half hour vigil until it re-appeared. When it finally appeared, we missed it again, so we gave up and proceeded not more than 100 metres to find we need not have waited as they were everywhere!

FRIDAY 13th April
In theory, not a day to go out at all, but as transport was available for us to go into the Circle, the chance was too good to miss. As usual, Norman the scout kept us continually amused with his tales. The change was outstanding. Nearly all the species that we had struggled to obtain over the past 5 days were present, and furthermore, we found three species of snake, all of which were new locality records, namely Common egg-eater, Tiger snake and Peter's thread snake. Our only failure was a *Gerrhosaurus "houdinii"* that foiled attempts at capture and wasted the best part of our morning digging. He sensed when we were getting near and although we attempted to block all entrances, he would find another and disappear out of the hole as though the starting pistol had just gone off.

SATURDAY 14th April
Spurred on by the success of the previous day, we returned to another section of the circle and were rewarded by our first amphisbaenian and a pair of horned adders, with which we were delighted. The area in which they were found was thoroughly scoured, producing no more specimens, but a very tired group of humans. Still, it was worth it, to my mind anyway.

SUNDAY 15th April
Off to Sentinel by the scenic route, and did not arrive until quite late. Collected three species of gecko and two skinks in the space of about two hours.

MONDAY 16th April
What a pleasure, viable terrain made even better by the fact that Colin Bristow was showing us all the local hideways for herpetofauna. A good bag of various lizards was collected, but our prize had to be "Victor", alias a 2,4 metre mamba who, after creating a few diversions, was captured and made very welcome in camp. It was amazing how quickly a padlock and box was procured for us!

TUESDAY 17th April
Dare one say it. Sightseeing at Sentinel. Visited the bushman paintings on the ranch. Back to Tuli.

WEDNESDAY 18th April
Back into the circle, as it was the last day for collecting and obviously we were hoping for final new material. Murphy's Law prevailed and just as we had found a good collecting site where simultaneously a new species of lizard was seen to disappear into a crevice and snake into a hole, elephants rumbled close in the valley below. Valour being the better part of our

anatomy saw us all competing in the 800 metre sprint. Of course something had to be left in the event, and we had to wait and return for the crowbar. A fitting end for herpetology to be sure!

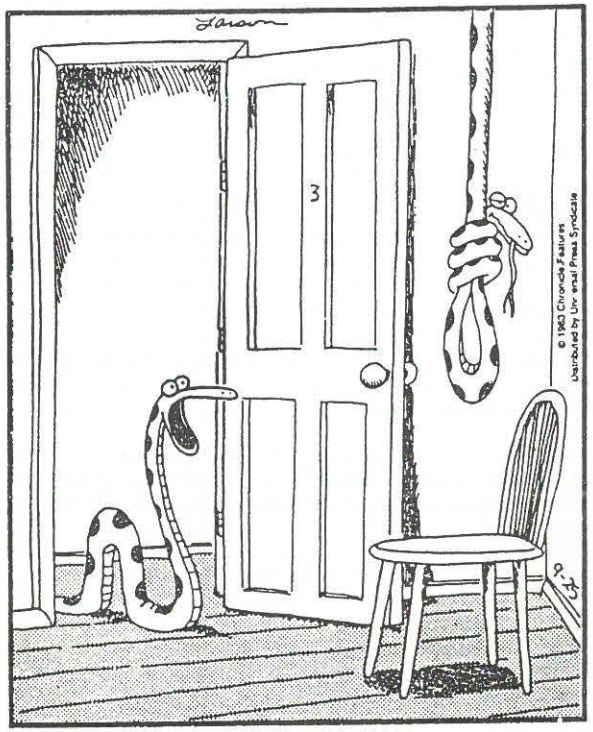
HERPETOLOGICAL COLLECTION

	Number of Specimens	Notes
CHELONIA		
Pelomedusidae		
Pelusios sinuatus	1	
Testudinidae		
Geochelone pardalis babcocki	3	1 live
SAURIA		
Gekkonidae		
Afroedura t. transvaalica	1	
Lygodactylus bradfieldi	2	eastern range extension
Lygodactylus c. capensis	1	
Hemidactylus mabouia	2	
Pachydactylus bibronii	2	
Pachydactylus punctatus	5	
Scincidae		
Mabuya quinquetaeniata margaritifer	3	
Mabuya varia	5	
Mabuya s. striata	3	
Lygosoma s. sundevallii	4	live
Panaspis wahlbergii	2	
Cordylidae		
Gerrhosaurus flavigularis	1	new locality record
Cordylus tropidosternum jonesii	6	new locality record
Platysaurus intermedius rhodesianus	3	
Lacertidae		
Nucras taeniolata holubi	2	

Varanidae		
Varanus albigularis	1	
AMPHISBAENIA		
Amphisbaenidae		
Zygaspis quadrifrons	2	new locality rec
SERPENTES		
Leptotyphlopidae		
Leptotyphlops longicaudus	1	new locality record
Leptotyphlops s. scutifrons	1	
Boidae		
Python sebae natalensis	1	new locality record
Colubridae		
Psammophis s. subtaeniatus	2	new locality record
Prosymna sundevallii lineata	1	new locality record
Telescopus s. semiannulatus	1	new locality record
Dasypeltis scabra	1	new locality record
Elapidae		
Naja haje annulifera	1	new locality record
Dendroaspis polylepis	1	live at Sentinel
Viperidae		
Bitis caudalis	2	live
AMPHIBIA		
Pipidae		
Xenopus muelleri	1	new locality record
Bufonidae		
Bufo garmani	1	
Ranidae		
Ptychadena anchietae	1	new locality record
Tomopterna marmorata	1	

TOTALS

Number of species collected:		33
New locality records:	Sauria	4
	Amphisbaenia	1
	Serpentes	8
	Amphibia	2
	Total	15



"Oh no, Elliott! Why? . . . Why? . . ."

NOTES ON A HERPETOLOGICAL COLLECTING TRIP TO NAMIBIA (24 OCTOBER TO 3 NOVEMBER 1990)

G.V. Haagner

Manyeleti Reptile Centre, P.O. Manyeleti, 1362, Gazankulu

Objective: The collection of certain species of live reptiles for captive breeding programs to be conducted at the Manyeleti Reptile Centre and the Port Elizabeth Snake Park. Furthermore, the collection of museum material for both the Port Elizabeth Museum and the State Museum in Windhoek.

22 October - I flew down on the 05h45 flight to Port Elizabeth where I was collected by Chris McCartney of Port Elizabeth Snake Park. We finished the last of the packing and by 10h00 we were on our way, heading for Upington via Prieska, where an adult *Psammophis notostictus* was found dead on the road (DOR). collected two adult *Pachydactylus bibronii* on the road before Upington. Arrived at Upington at 13h20 and spent the night at the camp site on the Orange River.

23 October - Up early and bought basic essentials as well as two old car inner tubes for use as collecting strips. Chris was very sceptical about my primitive methods (which later proved effective, especially on the faster lizards!). Off to the Augrabies National Park (2820CA) through Kakemas. Warm spring day and stopped at the Augrabies Falls for some scenic photo's. Collected one large adult male *Platysaurus capensis* basking - substrate temperature was 43°C. Saw several *Agama a. atra* basking on the rocks. Interesting was the preserved *Bitis xeropaga* and *Naja nigricollis woodi* at the information Centre at the Reception Office.

Moved on to Pofadder and stopped along the road 5 km east, near Gemsbokvlakte. Warm day with ambient temperature at 27°C. Collected one adult *Meroles suborbitalis* and observed several *Agama a. atra*, one *Mabuya sulcata*, and a *Pachydactylus bibronii* which was deep in a crevice.

From Pofadder we went north through the border post at Onseepkans and at 17h15 we were the first vehicle to pass through. The Namibian side was far more formal and we had our passports stamped. As we headed further north to Karasburg, we found a very flat and dried out *Naja nivea* on the road, apr. 76 km north of Onseepkans. Collected several adult *Pachydactylus mariquensis and Pachydactylus bibronii* on the road.

