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AFRICAN HERP NEWS

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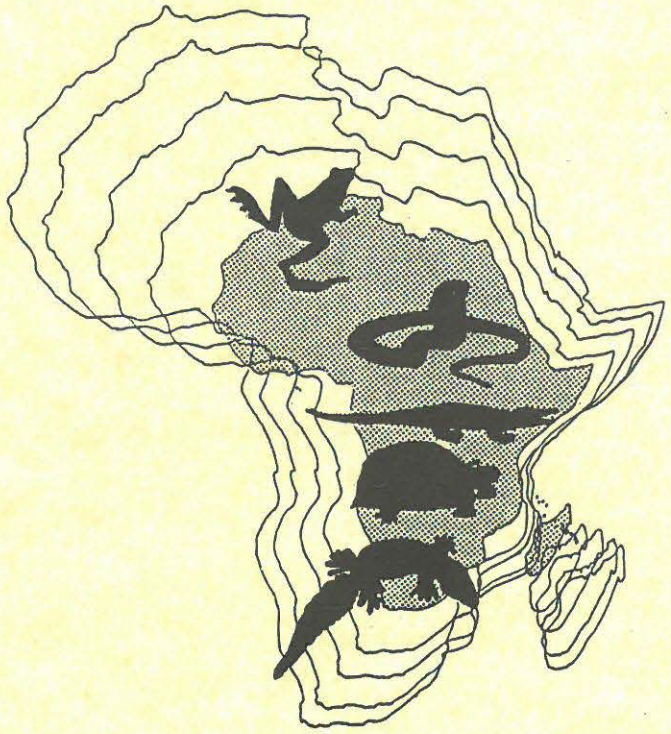
AFRICAN HERP NEWS

HERPETOLOGICAL ASSOCIATION OF AFRICA NEWSLETTER



DECEMBER 1992 NO. 18

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, short communications, husbandry hints, announcements, etc).

Editor's note:
Articles will be considered for publication as Short Communications provided they are original and have not been published elsewhere.

The views and opinions expressed in articles are not necessarily those of the Editor.

Articles and news items appearing in *African Herp News* may be reprinted, provided the author's name and newsletter reference are given.

Typist:
Mrs H. de Villiers, National Museum, Bloemfontein.

EDITORIAL

As many of you already know, the dates for the *Third H.A.A. Symposium on African Herpetology* are rapidly approaching. This symposium is to be held at the National Zoological Gardens in Pretoria from 10-15 October 1993 (see p. 2). A **FitzSimons Day** session will be held during the symposium, at which time specialists in the field of lizard systematics will be reviewing the various southern African lizard families. The symposium promises to be the best ever H.A.A. gathering, and I urge all interested parties to attend this very special meeting.

Elections for a new H.A.A. Committee were held during the latter part of 1992. Fourteen ballot papers were received on time, although two of these were disqualified, one being sent in by an Institutional Member and the other by an ordinary member who was unfortunately not paid up for 1991. Three late voting forms were also received, but these were not counted. Votes were independently counted by Alex Flemming, Liz de Villiers, Ina le Roux and myself (all employed at the National Museum, Bloemfontein) and all counts corresponded. The new committee became functional on 1 November 1992, and its members are shown on the inside front cover of this newsletter. The new H.A.A. Committee co-opted Mr Gerald Haagner as journal subeditor, and Mr Richard Boycott (Additional Member) will also continue to serve as journal subeditor. I would like to take this opportunity to thank all election candidates as well as the Electoral Officer, Mr Alex Flemming, for their willingness to participate in the elections.

As has been the case for some time now, I was very pleased at the seemingly unending stream of newsletter contributions sent in by members from various countries in southern Africa and overseas. It would be nice, however, to hear more from members in other African countries. I would like to emphasize here that the H.A.A. is an association which aims to serve the interests of all **African herpetologists**, and not only those in South Africa or southern Africa.

To give you a taste of what's coming in the next issue of *African Herp News*, I offer the following titles of articles: **Notes on the web-footed gecko *(Palmatogecko rangei)* in captivity** by Herbert Jauch, **The rules of Namibian herpetology** by Mike Griffin & D. Morsbach, **Recent books on husbandry and captive care: Part III** by Bill Branch, **Reptiles killed by noise?** and **Dangerous and not so dangerous snakes**, both by Johan Marais.

I would like to end by thanking all contributors of articles for this issue of *African Herp News*. Your support and enthusiasm are always appreciated.

All the best for 1993.

Mike Bates
Chairman/Newsletter Editor

THIRD H.A.A SYMPOSIUM OF AFRICAN HERPETOLOGY

NATIONAL ZOOLOGICAL GARDENS

PRETORIA

11-15 OCTOBER 1993

You are cordially invited to attend the *Third H.A.A. Symposium on African Herpetology*, to be held in Pretoria. In 1993 it will be 50 years since the publication of V.F. FitzSimons' book THE LIZARDS OF SOUTH AFRICA. There will be a special commemorative session, with invited speakers, on Southern African lizards. For the rest of the Symposium, there will be no restrictive theme, and presentations on any aspect of African Herpetology are welcome.

ACCOMODATION

Own reservations have to be made. A list of Hotels will be provided later.

PAPERS AND POSTERS

You are invited to present a paper and/or poster. Please indicate which on the enclosed intention form and provide a PROVISIONAL title.

IMPORTANT DATES

Please return the enclosed form before the 15th April 1993.
Third announcement and call for abstracts - May 1993.
Final announcement and registration form - July 1993.
Final date for return of abstracts - 10 August 1993.

ENQUIRIES AND ADDRESS FOR INTENTION FORMS

H.A.A. SYMPOSIUM COMMITTEE
Transvaal Museum
P.O. Box 413
Pretoria
0001
Republic of South Africa

Tel. (012) 3227632
Fax (012) 3227939

Registration will take place during the afternoon of the 11th October 1993 at the Transvaal Museum, Paul Kruger Street, Pretoria and will be followed by a Cocktail Party.
Further details regarding the Symposium will be published in the next *African Herp News*.