24 October - Spent the morning in Windhoek, after which we headed west and spent the night at Daan Viljoen Game Reserve, just west of Windhoek, where I saw my first *Agama planiceps.*

25 October - Heading north to Okahandja and further to Otjiwarongo: 27 km north-west of Otjiwarongo on the Outjo road (C38), we collected 2 adult *Agama a. aculeata*, one female *Psammobates oculifer* and two young *Mabuya spilogaster.* Saw a very flat *Psammophis s. subtaeniatus* DOR 45 km east of Khorixas which was not worth collecting. We stopped in the capital town of Damaraland, Khorixas, just as the Prime Minister entered. Saw several *Mabuya spilogaster* on trees as well as *Agama anchietae* on rockery, but were unable to collect due to the presence of tourists. Left Khorixas at 18h30 for a night drive on the Kamanjab road. Collected several *Agama anchietae* before dusk and two male *Aspidelaps lubricus infuscatus* and a *Pachydactylus bibronii* before 22h00.

26 October - Stopped 8 km west of Khorixas and inspected an interesting rocky outcrop. This proved to be the first of many encounters with *Rhoptropus* and we bagged several *Rhoptropus barnardi, Pedioplanis namaquensis, Agama anchietae* and *Pachydactylus fasciatus.*

Twyfelfontein - old German house build during the late 1800's with several bushman paintings in the surrounding mountains. Very warm at 42°C in the shade at 12h56 (Chris complaining about heat again - this time it was allowed). Collected one adult *Mabuya hoeschi.* Stopped for lunch and siesta under large *Acacia erioloba* trees along dry river course. Saw a large *Psammophis sibilans leopardinus* which escaped our sweaty hands. Left Twyfelfontein at 17h00 for night drive down to the Brandberg, where we collected *Pachydactylus bibronii*, adult female *Bitis caudalis* and a "mentalis phase" *Lamprophis fuliginosus.*

27 October - Brandberg - Got up early to collect specimens in the crevices before they warmed up. Saw several *Agama planiceps*, but they were too fast to collect. We managed to collect several *Rhoptropus barnardi* and *Mabuya hoeshi*, however. Continued through Uis mine to Henties Bay and Swakopmund, where we spent the night. This time it was bitterly cold and it was the first night that we did not do any road cruising.

28 October - Stopped at a small rocky ridge on the gravel plains in the Namib Naukluft Park and collected *Rhoptropus afer, Pedioplanis namaquensis* and *Pachydactylus punctatus.* Collected an *Agama anchietae* basking on a rock 30 km north of Solitare - substrate temperature 46°C and ambient temperature 32°C. Stopped at Sesriem camp site where we reported our presence to the local nature conservator. He had several interesting preserved reptiles in the reception office, including *Bitis caudalis, Naja nivea, Bitis peringueyi, Chondrodactylus angulifer, Ptenopus kochi, Psammophis leightoni namibensis* and some unidentified tadpoles. Continued further south to the farm Wolwedans, 100 km south of Sesriem, where we met Mr and Mrs Marc Paxton. After following some confusing directions, we were able to sit down and enjoy some refreshments. Short night drive on the farm produced some *Chondrodactylus a. angulifer, Pachydactylus bibronii* and *Ptenopus kochi.*

29 October - Spent the morning walking in the dunes looking for small adders, after reports of regular small snake tracks on the dunes. Followed several typical "side-winding" type tracks over the dunes, but lost all of these at some stage, mostly because of the vegetated state of the dunes, but also because of the strong prevailing wind. According to the nature of the tracks on the dunes they appeared to be those of *Bitis peringueyi*, but Mr Paxton has been unable to trace the adders which cause the tracks.

Collected several other reptiles on the farm, including *Ptenopus kochi*, *Psammophis leightoni namibensis, Mabuya spilogaster, Mabuya occidentalis, Palmatogecko rangei, Agama anchietae, Meroles cuneirostris, Meroles suborbitalis, Pachydactylus bibronii* and a *Typhlosaurus*. The discovery of the *Typhlosaurus* specimen was of particular interest as the only member of the genus which has been recorded from western Namibia is *T. meyeri*, which normally occurs in vegetated coastal dunes. Proper identification of the specimen by Dr W.R. Branch is awaited, and the specimen probably represents a noticeable range extension for any of the species.

After lunch we left the hospitality of the Paxton family and headed south to Aus. After filling the vehicle up with fuel we decided to do a night cruise to Luderitz. Saw 3 large *Mabuya spilogaster* in large *Acacia erioloba*, but were unable to collect any. The road was literally crawling with *Ptenopus garrulus maculatus* and several were being run over by vehicles. Collected several *Chondrodactylus a. angulifer* and *Palmatogecko rangei* as well.

Saw *Psammophis leightoni namibensis* (DOR) 12 km west of Luderitz as well as a *Chamaeleo namaquensis* 87 km west of Aus, but they were not worth preserving. Arrived in an extremely cold and windy Luderitz at 22h54.

30 October - Reported to the Nature Conservation office in Luderitz and asked for advice on possible collecting in the area. They reported the presence of *Bitis peringueyi* in the dunes north of Luderitz, but apparently no *Bitis schneideri* in the immediate vicinity. They furthermore mentioned the presence of a *Bradypodion* population on the peninsula. We investigated the peninsula, but due to the cold conditions, no reptiles were seen. It appears to be a local population of *Bradypodion ventrale occidentale*, which was reported on by Branch in 1988. Continued back to Aus and collected an adult *Agama a. aculeata, Psammophis leightoni namibensis. Agama atra knobeli, Pedioplanis namaquensis, Chamaeleo namaquensis, Dipsina multimaculata, Bitis caudalis* and saw a *Mabuya spilogaster* which we were unable to collect.

Stopped for supper and road-cruised down to Rhosh Pinah. Road very disappointing with large graded gravel heaps along culverts and wide cleared areas on both sides of the road. Collected one adult *Chondrodactylus a. angulifer* and slept the night along the road near Rhosh Pinah mine.

31 October - Left very early for Port Nolloth. South of Rhosh Pinah we went into beautiful *Bitis xeropaga* country and we were sorry we did not do that stretch of road the previous night instead. Stopped to have a rather cool bath in the Orange River. Arrived at Port Nolloth late afternoon, and after a warm meal, we set of for another road cruise. This produced *Bradypodion ventrale occidentale* (DOR), *Pachydactylus austeni* and *Ptenopus g. maculatus*. I collected several live *Bradypodion* on shrubs on the beachfront.

1 November - Decided to go for a walk in the dunes in an attempt to find some *Bitis schneideri*. On the way there Chris spotted an old Coloured man throwing a rock at something. Immediately pressure was applied to the brakes and it turned out to be an adult male *B. schneideri*! It appeared to be slightly injured and we collected it. We started walking the dunes in the nearby vicinity, and within 5 minutes, Chris came across another male basking in the sand. Great were our hopes for more specimens, but hours of uneventful searching in the dunes produced only one more male. We were by then desperate for some females.

We then decided to take a drive down south of McDougals Bay, and stopped to have a walk in the dunes, turning up a *Psammophis crucifer, Typhlosaurus vermis, Agama h. hispida* and *Bradypodion ventrale occidentale*. Spent the night at Port Nolloth, but due to bad weather, the road cruising produced nothing more than two *Pachydactylus austeni*.

2 November - Spent another morning walking in the dunes around the original site, but this produced only another male *B. schneideri*. We packed up, and while heading for Van Rhynsdorp, we found a large female *Lamprophis fuliginosus* (DOR). Stopped 17 km west of Steinkopft and collected *Cordylus polyzonus, Agama a. atra* and a gravid *Mabuya variegata*. Saw a large *Naja nigricollis woodi* (DOR) and a *Pseudaspis cana* which was too flat to collect.

3 November - Arrived back at Port Elizabeth at 12h21, when we unpacked and cleaned everything.

Although the trip was very short and compact (7000 km in 14 days), a total of 159 specimens were collected, and other than the live animals kept for future use, we deposited all the other specimens in the Port Elizabeth and State Museum collections.

Acknowledgements

I would like to thank the following people and Institutes who made this trip an enjoyable one: The Namibian Department of Nature Conservation for permission and permits to collect in the area, and in particular, to Mr M. Griffin for arranging everything on that side; Mr and Mrs M. Paxton for their hospitality and informative advice; the Director and Board of Trustees of the Port Elizabeth Museum for providing the financial assistance for this excursion; Mr C.J. McCartney for his assistance in the field; the Department of the Chief Minister and Economic Affairs for their support and permission to undertake this field trip.

VENOM GLANDS IN THE GENUS *CAUSUS*

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In an article on the elongate venom glands found in the genera *Causus* and *Maticora*, McMahon (1990) states that *C. rhombeatus* is unique in the genus in having elongated venom glands which extend 5-7 cm into the neck in adults. While skinning out a decomposing specimen of *C. bilineatus* in north-western Zambia recently, I noted the presence of elongate venom glands. I have not, however, found any review of the type of venom gland found in the other species of *Causus*.

All six species of *Causus* are represented in the Natural History Museum of Zimbabwe. Separation of the neck skin showed that the species *resimus, bilineatus* and *maculatus* agree with *C. rhombeatus* in having very elongate venom glands, whereas in the species *lichtensteinii* and *defilippii*, the venom glands do not extend back into the neck at all.

It was assumed that the elongate venom gland represented the derived condition, but when scale counts for the six species were tabulated (Table 1), only *C. defilippii* stood out because of its very low ventral and subcaudal counts, whereas *C. lichtensteinii* differs from all other species in having single subcaudals.

It should be pointed out that a similar situation occurs in the genus *Atractaspis*, where elongate venom glands are restricted to the *microlepidota* group.

Table 1: Variation in scale counts and size in the genus *Causus*.

Species	Midbody Scale Rows	Ventrals		Subcaudals		Max. Total Length
		male	female	male	female	
lichtensteinii	(13)15	134-142	140-156	17-23	14-20	711
defilippii	(16)17(18)	108-117	115-126	12-18	10-15	422
resimus	19-22	131-151	140-154	20-27	16-23	718
rhombeatus	17-19(21)	135-159	134-166	21-35	20-33	930
maculatus	17-19	118-137	124-144	15-26	14-23	492
bilineatus	15-17(18)	122-141	128-144	24-33	18-28	552

Data from Laurent (1956, 1964), Pitman (1974), Hughes (1978), and original data.

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"'This dangerous viper, known for its peculiar habit of tenaciously hanging from one's nose, is vividly colored.' . . . Oh! Murray! Look! . . . Here's a picture of it!"

THE BERG RIVER CROCODILE SAGA

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"Croc eludes hunters in Berg River" was the main story carried by the front page of the *Cape Times* on Friday, April 5, 1991. This, of course, raised many eyebrows since it was the second time in about fifteen years that papers carried a story of this kind in their headlines. In the late 1970s a crocodile escaped from its holding facilities and entered the Berg River close to Paarl in the south-western Cape.

Three nights previously, on April 2, 1991, a 1,8 m long two-year old subadult male Nile crocodile, *Crocodylus niloticus,* managed to escape from its pen on the crocodile breeding farm Le Bonheur of Mr Jurie Prins at Simondium near Paarl. It took a route through about a kilometre of vineyards, across the busy Paarl-Franschoek tarred road (somebody reported seeing a funny "dog" next to the road that evening), across a railway line, across the front lawn of the neighbouring farmhouse, past the guard dog, through some more vineyard and a paddock with a horse inside, and eventually into the Berg River - a stint of almost two-and-a-half kilometres in total. The reason for its escape was not clear, but Mr Prins said that after they had emptied some ponds inside the pens to catch and transport breeding stock to the Transvaal, the young crocodiles became somewhat restless, probably because they could not hide in the empty ponds anymore.

The next morning, somebody somewhere alerted the media, the Paarl riot police squad, a television crew and of course, Nature Conservation. Arriving at the scene of the "crime", I came across about 50 young and eager policemen, whom I might add were armed to the teeth, waiting for the elusive croc to show its face and to have a crack at it. Everybody was filling in details of what should be done and how we should go about it. After about an hour of looking out for more signs of where the croc might be, everybody was persuaded that the croc would not show its face with so many people around. The search was called off and a handful of sentries posted to look out for "Charlie the croc", as it was christened by the *Cape Argus* on April 5.

One may ask what the big deal was, but crocodiles do not occur in the Berg River, and have never occurred there as long as man can remember. It is also an intensively farmed area, with a camping and picnic site just down river from the spot where the croc dissappeared, and it is there where, over weekends, many people swim in the river and go canoeing. After a "shoot-on-sight" command was issued, the "non-shooters" cried against this ghastly intention, the media started speculating on the implications of a crocodile in the Berg River, the croc farmer tried to calm everybody by stating that a two-year-old crocodile would not do that much harm, and Nature Conservation had to get the croc out of the river!

Mr Prins and his son Miek offered their help, and a few days later, they reported seeing the crocodile's glowing red eyes in the glare of s spot-light one evening. Thanks to these gentlemen, five weeks later, on the morning of May 7, 1991, "Charlie" was captured while sunning himself on the river bank. He was first immobilised with a tranquilising dart and then returned to his pen at the farm, apparently in a pretty good condition.

One can only speculate on the chances of survival for a crocodile in the Berg River, since it ended up there just before the onset of winter, and the cold, rainy season of the western Cape. Having been reared in a protected environment, and being used to a regular food supply and "hospitable" surroundings, who knows how long "Charlie" would have survived if left to fend for himself. Probably only Nature would know. In the meantime, "Charlie" is taking it easy at the breeding farm in the Transvaal, where Nature of course, will take its natural course!

BROWN HOUSE SNAKE SURVIVES BEING SWALLOWED BY ITS COMPANION

Keith Walters

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On the 12 March 1991, while observing a captive Brown House Snake (measuring 48 cm) eating a gecko (11:00), a smaller snake (37 cm) decided that he would also like to eat the same gecko, and latched onto its tail. Two other geckos were also in the container.

The larger snake continued to eat the gecko, as well as the other snake! There was much coiling and knotting, but the smaller snake was unable to free itself from the larger snake's grip around its head.

11:49	The smaller snake was completely consumed. It was still very much alive and was squirming inside its captor's stomach.
13:18	The smaller snake had managed to turn itself around inside the larger snake's stomach and showed its head, with its tongue still flickering.
13:25	The smaller snake retreated or was pulled back inside the larger snake's stomach.
13:36	The smaller snake pushed forward inside the larger snake's body, and a few seconds later, its head re-emerged and it crawled out of its companion's mouth. With the smaller snake came the partially digested gecko's head which was only recognisable by its eye cavities. The previously swallowed snake was covered with intestinal fluid and was very lethargic.

Nature was allowed to take its course and both snakes were left alone. They were released on 14 May 1991 as food availability became a problem to me.

OPHIDIOPHOBIA

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According to Epanchin & Paul (1987), a ***phobia*** is a persistent, irrational and disproportional fear that is beyond the control of the individual, and in the case of children, is excessive for the child's age and developmental stage. Phobias are more intense and longer-lasting than common fears (e.g. fear of darkness by 3-4 year olds, or adults' fear of making mistakes), and the condition cannot be helped by attempting to reason logically with the person (Epanchin & Paul, 1987). Phobias are more common in adolescents and young adults, and occur more often in females than males (Erasmus, Grieve, Grobler, Grundlingh & Joubert, 1989).