HERP-INFO

Advertisement rates:

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

Advertisements with payments made payable the H.A.A. should be sent to: Rod Douglas, H.A.A. Herp-Info, National Museum, P.O. Box 266, 9300 Bloemfontein.

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.

****

FOR SALE - SNAKES

Asian Rat Snakes (*Elaphe taeniurus freesii*). Large and healthy February 1993 hatchlings at only R175 each, or R150 each if more than one purchased. Packaging and freight costs extra if required. **Rod Douglas, P.O. Box 266, 9300 Bloemfontein. Tel. H (051) 365052; B (051) 479609.**

Black X Yellow Rat Snakes (F2) (*Elaphe obsoleta obsoleta X E. o. quadrivittata*). Affordable, easy to rear and ideal for beginners. February 1993 hatchlings at only R70 each, or R60 each if more than one taken. Packaging and freight costs extra if required. **Rod Douglas, P.O. Box 266, 9300 Bloemfontein. Tel. H (051) 365052; B (051) 479609.**

CHANGE OF ADDRESS

Mr Johan Marais's new address is:

Home: Private Bag 5142, Halfway House 1685, South Africa.

Work: Director, General Books, Southern Book Publishers, P.O. Box 3103, Halfway House 1685, South Africa.

Tel.: (011) 3153633
Fax: (011) 3153810

(His old address was: Manyane Game Lodge & Crocodile Farm, P.O. Box 3, Buhrmannsdrif 2867, South Africa).

REPORTING SNAKE BITE CASE HISTORIES

Stephen Spawls

The Sandford English Community School, P.O. Box 30056
Addis Ababa, Ethiopia

Recent issues of the H.A.A. Journal contain notes on Venom and Snakebite. I wish to comment on two aspects of these notes.

Firstly, Journal 37 (publication date May, 1990) contains two case histories by Gerald Haagner, on bites by a Boomslang (*Dispholidus t. typus*) and a Black Mamba (*Dendroaspis p. polylepis*). Both case histories have been published elsewhere, in the *British Herpetological Society Bulletin*, the Boomslang bite in Issue 21/22 (Haagner and Smit, 1987) (i.e. predating the HAA article) and the Black Mamba bite in issue 32 (Haagner, 1990), the date of this issue is given as "Summer 1990", thus published after the HAA article). None of the four articles are cross-referenced, i.e. all purport to be original information. In the case of the Boomslang bite, no new information is presented in the copy article, which repeats the original information almost word for word. The Mamba bite case history in the BHS bulletin differs only slightly - it contains a brief discussion on immobilisation therapy.

The articles in the HAA journal are thus in direct contravention with stated HAA policy - *viz.* "Only reports containing unusual features or new information are solicited" (see HAA Journal 37, p. 58). I am aware that from time to time scientific journals publish material that has appeared previously, where the original information may not be easily accessible, or is particularly pertinent. However, this information is usually acknowledged to have been published elsewhere. I am also aware that the instructions to authors in the HAA journal do not contain the proviso that the information should not have appeared in, or have been offered to, any other publication. With the recent upgrading of the HAA journal to a quality herpetological periodical, I urge the editor to ensure that future submissions have not been offered or published elsewhere, or, if they have, that this is made clear at the beginning of the article.

My second point concerns the reporting of snake bite case histories. Save the observation by Tilbury on the *Naja mossambica* bites, all case histories in Journal 37 concern what are known in the United States as "illegitimate bites", i.e. bites suffered by incompetent snake handlers. If there is anything to be gained from the reporting of these bites (a point I shall deal with presently), then surely, for the benefit of other snake handlers who wish to avoid bites, the EXACT circumstances of the bite should be detailed. At present, such circumstances are being either glossed over or alluded to in such coy terms as "the snake was being greedy". I suggest that as editorial policy, these case histories are only considered for publication in future if the exact circumstances of the bite are detailed. The following parameters, amongst others, may be useful (some of which already appear): size of snake; state of health of the snake, time of day, temperature of the snake or ambient temperature at the time, whether or not the snake was being restrained, and if so, then exactly how (by hand, in stick, in bag etc.), distance the snake struck from (if relevant); if the snake was being restrained, if so, then exactly how (by hand, in tick, in bag etc), distance the snake struck from (if

relevant); if the snake was being hand-held, then how did it manage to inflict the bite, and any other interesting circumstances (e.g. did the snake begin to struggle, twist inside its skin, get its maxillary teeth into the restraining hand, or jab the handler with a pointed tail tip), number of persons involved with the handling, what had been done with the snake up to that point in time. The latter is very useful - a snake that has been handled, captured, poked around or force-fed is liable to be under stress and may produce large quantities of venom, thus affecting the case history. The reporting of all these will aid persons who find it necessary to handle dangerous snakes.

This brings me to the actual reporting of the bite and its consequences, treatment etc. The cases detailed in the HAA journal are being reported, for the most part, by enthusiasts whose formal medical knowledge is zero. It seems to me that permitting this form of reporting is scientifically inadmissible, for the following reasons: Snakebite is a medical problem. In describing the case history and medical management of a snake bite (as has been pointed out by Tilbury, *op. cit.*), some form of medical training is required if the report is to be factual and objective. Permitting amateurs to describe in detail, in a reputable scientific journal, a medical case history, including details of symptoms, drugs administered etc., is, I feel, scientifically and medically unacceptable. No matter how well read an amateur herpetologist may be, if he or she has no formal medical training, then they have no business describing a medical case. They simply do not have the background knowledge or expertise, and are very likely (as Tilbury [*op. cit.*] points out) to misinterpret both symptoms and aspects of the case management. No scientific or medical journal would permit a person without formal medical training to describe the management of, for example, a heart attack case in which original information is presented. I feel we should not allow it in snake-bite cases. This is particularly so in cases where an amateur herpetologist is describing his or her own bite. Such an account, if unrestrained, is bound to be highly subjective and may explain some of the myths that have for so long surrounded the thorny issue of snake bite management, and the symptomology of certain species.