Ophidiophobia is an intense fear of snakes. Many of you readers who have been out collecting snakes on farms are likely to have met many a farmer who firmly believed that snakes are demons which seek only to attack man at every opportunity. People with such an attitude often find it extremely difficult to change their outlook. Some of these people could suffer from ophidiophobia. However, not all people who have a strong dislike of snakes, or who fear certain species of snakes, are phobic. After all, there must be few snake lovers who do'nt fear the thought of being confronted by a three-metre-long King Cobra in an Asian forest! A true ophidiophobic obsesses about snakes and may be too anxious even to take a walk in the veld in fear of being confronted by a snake.

What causes a person to develop a phobia? Various hypotheses have been developed by psychologists attempting to explain the causes of anxiety-based disorders such as phobias. These include the psychoanalytical assumption that phobias result from unresolved Oedipal conflicts, the behavioural assumption that phobias develop due to the association of a neutral stimulus with a frightening or noxious stimulus and the socioanthropological assumption that all behaviour is culturally determined (Epanchin & Paul, 1987). While psychologists may disagree on the causes of phobias, the fact that phobias exist and are maladaptive to the individual is generally accepted

What then, if anything, can be done to help an ophidiophobic overcome his or her irrational fear of snakes? Various types of interventions have been attempted in order to help people with anxiety-based disorders overcome their fears. These include expressive therapies (eg. art or psychotherapy), behavioural programs and medication (Epanchin & Paul, 1987).

One method which has, on at least one occasion, proved fairy effective in reducing childrens' fear of snakes, is the behavioural therapy called "modeling", which is learning by observing the actions of others. In "live modeling", children or adults are used as models and are observed by others, whereas in "participant modeling", children or adults observe a model interacting with a feared object and then gradually interact with the feared object themselves. The method is considered effective when the model experiences a positive and/or safe outcome, *i.e.* the person with the fear is more likely to overcome his particular fear if he sees that the model is not fearful himself. In 1968, Ritter compared participant modeling to live modeling in a study with 44 children who feared snakes. This case is related by Epanchin & Paul (1987):
"The children were randomly assigned to one of the two treatment groups or to the control group. In the participant-modeling treatment condition, children observed five children and one adult handle snakes, then the fearful children held the snake with assistance. In the live-modeling treatment, the fearful children observed five children and one adult handling and holding the snakes. Post-treatment assessment indicated that the participant-modeling group performed considerably better than the live-modeling group on measures of avoidance and fearfulness, but that both treatment groups evinced less fearfulness than the controls".
Epanchin & Paul (1987) do, however, mention that much research is conducted using non-clinically referred populations, and it remains to be seen how extremely anxious youngsters would perform.

It should be remembered that helping children or adults overcome their particular fears is the realm of psychologists and medical doctors. "Home-made" remedies may prove more detrimental than beneficial! However, it may be a good idea to inform people who exhibit signs of panic and distress when the word "snake" is mentioned that their fear of snakes need not necessarily be permanent.

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A HERPETOLOGICAL DATABASE FOR THE CAPE PROVINCE

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A computerized information and mapping system for the herpetofauna of the Cape Province (CAPEHERP) is now being developed by the Scientific Services section of the Chief Directorate Nature and Environmental Conservation at the Jonkershoek Nature Conservation Station in Stellenbosch. In this age of information systems and computerised databases, we have become spoiled in that it has become very easy to sit in front of a computer keyboard and extract data virtually at the touch of a button. The trick, however, is that you only get out what you have put in. This is exactly why this system is being developed, since updated distribution records of reptiles, and especially amphibians, became difficult to extract from the vast amount of available literature. The other day, somebody cried: "Oh, if only there were a place where updated records of frogs were kept and if only I could get to it easily and have a map drawn as well!" Well, that is what CAPEHERP is being developed for.

The initial stage was to know what we would be working with, and the provisional checklist of Branch, Baard, Haacke, Jacobsen, Poynton & Broadley (1988) was taken as the most updated list of southern African herpetofauna. Numerical codes were assigned to every taxon (remember, easy access in the key) according to the PRECIS system used by botanists. This numerical coding allows for taxonomic changes and insertions, but is not a phylogenetically based system. It must be stressed that this coding system is *for internal use only* and is not necessarily advocated as an official, national numbering system for the reptiles and amphibians of southern Africa. It seems that there is too much disagreement on whether or not a coding system should be developed and implemented. The same apparently applies to standardised common names.

This information system comprises facilities for the entering of *specimen, sight, audio, photographic* and *literature* records of any reptile or amphibian taxon having been collected by anyone in the Cape Province. The finest resolution of distribution of records will be *seconds latitude and longitude*. Full information about every entry will be stored - this implies not only spatial, but also ecological and morphological information. The system will be run on a Hewlett Packard mini-computer using the INFORMIX-SQL Relational Database System. Up-to-date distribution maps of A4 to A0 size could be produced using a locally designed mapping program called QDMAP. This program allows for the quarter degree mapping of up to five taxa per map, as well as number of observations per quarter degree for the whole of southern Africa or any part thereof. The input file is in ASCII-format. It may be uploaded from a personal computer to the mini-computer and mapped using QDMAP. The map can be output to a plotter, Laserjet or dot matrix printer.

Initially, CAPEHERP was developed to facilitate easy handling of departmental information, and to supply updated information to reserve managers and other users (e.g. CSIR). However, with the development of a locally-based Geographical Information System (GIS), it has become possible to intergrate CAPEHERP with GIS. This, of course, has tremendous implications and possibilities. Although the immediate short-term goal of CAPEHERP is to act as herpetological information base for the Chief Directorate, we plan to extend it into a provincial database in the medium to long term. In other words, we envisage collecting and storing as many Cape herpetological records as possible. CAPEHERP may also act as storing and mapping facility for the biogeographic researcher.

The possibility of linking CAPEHERP to a GIS with a mapping facility, as well as the future prospect of interlinking regional herpetological databases, creates a much needed opportunity for supplying an updated, real-time information system to the herpetological research community of southern Africa.

So, next time you need updated information about that particular taxon or group you are working on, and you're paging through heaps of literature for those elusive distribution records, for instance, remember this note and contact us. We may just have the information that you're looking for ready and waiting to be delivered at the punch of a key.

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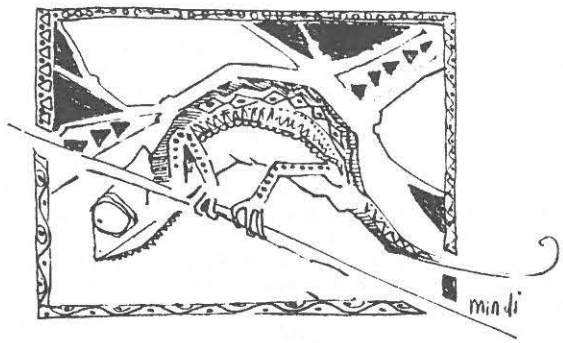


REPRINTS:

Young Guardian, 11 February 1990
(Reprinted with permission from *The South Western Herpetological Society Newsletter* no. 143, August 1990, page 3)

GETTING KICKS - AND LICKS ON THE TOAD TO RACK AND RUIN

Coke, Ecstasy, Crack - the depressing list of drugs sweeping through the U.S. has been joined by a bizarre and dangerous new phenomenon - toad licking.
To combat various pests, the U.S. imports vast numbers of MARINE (CANE) TOADS (*Bufo marinus*) from South America. Drug users have discovered that they can get high - by licking the heads of these amphibians. Toads release a milky white toxin which contains bufotenine, a halucinogen which can also be found in banana skins, and the CRIMSON SPOTTED MUSHROOM (*Indemita muscaina*) - immortalised by Walt Disney in his film "Fantasia".
The toad slime is so distasteful that most animals avoid these creatures. Howard Hunt, head of the Atlanta Zoo Reptile House, warns that dogs have been known to die from biting Marine toads. For some dim-witted, drug-crazed Americans tired of the run-of-the-mill high, the challenge seems to outweigh any fear of the dangers involved.