In support of this view, I refer to the Black Mamba bite case history described by Davidson (1979). The author, a medical doctor, treated a herpetologist who was very familiar with the snake and the supposed symptoms resulting from a bite. The victim consequently claimed upon arrival at hospital that he was suffering from loss of limb power (a known symptom of elapid bites), but this was not clinically detectable - in other words, he was imagining it! In February 1988, while capturing a large, 1,78 m long male Boomslang, I received a laceration from either a fang or a tooth. I was holding the snake in my left hand, I changed hands on the head and as I removed my left hand from the head, caught my left index finger on a protruding tooth or fang in the upper jaw. Within fifteen minutes I noticed that the wound was bleeding freely and excessively, a known symptom of anticoagulant venoms. I became faint and dizzy and had difficulty in standing. The area around the wound was throbbing and I developed a painful headache. I then travelled to Johannesburg Hospital by car, a journey which took six hours. Upon arrival, it was ascertained that there was no clinical evidence of venom having been injected. All the symptoms I have described were either imaginary or brought on by fear. If venom had been injected, my description of the case would have inferred that these "symptoms" were caused by the venom.

I am not attempting to suppress the publication of scientifically important information, but I respectfully suggest, to protect the integrity of the Journal, that the editor, in future publications of snake-bite case histories, considers the following guidelines:
1) As mentioned above, FULL details of the circumstances surrounding the bite should be mandatory.
2) If the case is not being reported by a medical practitioner or paramedic, then the author should be required to produce, from the practitioner(s) treating the bite, a signed statement to the effect that the symptomology, case history and details of drugs administered are correctly recorded. This should ensure that possibly subjective symptoms such as dizziness, headaches, itching, pain, nausea, fainting, skin clamminess etc. are accorded the attention that they merit (or do not merit, as the case may be).
3) The MS is then refereed by a medical doctor (Colin Tilbury would be an excellent choice) to ensure that the case history is objective, as far as can be ascertained.

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Davidson, R.A. 1979. A Case of Black Mamba bite. *J. Ass. Surgeons. E. Afr.*, pp. 27-29.

Haagner, G.V. 1990. *Dispholidus typus* - Envenomation. *J. Herp. Assoc. Afr.* **37**: 58.

Haagner, G.V. 1990. *Dendroaspis polylepis* - Envenomation. *J. Herp. Assoc. Afr.* **37**: 59.

Haagner, G.V. 1990. Notes on Black Mamba (*Dendroaspis polylepis*) envenomation treatment using the pressure/immobilisation first aid technique. *Brit. Herp. Soc. Bull.* **32:** 19-23.

Haagner, G.V. & Smit, R. 1987. Case History of a Boomslang (*Dispholidus typus*) envenomation in the eastern Transvaal, South Africa. *Brit. Herp. Soc. Bull.* **21**: 43-45.

Tilbury, C. 1990. *Naja mossambica* - Envenomation. *J. Herp. Assoc. Afr.* **37**: 58.

V-BOX CONTAINMENT: A RELIABLE METHOD FOR TUBING VENOMOUS SNAKES

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Conventional venomous snake tubing methods require that the specimen(s) be placed freely upon an open floor and directed towards the mouth of an acrylic or PVC tube. This is carried out in order for such specimen(s) to be probed, given injections or otherwise treated, have dried ecdysis or eyecap(s) removed and/or force-fed. Although some direction can be given for the specimen to crawl into the mouth of a tube, e.g. by redirecting the snake with a snake hook, moving the tube, or using a funnel directing the specimen into the tube, little can be done to prevent the animal from withdrawing and/or crawling in a different direction.

By using a V-box or "tuber" (Fig. 1), one can easily and safely contain the snake prior to tubing. Such a device offers a more reliable means of venomous snake immobilization prior to tubing by i) restricting the specimen to the box, ii) keeping the animal fairly placid, iii) not causing undue stress to the specimen and iv) offering safety to the handler by confining the snake.

Initially, such a box can be constructed of metal, plywood, or plexiglass and is of a triangular prism-shape design to channelize the movements of a venomous snake. With such channelization the snake can be directed towards one end or the other into which a snake tube is inserted. Such a box design can be built at a length of 4-6 feet for purposes of tubing larger elapids, viperids, and crotalids. The sides at the top of the box should start out wide, being a good 20 inches or so, tapering inwards at a 45^{O} angle towards themselves until they almost meet at a 3-4 inch wide base. Box height at 20 inches plus is essential in order to prevent the specimen from rapid escape.

Opposing sides are sealed in, so that to the snake can move from end to end. At one of the opposing side's base a hole is made in order for the snake to gain access to the tube. On the outside, grooved housing is made bordering the access hole, to accomodate sliding panels. These panels can have different hole diameters to fit the various sizes of tubing. Base support should be installed to prevent the box from falling over.

Trial V-box containment and sequential tubing runs produced satisfactory results with *Naja* species and *Hemachatus haemachatus*. Prior to V-box tubing these animals were often somewhat difficult to free tube. Upon placing single elapid specimens into the V-box, individual dispositions precluded several specimens from being rapidly tubed. Specimens that remained largely motionless needed some prodding before they crawled along the channel into the tube. Several specimens attempted to escape by climbing up the inclined walls, but were pulled back down with the use of a snake hook. Pulling on the posterior of the snake with the hook (Fig. 2) resulted in the animal sliding down the

side of the wall into the channel, after which several attempts got it moving along the channel into the tube. Occasionally a specimen would enter the tube but then withdraw. The snake was induced to crawl by tapping it on the tail or pulling it with the hook, so that it moved along the channel again, finally to enter the tube sufficiently.

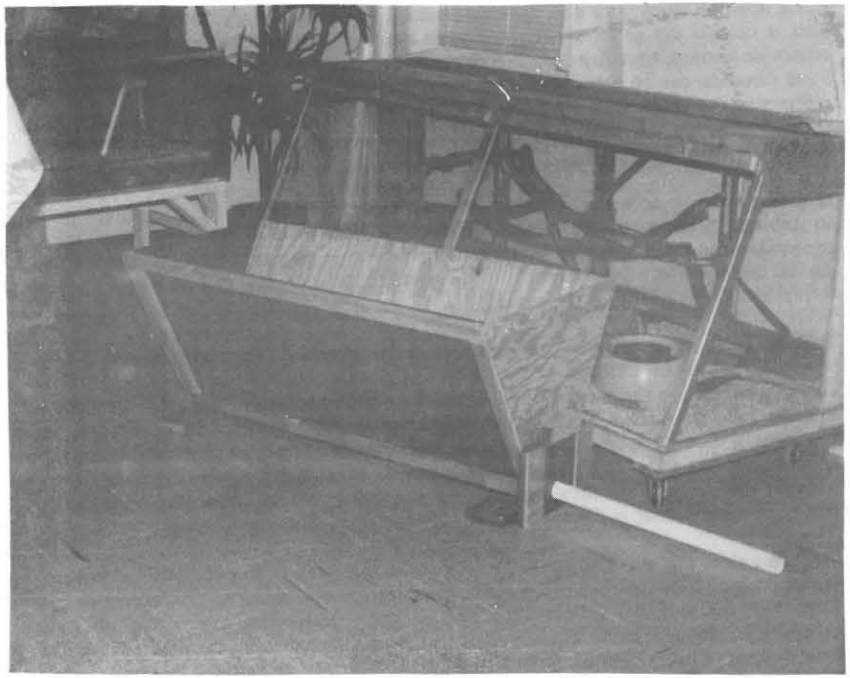

Figure 1: V-box or "tuber" for containing snakes prior to tubing.

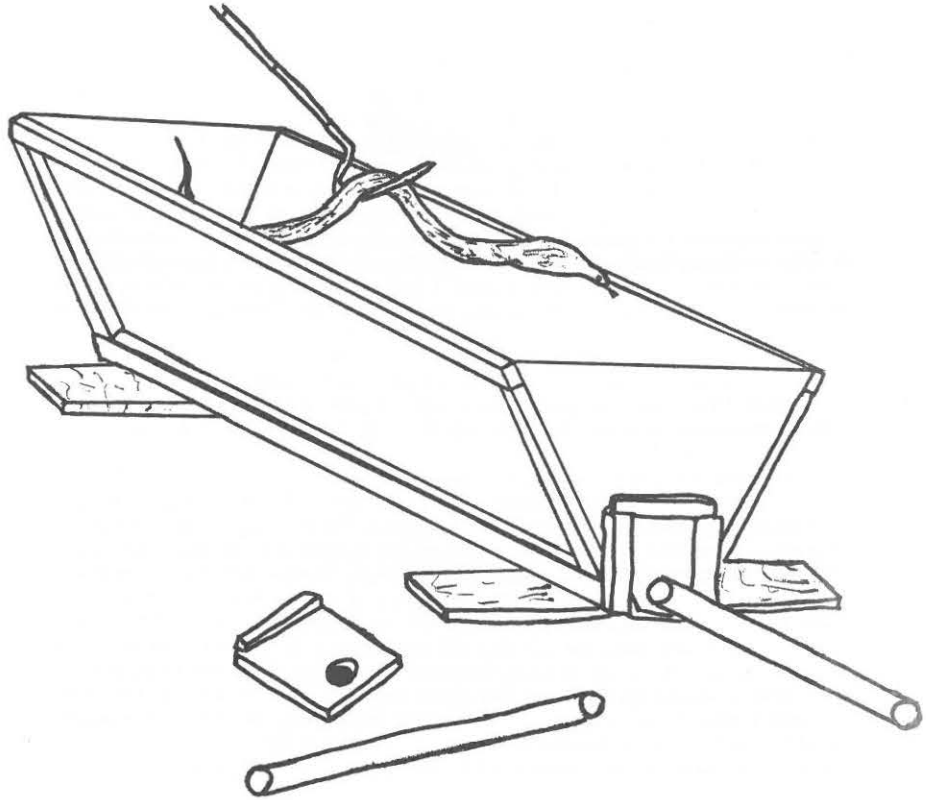

Figure 2: Handling a snake in the V-box using a snake hook.

"DYSTOCIA" IN SNAKES

E.V. Cock

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Harare, Zimbabwe

The short communication on the unsuccessful treatment of dystocia by G.V. Haagner in *African Herp News* **16**, November 1991, refers.

I have dealt with five cases I can remember where captive snakes have been "egg-bound". I prefer to use the term "egg binding" because I think of "dystocia" as a case where a foetus is stuck. I had one such potential case in a Gaboon Adder, *Bitis gabonica*, which fortunately resolved using a hot water bath. As a matter of interest, in viviparous species, the foetus is retained in a membranous egg sac until just before or at birth. Radiography of gravid females to confirm pregnancy reveals egg-mass shadows rather than foetal skeletons which is what I had expected to see. A Gaboon Adder declared to be non-gravid on X-ray produced twenty-odd offspring a month or so later!

Two of the egg bound cases were in Brown House Snakes, *Lamprophis fuliginosus*, one in a Common Egg Eater, *Dasypeltis scabra*, one in a Spotted Bush Snake, *Philothamnus semivariegatus* and one in an Eastern Green Water Snake, *Philothamnus hoplogaster*.

All cases were resolved by soaking the snake in warm water for a short period, then injecting liquid paraffin into the cloaca using a soft plastic tube on a syringe and gently working the eggs towards the cloaca with the fingers. The first egg may be difficult and patience is needed to get the terminal end of the oviduct and the cloaca sufficiently dilated. If the eggs have been retained for any length of time, they may be hard and unpliable. As the egg nears the cloaca, the latter may become inverted and it may be possible to visualise the entrance to the oviduct to enable one to grasp the egg with small forceps to help dilate the oriface while gently easing the egg out. Care should be taken not to rupture the egg. In birds, this can result in acute shock and death, and it is reasonable to assume that the same may apply to reptiles. Once the first egg is removed the others tend to come more easily, but they should also be removed manually, possibly with more liquid paraffin, because the oviduct musculature becomes stretched and non-contractile and will probably not be able to expel the remaining eggs.

The egg-eater died shortly after the eggs had been removed due to shock from extensively handling a snake which had not eaten for a long time and was weak and dehydrated, and where the eggs were shrivelled but very hard and mis-shapen. The owner had noticed the swelling above the cloaca some months before and, in any event, thought the snake was a male! I did tube feed it three times in twenty four hours before trying to remove the eggs, but with hindsight, this period should have been much longer.