University of Florida student Robbie Kearns is a self-confessed toad-licker. He talks openly of his experience as, so far, the activity is not considered illegal - in his State. He describes the process as being an arduous one. Firstly, it is essential that the toad is alive and active. "Some people actually chase them through ponds, etc.," he says, "but I've got a tank of seven at home. Pick them up and they slime. Then all you have to do is lick the head a couple of times and you're on the way." There is an immediate numbing of the tongue and lips, followed by intense bouts of nausea caused by the poisonous toxins in the slime. Within abut 20 to 30 minutes - the bufotenine produces a heightened, trance-like state lasting up to 5 or 6 hours, which Robbie describes as being similar to the illegal and dangerous halucinogen, LSD, a drug that can cause major psychological and physical disturbances.

The toads are not particularly fond of the process, he says, but "it keeps them fit and is a clean, natural drug", not manufactured like MDMA, or cut like cocaine. Rob argues fatuously that with toads "there is no violence, drug barons, or police harassment", and given the rather repulsive nature of the act, he does not expect it to attract many casual users.
It has been known for centuries that many South American tribes indulge in the practice, and there are persistent rumours that some Australians boil the poor creatures, drying their skins for smoking; but it is in America that the phenomenon has really caught on.

Parts of California have already introduced preventative measures. Since 1989, it has been illegal there to possess Marine Toads, Colorado River Toads and the Sonora Desert Toads, on the grounds that they possess a controlled substance.
Drug enforcement agencies report that while convictions for toad possession remain negligible compared to those for other drugs, the practice seems most popular among students in Southern California, Florida, Georgia and Texas, where the toads are in the densest populations. University of Georgia police chief Chuck Horton argues - "You'd hope a college education would prevent something like this". And Chris Andrews, head of the amphibians house at London Zoo claims "It's an incredibly stupid and dangerous thing to do. Toad toxins will cause all sorts of problems if they are ingested. And - all over the world, amphibians face the continual destruction - of their habitat. They do an important job in keeping down insect pests, and should be protected".

BBC Wildlife, September 1990
(Reprinted with permission from *Australasian Herp News* no. 6, November 1990, p. 2)

BEHAVIOUR BEGINS IN THE EGG

Dr. Joanna Burger, of Rutgers University, has been looking at the behaviour of juveniles of two species of snakes incubated at various temperatures in the laboratory - Black Racer eggs were incubated at 22°C and 28°C, and kingsnake eggs at 22, 28 and 32°C (no kingsnakes hatched at 22°C). Striking behaviour was prompted by a colleague moving her finger in front of each snake, while height and length of the strike was recorded. 'Escape behaviour' was measured by recording the height each snake attained up the side of a glass aquarium, and manoeuvrability by allowing each snake to move along a narrow tube that projected beyond a table edge (and measuring the distance it extended). In both species, individuals raised at the higher temperature were slightly larger. However, Black Racers incubated at 28°C performed better than those from 22°C, in all tests except speed, in which there was no apparent difference. In the kingsnakes, it was the smaller individuals (those incubated at 28° rather than 32°C) which performed better. Such characteristics have clear implications for success in nature. Finally, all tested snakes were returned to the wild.

BBC Wildlife, December 1989
(Reprinted with permission from *Australasian Herp News* no. 5, May 1990, page 2)

A SECOND TUATARA

As a result of studies by Charles Daugherty of Wellington University, New Zealand, a second species of Tuatara (*Sphenodon*) is about to be described. So far restricted to North Brother Island in New Zealand's Cook's Strait, the new animal is 30% smaller and more brightly coloured, with a greenish body dotted with white spots. Body measurements, scale counts and blood proteins all show distinct differences from the well-known *S. punctatus*. Ironically, the population was given species status a century ago, but was downgraded to a sub-species in the 1930s. Conservation measures are being considered to preserve this rare find.

FROM THE PRESS:

Binghampton N.Y. Press & Sun Bulletin, 14 March 1990

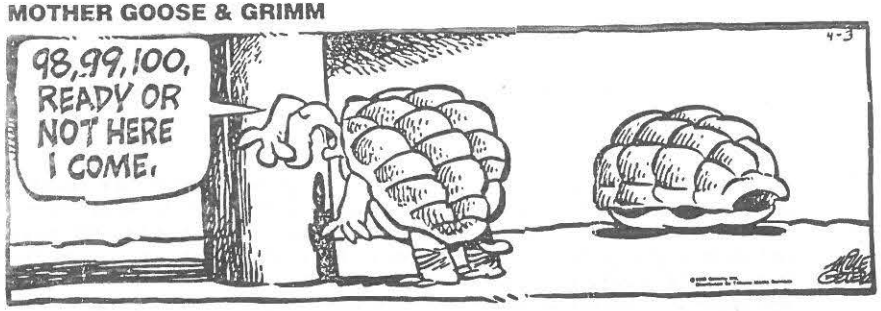
SUNSPOT

Owego cop says see you later, alligator

by Jennifer Freedman (Staff Writer)

OWEGO - The village of Owego has its own version of Crocodile Dundee.
His name is Jerry Pierce.
Pierce, a village patrolman, thought he left alligators behind when he left Florida five years ago. He was wrong.
At least, that's what he thought when he received a report Tuesday from a woman who said a man was walking a leashed 3-foot alligator down North Avenue.
Pierce, the department's "resident alligator expert," according to Sgt. Charles D. McDowell, responded to wrestle with the problem ... not the alligator.
His first thought? "What the hell is an alligator doing on the streets of Owego?"
Alas, the alligator turned out to be a monitor lizard. Fox Street resident John Dalola told Pierce he was just taking his favorite pet out for an afternoon stroll so it could catch some rays.
Some village residents didn't think it was very funny, though, Pierce said. "There were some surprised expressions on people's faces," he said. "It looks just like an alligator, only lighter."
McDowell said Dalola was advised to take his prehistoric pet home. Which is exactly where the pair were headed in the first place, Dalola said.

MOTHER GOOSE & GRIMM



Pretoria News, 3 January 1991, page 2

HOUSE SNAKE SWALLOWS FAMILY PET

SWEETIEPIE was her name and living up to it was her downfall.
The brown house snake who came visiting found Sweetiepie the hamster absolutely irresistible.
It swallowed her whole and the Cousins family of Port Elizabeth, who found the snake sleeping where the hamster slept before, thought they might have celebrated with one too many on New Year's Eve.
Sweetiepie was no more. And the 75 cm snake which had slithered into the cage for a bite to eat was too fat to escape.
"We examined the snake and found a number of bites on him. Sweetiepie must have tried to fight him off", a startled Mrs Maureen Cousins, of Greenbushes, said. **(Sapa)**

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

The Citizen, 22 December 1990, page 13

FIRST YOU BITE A SNAKE'S HEAD OFF . . . .

HONG KONG. - Perhaps the most spectacular way of eating snake is swallowing raw bladders. The dark green organ is extremely slippery and is reputed to have an intensely bitter taste.
In Hong Kong, snake traders remove the bladders from live vipers in front of their customers, partly to prove the authenticity of the product, and partly to entertain bystanders.
Bitten off
Dealers bite off the snake's head, and then slide the still-wriggling body of the reptile through their fingers as they search for the organ.
The conservation organisation World Wide Fund For Nature said it supported the government's efforts to monitor the snake trade.
"If unrestricted trade continues, snakes will one day become endangered," said Ms Amy Lau, the fund's conservation officer in Hong Kong.
Popular
"Eating wild animals seems to be quite popular among local residents. Some people even cross the border to have an exotic meal in mainland China, where restrictions are more relaxed.
They may not be aware that what they're doing is endangering wildlife. Adopting such a measure will at least remind them." **(Sapa)**

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

Pretoria News, 26 January 1991, page 17

SNAKE PARK HAS SPECIAL NEW ARRIVALS

Monté Maritz, Staff Reporter

The Transvaal Snake Park has some very special new arrivals - seven out of a litter of 13 baby puff-adders are of the very rare striped variety.
The babies, born last Thursday, are only the second of their kind in history to have been born in captivity.
The striped puff-adders are exactly the same as the normal puff-adder except for colouring.
They are extremely rare and according to Mr Graham Tomsett, curator of the Transvaal Snake Park, only one striped puff-adder has been sighted in the wild.
The mother of the litter was a member of the first litter of striped puff-adders, which happened "by accident", from two normal puff-adder parents, also at the Transvaal Snake Park.
The striped puff-adders are each worth about R2 500, and Mr Tomsett is very happy about the new arrivals.
"At this stage we intend to keep all the babies, because we'd like to start a breeding colony," said Mr Tomsett.