Oxytocin, which is a fraction of the pituitary hormone, now made synthetically, acts to contract mammalian uterine muscle in the presence of oestrogens. It is presumed that it will also act on the reptile oviduct. The problem is that by the time anyone realises there is a problem the eggs have been stuck for some time (and by then are there any oestroges around?) and the eggs and the oviduct have dried, so that the eggs stick and the muscle in the region of the egg has been stretched for so long it is unable to contract. The oxytocin, if it worked, would contract the intervening muscle so that the egg would be trapped between two sections of contracted muscle. We never know just when a snake is due to lay, so we tend to wait, and the snake which lays some eggs and we think "that's the lot" may lay more eggs several weeks later. So at what stage should one intervene? In all the cases I have seen, the eggs have obviously been stuck for some time. I believe that for oxytocin to be effective it should only be used on "fresh cases", although this is difficult to determine. Perhaps only by observing the snake actually "in labour" with no results after a period of time, say three or four hours, and no further contractions.

I doubt that intraperitoneal ringers lactate or similar fluids will do more than partially rehydrate the snake and assist in kidney perfusion. The oviduct is lubricated by mucus from glands in its lining and rehydration will not result in fluid entering the oviduct nor in stimulating the glands to function once the initial stimulation for "parturition" has passed. On the other hand, a reasonable degree of hydration is essential for normal bodily functions, so there is definitely merit in getting a dehydrated patient rehydrated as soon as possible.

Calcium is essential for muscular contraction. In the absence or reduction of available calcium, contractions of the oviduct would be weak and ineffective. The rationale of adding calcium is that a heavily gravid female which has not eaten for some time might well have become calcium deficient. Many gravid snakes do not eat for some months prior to laying, so a deficiency is possible. On the other hand, a snake fed whole prey should obtain sufficient calcium from the skeleton of its prey. If one is going to use oxytocin, then extra calcium may be a worthwhile insurance. The problem is that all injectable calcium solutions are irritant to tissues and must be well diluted before injection. Many forms of calcium are not compatible with rehydrating fluids, the calcium being combined as an insoluble and unabsorbable precipitate, so careful selection (or experimentation) is necessary.

Successful relief of egg binding or dystocia in snakes by surgical means has been recorded. Snakes respond well to surgery and if I get a case I cannot resolve by the "milking" technique I proceed to surgery rather than use oxytocin or other medical alternatives such as synthetic ergometrine or prostaglandins.

The "milking" technique could be used by any sensible "hepetoculturist" who is gentle enough and patient enough. Surgery would require a veterinary surgeon. I accept that the majority of veterinarians are not interested in and have no knowledge of reptiles, but it should be possible to find someone prepared to show an interest - possibly those veterinarians who work with birds or wildlife. There is adequate literature and advice available to help them. Perhaps if the H.A.A. were to establish that there was a need for more veterinary surgeons to be involved in reptilian medicine the Veterinary Clinicians Group could be persuaded to hold a suitable course.

Is there a higher incidence of egg binding in snakes in captivity than in the wild? Is egg binding related to lack of exercise? Could the H.A.A. compare the incidence in snakes in cages as opposed to those in large pens? It would be better to prevent egg-binding than to treat it!

ABNORMAL EGGS LAID BY *LAMPROPHIS FULIGINOSUS*

André Lourens

709 Hollard Place, 323 Jacob Maré Street
Pretoria 0002, South Africa

On the 8th of November, 1991, a female Brown House Snake (86 cm in length) laid two eggs in captivity. At 12h00 the first egg had been laid, and at 13h00 the second egg was deposited. No mating had been observed. The eggs were laid in a container with a mixture of water and vermiculite.

Both the eggs were abnormal in size and shape. Using a ruler, it was determined that one egg measured 60 x 15,4 mm, whereas the other (slightly curved) egg measured 55 x 15,3 mm. After five days it was determined that the first egg had fouled, and upon opening it, a solid bluish mass was observed.

On the 8th of January, 1992, at 06h00, the hatchling from the second egg had made two cuts through the egg shell. I have noticed that during the hatching of Common Skaapsteker (*Psammophylax rhombeatus*) eggs, the moment that a cut has been made, the snake's head is pushed through the egg. In this case, however, the snake's head was not on the outside of the egg, but remained inside. When this was noticed, I immediately opened the egg, but found that the perfectly normal-looking young snake had drowned. This hatchling measured 19,5 + 4 = 23,5 cm total length. The egg was incubated at an average temperature of 28,4°C and an average humidity of 84,5%. The incubation period was 62 days.

According to Branch (1988), up to 16 eggs (30 x 15 mm) are laid in summer, with an incubation period of 60-90 days; hatchlings measure 190-260 mm in length.

REFERENCE

Branch, W.R. 1988. *Field Guide to the Snakes and other Reptiles of Southern Africa.* Struik, Cape Town.

SOUTH AFRICA - ZAMBIA CROCODILE CENSUS

Johan Marais

Crocodilian Study Group of Southern Africa, c/o Manyane Game Lodge and Crocodile Farm, P.O. Box 3, Buhrmannsdrif 2867, South Africa

In January 1992 the **Crocodilian Study Group of Southern Africa** was approached to join an expedition to the Southern Luangwa National Park in Zambia. The C.S.G.S.A. was to do a crocodile census covering some 200 km of river. Despite several reservations with regards to logistical problems, and a real concern that there would be too little water for the boats to operate safely (the river is full of hippo!), it was decided that the C.S.G.S.A. would become involved in the expedition.

A reconnaissance flight over the stretch of river that was to be surveyed revealed many hippo throughout the park and it appeared as though a lack of water could adversely affect the census. Another complication was the presence of heavily overgrown oxbow lakes that accommodated many crocodiles. Because of noxious water plants these lakes could not be surveyed by boat and very few crocodiles were visible from the air.

It was decided that four base camps would be established and that the census would start in the north and culminate in the south. Two teams would count simultaneously but on different stretches of the river, working away from the camp during the day and returning to the camp at night.

Each team consisted of a counter and an assistant to record data. It was also decided to make use of two jet boats, each with a "rubber duck" as backup. Each team was to cover a river distance of some 30 km during the day and return on the same stretch of water at night. The spotlight count at night was considered to be the most important, while the day trip was also to be used to collect ecological data. The entire census team would then relocate some 60 km south and repeat the exercise. G.P.S. systems were to be used to plot exact localities.

A large party consisting of twenty-four vehicles and more than sixty people drove up to the Luangwa Valley in convoy, a distance exceeding 2 500 km. Various organisations such as the 4 x 4 Club, the Jeep Club and the Zodiac Club participated.

Upon arrival in the Southern Luangwa National Park we soon realised that the water level, which was dropping by the hour, was far too low to conduct an accurate census. The jet boats overheated and the "rubber ducks" got stuck on sandbanks. The main channel was also inundated with hippo, adding to our problems. Within an hour of putting the boats to water, the census was called off.

The organiser of the expedition tried desperately to keep the census alive and even suggested that we continue with the census from the river bank, using jeeps! At this stage we got the impression that some of the organisers had hoped that a favourable result from the census could enable them to obtain, at little or no cost, breeding

crocodiles from the Zambian government in order to establish a commercial crocodile farm.

It is of utmost importance that responsible scientists become involved in activities such as the attempted Luangwa census to ensure that meaningful data is collected and published and, in doing so, help ensure that dwindling natural resources are not unjustly depleted for commercial gain.

WARTHOG ATTACK ON A PYTHON IN THE NYLSVLEY NATURE RESERVE

Niels H. Jacobsen

Chief Directorate: Transvaal Nature and Environmental Conservation
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I was recently informed of a possible python killing by warthogs on the Nylsvley Nature Reserve in the Transvaal. According to nature conservator Hannes Swanepoel, a large 3,5 m long python was found at 11h00 on 26 May 1992, still alive but extensively injured, outside burrows which were clearly inhabited by warthog. The snake had extensive bite marks along its body, one of which was about 30 cm in extent and from which the skin, flesh and bone had been removed, and from which the intestines protruded. The snake was dispatched and was found to be in the process of sloughing its skin, as the eyes were milky. In this condition it could have wandered into an occupied burrow and was attacked. Warthog are known to occasionally feed on carrion, and in this case it is possible that they were trying to feed on the python after it had been attacked by a predator. However, although the attack was not witnessed, the only spoor in the area were those of warthog, and Hannes Swanepoel was certain that warthog were responsible. Hannes also informed me that a similar incident was observed by one of the game guards on a previous occasion. Hopefully, details of this incident will be forthcoming.

MORPHOMETRIC AND STRIPE PATTERN DIFFERENCES BETWEEN GEOMETRIC TORTOISE *(PSAMMOBATES GEOMETRICUS)* POPULATIONS IN THE SOUTH-WESTERN CAPE PROVINCE

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INTRODUCTION

The distribution range of the south-western Cape endemic geometric tortoise, *Psammobates geometricus*, is characterised by isolated populations occurring in low-lying renosterveld habitat from Gordon's Bay in the south towards Piketberg in the north (the area generally known as the Swartland), and in the Worcester/Tulbagh and Ceres valleys to the northeast (Fig. 1) (Baard, *in press*.). The fragmented nature of its distribution pattern is mainly the result of past agricultural practices in this region, which, from a nature conservation viewpoint, have had a detrimental impact on the status of the species. It is estimated that more than 96% of formerly suitable *P. geometricus* habitat has been either irreversibly destroyed or altered, resulting in the loss of at least 150 000 geometric tortoises (based on current densities) (Baard, 1990).

With the fragmentation of the former geometric tortoise "meta-population" into smaller, sometimes non-viable units, questions have been raised as to whether or not the resulting "sub-populations" might differ in some way or another to the extent where they may represent subspecies or at least different morphometric subgroups. In evolutionary terms, however it is my opinion that time has been too short for major deviations away from the typical *geometricus* morphotype and that there would not be any major differences between the populations. However, since there are some bioclimatic differences between the three areas (Swartland, Worcester/Tulbagh valley and Ceres valley), one might expect minor differences in some characteristics.

It is therefore the aim of this short communication to explore some morphometric characteristics of five geometric tortoise populations in order to demonstrate possible differences that may exist. Hopefully this will stimulate similar studies on other species in order to create baseline data sets which would be useful for comparative purposes.