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

Pretoria News, 1991

NEW BOOK DETAILS MUSEUM COLLECTION

A historic book - the first of its kind in South Africa - on how to take care of museum collections, has been launched at the Transvaal Museum.
The book, edited by Mrs E M (Liz) Herholdt, is entitled "Natural History Collections - their management and value" and deals with the complicated and specialised field of taking care of museum collections.
The book, containing papers and contributions from 19 authors, including two American experts, took two years to complete.
Mrs Herholdt says it is aimed at museum directors but will also be of interest to people who show a keen interest in museums.
"It deals with the value to science, conservation and understanding of our own natural heritage.
"However, it was not written for scientists and thus its general comprehensive background could be of interest to students too," she says.
"It also gives a good idea of what museums are all about."
Mrs Herholdt says a consistently growing animal collection in museums has made the publication of great importance.
The book sells for R40 and is available at the museum's book shop, or from the Transvaal Museum Library.

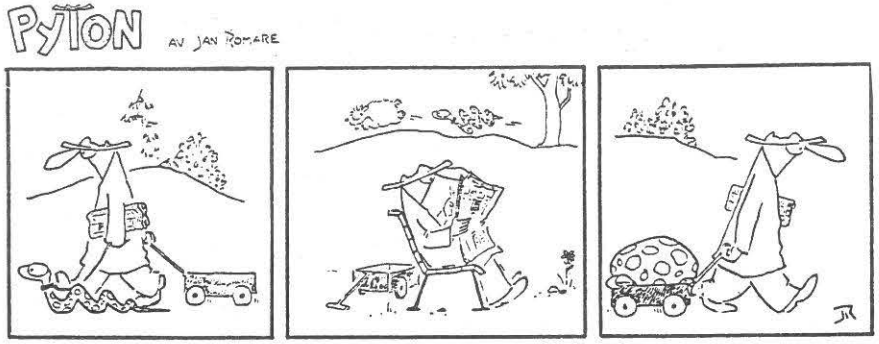
Submitted by: Mrs Rose Bates, 548 Boeing Street, Elardus Park, Pretoria, 0181.

The Citizen, 8 January 1991, page 11

SOUTH AMERICAN SNAKE FOUND IN WORKSHOP

Mechanics at McCarthy Motors, Randburg, were paid a visit by a very unusual customer yesterday - A South American boa constrictor which came slithering in.
Mr Gerald Brits, a mechanic, said the big roll-up doors had just been opened and he was getting down to work when one of the Black workers started screaming "there's a snake"!
He rushed to the scene and saw what he believed was a python. Using a piece of wire, the top of which he shaped in a V, he grabbed the snake behind the head and picked it up.
The snake was put in a box and Mr Brits contacted the Transvaal Snake Park.
"I was not frightened but I was very surprised. I never expected to find one here. The Black workers, however, were frightened. After picking up the snake, I turned around and everyone had scattered."
The curator of the Snake Park, Mr Scott Gillespie, said the snake, a female of just over a year old and about 1,5 m long, was tame and obviously someone's pet.
"The person who found it thought it was a python - the closest relation to the boa in South Africa - and I was sceptical about a python in Randburg. It turning out to be boa was even better as, although there are a few in South Africa, they are not indigenous."
To claim the snake, he said, the owner would have to have very good proof. The snake can be identified by its owner by a certain identification mark. However, even with proof, he would be very wary about giving it back.
"I realise snakes can escape but this is quite a large one. Most people are very careful with their pet snakes. This person was very careless and negligent. Allowing it out on a cold day is cruelty to animals, as far as I am concerned."
He said the snake could also have been killed if the person who found it thought is was dangerous. The boa, when full-grown, reaches about 3 metres - 4,5 metre boas have been recorded - and is fairly harmless as far as humans are concerned as it has no venom.

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

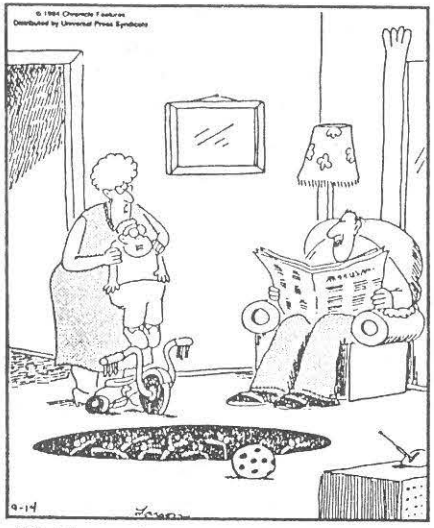


Pretoria News, 7 February 1991, page 8

SNAKES TAKE TO INDOOR LIVING

A Nelspruit woman opened her postbox to find a snake comfortably curled up under her morning newspaper.
It was not until men from the fire department removed it that Estelle Cass of Piet Retief Street was able to catch up on the news.
"As I opened the hatch and placed my hand inside the letterbox, I heard a loud hiss. Then I saw the bright green snake beneath my newspaper," Mrs. Cass said.
Firemen arrived shortly afterwards, caught the snake and released it on the outskirts of town.
This was the third time in two days that snakes had hassled Nelspruit home-owners.
On Monday afternoon, Daphne Botha of The Rhenosterkop plot noticed a snake slither through the house and into the kitchen, where it crept through a crevice in the floor.
"The family refused to sleep in the house unless the snake was found, so we had to chop up the wooden floor," Mrs Botha said.
About an hour later, after most of the floor had been ripped up, a Mozambican spitting cobra was found and killed.
A Johannesburg couple who moved into their newly acquired home were also pestered by a Mozambican cobra which hid under a ridge in the kitchen.
Paul Johnstone and his wife Petro tried desperately to get it out, but it was only after firemen came to their assistance that the snake was removed.

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



"That time was just too close, George! Jimmy was headed straight for the snake pit when I grabbed him!"

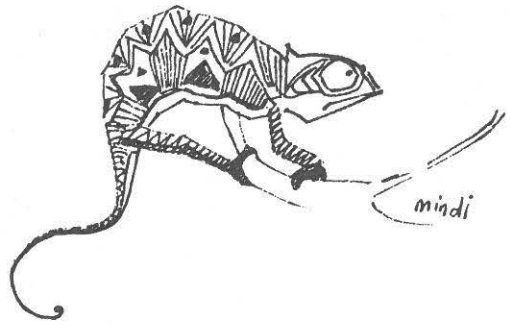
"Oh, no! I have several others — Oggy here is just a tad aggressive, so he has to stay in a cage."

Ficksburg News, vol. 13, no. 6, 5 April 1991, page 1

LOCAL BOYS FIND RARE SNAKE HERE

The enthusiasm of four young Ficksburg nature-lovers has led to what is only the fourth confirmed sighting of an interesting and rare snake species in the Ficksburg area and has earned a commendation from the experts for the youthful amateur herpetologists.
When the Hurlow triplets, Evert, Shaun and Wayne, and their younger brother, Norman, the sons of Trevor and Lenora Hurlow, heard that two snakes had been killed in a neighbour's grounds, they hurried over to get hold of the remains before they were destroyed.
The foursome quickly and correctly identified the larger specimen as a puff adder, but were stymied by the second snake.
They thereupon called in the help of a local fundi, who was equally puzzled - it appeared, he said, to be a stiletto snake, which should not be found in this area.
Greatly excited, the Hurlow boys put their find into a bottle with preservative and sent it through to the National Museum in Bloemfontein for identification.
There the snake was identified as a southern slug-eating snake, and although it was not the rare stiletto snake, the Hurlows were told that their find is equally unusual for this district.
Museum herpetologists said that according to a 1978 survey only six of these snakes had been sighted in the Free State and that since then a mere three more had been confirmed.
The boys' find is the fourth confirmed sighting and has contributed valuable information as to the snake's distribution, we were told.

Editor's note: Up until 1978, only four specimens of *Duberria l. lutrix* had been found in the Orange Free State. Since then another five specimens (including the snake report on above) have been collected in the province. All specimens are in the collection of the National Museum, Bloemfontein.



Sunday Times Supplement, 21 April 1991

LOCAL LEGUANS LATEST FAD ON COKE CIRCUIT

While the rhino and elephant grab the headlines around the world as endangered species, the tiny ouvolk leguan has wrested the spotlight at Sterkfontein.
No winner in the beauty stakes, this pre-historic leftover has become a victim of the lastest American pet fad.
They sell in New York and Boston for $*** (R***) apiece and are shown off at cocktail and cocaine parties. The suppliers of this illegal trade (in leguans, that is) have no difficulty in finding buyers at this price.
And getting the scaly creatures to New York is no mean feat, with or without their consent.
Leguans live only on eastern-facing slopes in networks of burrows that spread deep underground. The origins of the name "ouvolk", says First Nature Conservation Officer of the Department of Environmental Affairs at Sterkfontein Dam, Coenie Erasmus, is its proclivity for resting in the sun.
"The ouvolk leguan with its armour of spiky scales cannot adapt its body temperature according to the heat of the day, so to warm itself, it sits on the 'stoep' outside its burrow and stares at the sun with its jaw hanging open."
The scaly skin is probably partly responsibile for the "ouvolk" association.
Moved
Eighty percent of the world's leguan population lives in this small area of the Free State, so when the Qwaqwa government decided to build the town of Industriqwa on top of one of the largest burrows, the conservation department started a complicated rescue operation.
An existing burrow of leguans was found at Sterkfontein where the newcomers could be relocated.
But it wasn't that easy as the reptiles are fussy creatures. For each existing burrow, four new burrows had to be dug so that the reptiles could select one to their liking.
About 833 leguans were moved from what is now known as Industriqwa. Then began the next step of integrating the newcomers into the old community.
Leguans, by a system of natural attrition and open warfare, regulate the ratio of males to females and so relations with the existing occupants were not always neighbourly.
Many single males and females were thrown out of burrows to start their own colonies.
The relocation was a memorable success and the east-facing slopes around the dam are now hives of leguan activity.
Unfortunately, the problems of the leguan do not end there.
The township of Industriqwa still has a large population of leguans which regularly pop up in surrounding kitchens.
The South Sotho people have a superstition that if a house is to be left empty, its safety is ensured if you leave the body of a dead leguan inside.
A leguan that is brazen enough to stick its head above ground is likely to meet a quick end.
Apart from leguans, Mr Erasmus is occupied with more mundane conservation matters.

A roadblock the previous weekend had reaped a large roomful of sacks of stolen roots, bulbs of wild pineapple and Olifants-foot, bark and dead leguans - all used in traditional muti healing.
He says: "Each of these bulbs and roots represents an endangered tree or shrub. Each sack sells for R50, yet the environmental damage is enormous and the maximum fine on conviction is R30."
Nevertheless, the Department of Environmental Affairs always proceeds with a prosecution. Each sack could represent a hectare of destruction and roadblocks capture only the tip of the iceberg.
The other problem is littering and here Mr Erasmus points an unrelenting finger at city dwellers and locals.
Menace
He relates many tales of Transvalers picnicking near their luxury cars and leaving piles of litter within five metres of a rubbish bin.
The danger of littering is a growing menace as the Sterkfontein Dam is being developed into a major recreation centre. More than 18 000ha has been set aside as a nature reserve, stocked with oribi, grey and mountain reedbuck and indigenous game.
The dam is being divided into zones where the waters can be used for different sports such as fishing and boating, without interference from other water sports. The facilities will give everyone the opportunity to experience nature.

COMMENT ON THE ARTICLE *LOCAL LEGUANS LATEST FAD ON COKE CIRCUIT*

Rod Douglas

Department of Herpetology, National Museum
P.O. Box 266, Bloemfontein, 9300

The above article has not been reprinted for its journalistic prowess, value or merit, or its contribution to conservation and enlightenment, but rather to illustrate a sensationalistic and irresponsible type of journalism which is more liable to damage conservation efforts, rather than promote them. Because the article has been invaded by a plague of inaccuracies, it is also important to correct these inaccuracies in order that they are not perpetuated.

For those who are not familiar with the situation, let us first define the species we are discussing. The "Leguan" being referred to is not a Leguan at all, but the Sungazer or Giant girdled lizard, *Cordylus giganteus*. The Sungazer is a member of the family Cordylidae and may grow to nearly 40 cm in length. Of course the Afrikaans name, "Ouvolk", is given correctly, provided that it is not confusingly followed by the name Leguan. On the other hand, the referred-to Leguans or Monitors belong to a completely different family, the Varanidae, and may grow to 200 cm in length, as in the Nile monitor, *Varanus niloticus*. One can only but wonder in amazement as to how such confusion could occur.

Of course, for those who are familiar with the area and the situation in question, and for those who have put so much time, energy and effort into the conservation of this endangered species, this article must appear as some type of tragic joke with its over dramatization, blatant errors and misconceptions.

The irresponsibility of describing the Sungazer as a Jet Set fad, associated with cocaine, and relating an astronomical price (which the Editor has responsibly seen fit to edit and which was 6X higher than the inflated price observed on any price list), could only dramatically promote the collecting of this endangered lizard in the wild. It is this type of unfortunate reporting which could contribute to the creation of a previously non existent demand. Journalistic anthropomorphisms, such as Sungazers giving their consent for a trip to New York, will of course be ignored.

Even the derivation of the Afrikaans name "Ouvelk" could not be correctly given, as Ouvolk literally means "old people". This name is partially ascribed to the presumption that these lizards have a very long life span, and partially to the fact that they may rest almost motionless outside their burrows for extended periods. On the other hand, the name Sungazer correctly implies that this lizard spends considerable time "gazing" at the sun in order to thermoregulate.

The reference to its spiky scales preventing it from adapting its body temperature is somewhat ludicrous. As all lizards are ectotherms and do not generate their own body heat, but must absorb heat from the environment, it is highly unlikely that the Sungazer's scales would impair its absorption of heat. In fact the spiky scales would effectively increase the surface area of the lizard making it easier to absorb this heat. After observing Sungazers over many , many years, I have yet to observe even one individual sunbathing with its jaw hanging open like a gaping idiot.

At this point it would not be surprising to know that Sungazers do not only make their burrows on eastern slopes but make greater use of northerly, as well as westerly slopes. The fact that Sungazers do not make a network of burrows, but live in single burrows, either as individuals or as a group, should not come as any surprise either.

With an average Sungazer burrow extending for 1,5 to about 2,5 meters underground, the possibility of building a complete industrial town on top of even the largest burrow, must be considered one of the world's greatest engineering feats to date, paling even the construction of the great pyramids into total insignificance.

Again the journalists exuberance of exaggeration excels in his statement that four new burrows were dug for each existing burrow. In most instances, only one burrow was dug for each burrow excavated, while only later during the programme was it decided to provide two relocation burrows in order to accord a wider choice for the lizards. The false, and until now unheard-of and unrecorded mention of attrition and open warfare in Sungazers regulating their populations, makes for interesting reading, but can only be regarded as absurd.

Predation and natural juvenile mortality are two factors which appear to regulate populations more than anything else.