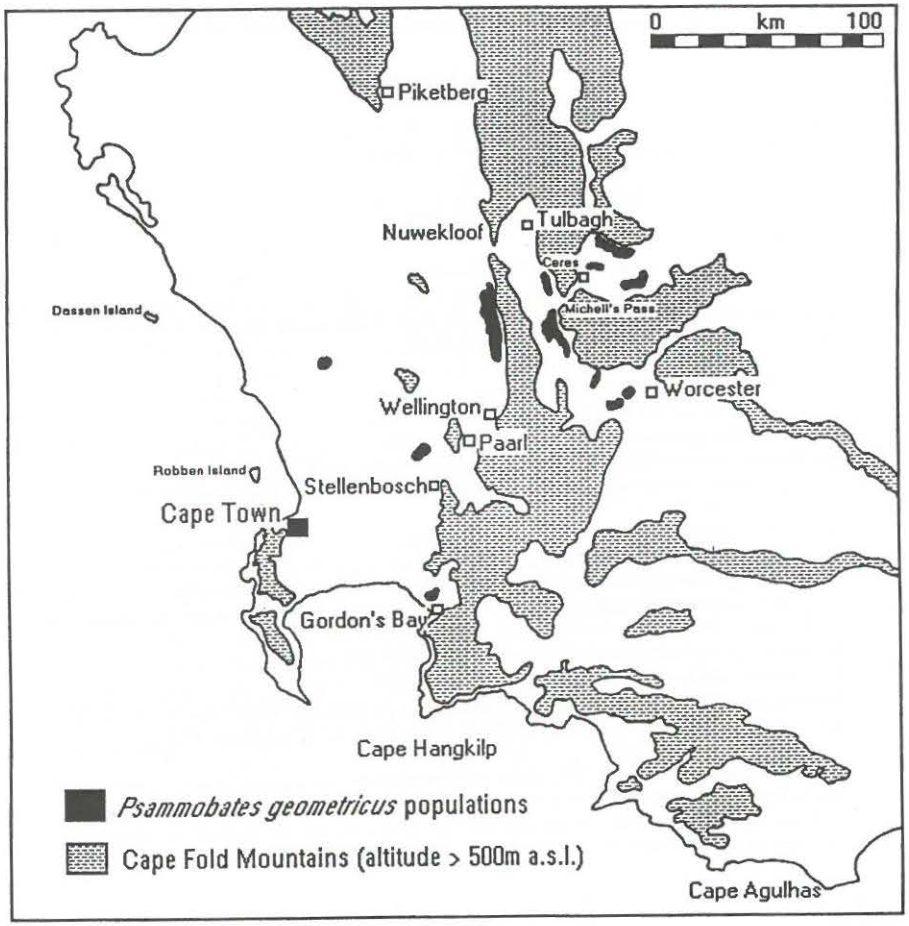

Figure 1: The current distribution of *Psammobates geometricus* in the south-western Cape Province, South Africa. Note the fragmented nature of the distribution range.

METHODS

Basic morphometrical information was collected from individuals of five *P. geometricus* populations (26 from Elandsberg Private Nature Reserve, 29 from Eenzaamheid Nature Reserve, 30 from the Hottentots Holland area, 17 from the Ceres area and 30 from the Worcester/Tulbagh area) and subjected to analysis of variance (ANOVA). Differences were judged significant at the 95% confidence level. The chosen variables are:

TLEN	=	Total straight carapace length in mm.
HT	=	Total carapace height in mm.
WTH	=	Total carapace width in mm.
MASS	=	Total individual mass in g.
VOLUME	=	Individual volume (mm^3) calculated by the mathematical function $0.666\ \pi$ (½TLEN x ½WTH x HT) - the volume of a hemi-ellipsoid.
STRIPES	=	Total number of rays on vertebral shields #1 to #5 (individual tortoises may be identified by the unique combination of these rays).

Males and females were treated separately (except in the case of STRIPES) since there are significant sexual differences (females are larger and heavier than males) (*vide* Baard, 1990).

It must be pointed out that the population samples may be somewhat biased in terms of size of individual animals, and that it only presents minimal data. For the purpose of this paper, however, these were the only data available, and further detailed studies on these populations may yield different results.

RESULTS

Table 1 represents a summary of body measurements and vertebral shield ray counts for the five geometric tortoise populations referred to above.

In terms of male body measurements, there were no major significant differences between the populations, but indications are that, with reference to VOLUME, males from Eenzaamheid (2 800.5 mm^3), Hottentots Holland (2 768.3 mm^3) and Worcester (2 779.9 mm^3) grow to a slightly larger size than those from Elandsberg (2 448.3 mm^3) and Ceres (2 460.4 mm^3).

Female carapace height from Elandsberg differed significantly from that of Eenzaamheid, Hottentots Holland, Ceres and Worcester, and on average, Elandsberg female carapace length, width and mass were consistently lower than that of the other four populations. Elandsberg female volume (3 651.9 mm^3) differed significantly from that of Eenzaamheid (5 434.8 mm^3), Ceres (5 171 mm^3) and Worcester (5 290.4 mm^3).

ANOVA of shell measurement relationships (TLEN/HT, TLEN/MASS and HT/WTH) indicated significant differences between the Hottentots Holland population and the rest (with the exception of TLEN/MASS for Eenzaamheid which approached the Hottentots Holland situation).

With regard to the total number of rays on the vertebral shields (STRIPES), there is a consistently significant difference between individuals from the Hottentots Holland area in having a higher average number (55.6 rays/individual) than those from Elandsberg (49.9), Worcester (48.6), Eenzaamheid (48.3) and Ceres (48.2) (Fig. 2).

Table 1: Average body measurements of five geometric tortoise (*Psammobates geometricus*) populations from the south-western Cape Province (ELAND = Elandsberg Private Nature Reserve, EENZA = Eenzaamheid Nature Reserve, HOTTE = Hottentots Holland area, CERES = Ceres area, WORCE = Worcester/Tulbagh area).

Variable	ELAND	EENZA	HOTTE	CERES	WORCE
Males	(n = 14)	(n = 10)	(n = 18)	(n = 7)	(n = 18)
TLEN (mm)	110.2	116.1	114.3	111.0	116.6
HT (mm)	55.1	57.8	59.3	55.1	57.4
WTH (mm)	76.6	79.2	77.5	76.3	78.9
MASS (g)	221.6	255.4	253.2	220.3	225.1
VOLUME (mm^3)	2 448.3	2 800.5	2 768.3	2 460.4	2 779.9
Females	(n = 12)	(n = 19)	(n = 12)	(n = 10)	(n = 12)
TLEN (mm)	117.9	134.9	124.7	132.8	133.5
HT (mm)	67.0	76.2	73.6	75.1	75.1
WTH (mm)	87.0	99.9	90.2	98.4	99.0
MASS (g)	349.7	500.7	403.0	501.6	461.1
VOLUME (mm^3)	3 651.9	5 434.8	4 445.9	5 171.8	5 290.4
Male/Female					
STRIPES (n)	49.9	48.3	55.6	48.2	48.6