Perhaps a last most unfortunate point about this article is that the Journalist apparently did not make the slightest effort to confirm that his/her facts were correct. It is thus very clear that the sensationalism of the article was of prime importance, with the facts, truth and conservation of the species being entirely of a secondary nature, or of no consequence at all. This then leaves one with the distinct impression of a "sorry to clutter up the article with trivialities such as accurate reporting and let us promote nature conservation", type attitude.

Yes, at Sterkfontein Dam, one could certainly experience nature, in a dramatic and sensational way, found nowhere else in the world. You see, it just depends on who you read, as to how great the experience will be.

HERPETOLOGY 1990/91:

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HANDBOOK OF ALLIGATORS AND CROCODILES

by Steve Grenard
Orig. Ed. 1991 $29.50
ISBN 0-89464-435-1
Illustrated by Wanda Loutsenhizer

Summary
This handbook is the first comprehensive easy-to-read yet technically researched resource on the basic aspects of crocodilian biology, resource management, behavior, anatomy, physiology, and ecology. It is aimed at a broad audience of individuals concerned with crocodilians including wildlife officers in the field, wildlife researchers, environmental specialists, alligator/crocodile farming and ranching personnel, hunters, herpetologists, including students and generalists who need a thorough yet non-technical background, as well as general biology and zoology students and workers requiring familiarity with this class of reptiles, their biology, behavior, and environment.

While this handbook includes entries for living crocodilian species, a special emphasis has been placed on the American alligator and crocodile.

The text is complemented by nearly 100 line drawings and maps, specially commissioned for this book. Among the areas covered are detailed, anatomically correct drawings of crocodilian structure, prey attack, capture and feeding behaviors, and various aquatic profiles, as well as terrestrial gaits and new range maps based on the very latest available data. An illustrated key to the species based on nuchal and post-occipital scalation is also included. The bibliography contains over 500 cited and non-cited references on living crocodilians, which alone makes this book a valuable tool for researchers seeking additional information.

With respect to the American alligator, in addition to a general entry, there are 10 separate state entries including the latest information on range, population, nuisance, and other human-interaction statistics. Detailed information on alligator habitats are included under individual state entries, when warranted. Management programs are also discussed where they've been put into effect.

With regard to the American crocodile, its U.S. and extraterritorial ranges are documented from the most recent data available. The American Crocodile Recovery Plan from the U.S. Fish and Wildlife Service is reprinted verbatim, together with commentary. A special discussion concerning the crocodile population at the Turkey Point Nuclear Power Plant is also included.

In addition, there are separate entries for all other living crocodilians, which include range maps, geographic locations, scientific and common name(s), habitat, feeding characteristics, reproductive behaviors and data, when known, and a general commentary. Disputes in the literature regarding the validity of some classifications other than those established are reported.

Approximately 75 full-color and black and white photographs are also included.

About the author
Steve Grenard is a cardiopulmonary physiologist, registered respiratory therapist, professional herpetologist and medical/science writer. He is the author of 7 published books in science and medicine and hundreds of articles. He's been studying crocodilians for more than 25 years.

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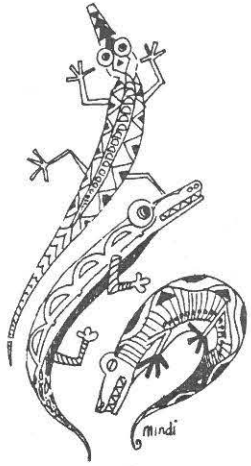

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Specifications: 164 pages, 24 color plates, 2 maps, 25 figures (8 photos), 6 x 9 inches, $22 clothbound and postpaid in USA (SSAR members $17). March 1991.

HERPETOFAUNA OF IRAQ, KUWAIT, AND THE ARABIAN GULF REGION
by Alan E. Leviton, Steven C. Anderson, Sherman A. Minton, and Kraig Adler

Handbook for identification of amphibians and reptiles of region extending from Turkish border through Iraq, Kuwait, and northern and eastern Saudi Arabia, including the Arabian (Persian) Gulf and lowlands bordering it (southwestern Iran, Bahrain, Qatar, and United Arab Emirates). Book contains checklist of 144 species and subspecies, including diagnosis and distribution, and an illustrated key. The 16 color plates (90 photos) depict every genus and most species. Separate chapter on venomous snakes with section on venoms and treatment. Extensive bibliography of Middle East herpetology and appendix by John E. Simmons on collecting and preservation techniques.

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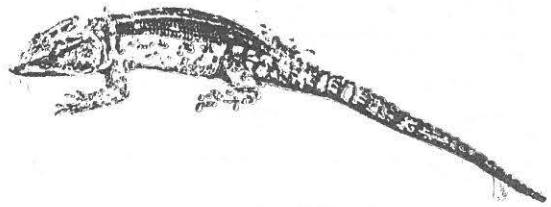

THE HERPTILE

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OTHER SOCIETIES:

The following is a list of some of the herpetological societies in South Africa:

TRANSVAAL HERPETOLOGICAL ASSOCIATION

The Secretary
Transvaal Herpetological Association
P.O. Box 723
PRETORIA
0001

Publications: *Nyoka News* and Newsletters.

EAST RAND HERPETOLOGICAL ASSOCIATION

The Secretary
East Rand Herpetological Association
P.O. Box 10743
ASTON MANOR
1630

Publications: *Tharu* and Newsletters.

BORDER HERPETOLOGICAL CLUB

The Secretary
Border Herpetological Club
P.O. Box 1849
EAST LONDON
5200

Publications: Newsletters.

TORTOISE SOCIETY OF NATAL

The Chairman
Tortoise Society of Natal
23 Montclair Road
DURBAN
4011

Publications: Quarterly Newsletters.

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2 369	Nedbank S. Plan Account	2 725.35		7 762	Journal		3 670.78
10 000	Standard Bank Deposit	11 500.00		-	Newsletter		1 774.16
28	Cash on hand	1.47	20 169.21	297	Postage, Photocopies and Telephone		483.61
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94	H.A.A. Book Club		-		U.B.S. Savings Account		
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					Standard Bank Deposit		
				11 500	at 28.2.1991	13 694.49	
				2	Cash on hand at 28.2.1991	130.25	25 230.37
R31 138			R32 016.18	R31 138			R32 016.18

AUDITORS' REPORT

We have examined the books, accounts and vouchers of the Association for the year ended 28th February 1991 and in our opinion and to the best of our knowledge and according to the explanations given to us, the above accounts give a true and fair view of the receipts and payments for the period stated. We were unable to verify the subscriptions in view of the payment in foreign currency by overseas members and the variation in rates of exchange.

BLOEMFONTEIN
14th June 1991

Warner Hunter

AUDITORS
CHARTERED ACCOUNTANTS (S.A.)

HERPETOLOGICAL ASSOCIATION OF AFRICA

MEMBERSHIP FEES AS AT 1 JANUARY 1990

AFRICAN MEMBERSHIP

ORDINARY MEMBERSHIP

1 year membership R20.00. Submit in Rand or equivalent U.S. Dollar plus 10%.
3 year membership R56.00. Submit in Rand or equivalent U.S. Dollar plus 10%.

SCHOLARS MEMBERSHIP

1 year membership R15.00. Submit in Rand or equivalent U.S. Dollar plus 10%

OVERSEAS MEMBERSHIP

DOLLAR PAYMENTS

1 year membership $15.00. Submit in U.S. Dollars by personal cheque or money order.
3 year membership $42.00. Submit in U.S. Dollars by personal cheque or money order.

RAND PAYMENT FROM OVERSEAS

1 year membership R29.00. Submit in ZAR or Rand by bankers draft or money order.
3 year membership R79.00. Submit in ZAR or Rand by bankers draft or money order.

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. SHOULD MEMBERSHIP BE TAKEN OUT IN THE LATTER PART OF THE YEAR, YOU **WILL** RECEIVE ALL JOURNALS AND NEWSLETTERS PERTAINING TO THAT YEAR.