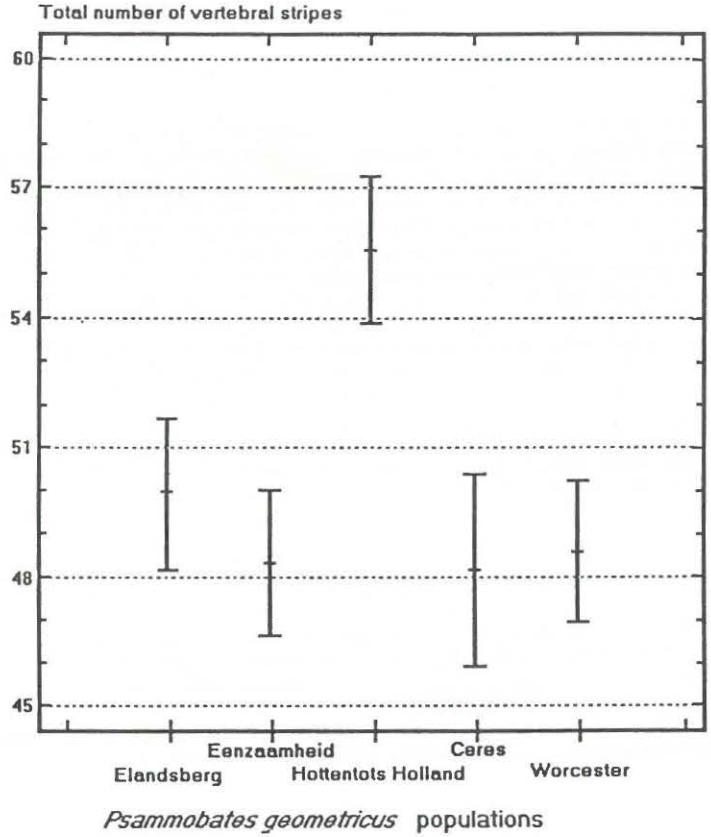

Figure 2: Graph representing the number of vertebral shield rays from five *Psammobates geometricus* populations from the south-western Cape Province, South Africa. Vertical bars represent the means plus 95% confidence limits.

DISCUSSION

It is somewhat difficult to put the observed differences between the five populations into perspective since the data sets present only minimal data. Comprehensive morphometric data sets with more variables subjected to multivariate analysis would yield more conclusive results. Also, genetic studies on the genealogical relationships between these populations would present a clearer picture.

I am therefore cautious to present any conclusive statements, but would be prepared to state that a) individuals from the Elandsberg Private Nature Reserve appear to be generally smaller than those from other populations, b) females from Eenzaamheid, Hottentots Holland, Ceres and Worcester appear to be larger than those from Elandsberg, possibly having a larger capacity for reproducing, and c) shell measurement relationships of individuals from the Hottentots Holland population differ from the rest. The influence of bioclimatic conditions on these populations in the areas where they occur (rainfall, temperature, habitat and food availability may influence growth rates) has yet to be investigated.

The consistently higher number of vertebral shield rays in the Hottentots Holland population (these data were also logarithmically and square root transformed), and its different TLEN/HT and HT/WTH relationships may be interpreted as an inbreeding effect. It is doubtful that this is an adaptation to local environmental conditions.

Studies such as the one reported here can be useful in determining population parameters which may be applied to identify individual tortoises of unknown origin. This in turn may be useful when individuals of unknown or doubtful origin need to be relocated.

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THE GRID AND LOCUS CODE METHOD FOR PLOTTING LOCALITY RECORDS

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Most southern African herpetologists use the quarter-degree grid and locus code method for plotting locality records on maps (e.g. Poynton, 1964; Lambiris, 1989; Jacobsen, 1989; Broadley, 1990). Some workers use a finer scale, e.g. De Waal (1978), who used eighth-degree units for plotting localities. When a comprehensive and thorough survey of a region has been conducted (e.g. De Waal, 1978), it is realistic to plot records on the basis of eighth-degree units. This allows for a more detailed visual impression of distribution patterns than the quarter-degree method, and also allows for a more accurate determination of ecological correlation with distribution (De Waal, 1978). It is obvious that the smaller the plot, the better represented is the species "true" distribution, but as many areas are still poorly collected, it is not always realistic to plot distribution records on a finer scale than the quarter-degree unit.

With regard to the use of the quarter-degree in biogeographical studies, Poynton (1992) noted that "there is only a barely acceptable resolution of distributional patterning in areas of abrupt change: for example, the quarter-degree quadrat in which Pietermaritzburg is located includes a spectrum from Afromontane grassland and mist forest to dry bushveld."

The term "degree unit" is preferred to "degree square", as the area formed by two successive degrees of latitude and two (superimposed) successive degrees of longitude is not a square, especially outside the tropics (De Waal, 1978, p. 9). This also applies to quarter or eighth-degree units. For example, and with reference to the 1 : 50 000 topocadastral map, the quarter-degree in which the Orange Free State town of Reddersburg falls, i.e. 2926-Ca, has a latitude of 24,2 km and a longitude of 27,6 km, whereas an eighth-degree unit in this area has a latitude of 12,1 km and longitude of 13,8 km. The shape of these units are therefore more rectangular than square. It should be noted that Fig. 1 is "square" shaped, but this is simply for convenience sake. It can be used for any degree-unit, as the number of subdivisions will always be the same.

The use of the locus code for plotting the locality 2926-Aa1 is indicated in Fig. 1 and can be explained as follows: Each degree-unit (1 x 1 degree-"square") is designated by a four-figure number, consisting of the values of the degrees latitude and longitude as indicated at its north-western corner (2926 in Fig. 1; i.e. 29°S, 26°E; latitude given first), followed by the code letter for the given half-degree unit (i.e. A in Fig. 1), then the code letter of the given quarter-degree unit (i.e. a in Fig. 1) and finally the code number of the given eighth-degree unit (i.e. 1 in Fig. 1; shaded area). There are therefore 64 subunits of approximately equal size in each degree-unit. Eighth-degree units in Fig. 1 are indicated between dashed lines as shown in each quarter-degree unit. To avoid cluttering the figure, the code numbers (1 to 4) for eighth-degree units have been indicated in quarter-degree unit 2926-Aa only.

Fig. 1 can also be used for determining the half, quarter or eighth-degree into which a given set of map co-ordinates is located. The map co-ordinates (degrees and minutes) for the farm Helderfontein (184) in the district of Bloemfontein (Orange Free State) are 29°16'S, 26°32'E. To determine the eighth-degree unit for this locality, and with reference to Fig. 1, the following procedure is adopted: The horizontal line at the top left hand corner represents latitude 29°S, whereas the vertical line represents longitude 26°E. The minutes latitude are marked in intervals of five on both the left and right vertical lines, whereas minutes longitude are similarly marked on the top and bottom horizontal lines. It is important not to be confused as to which is latitude and which is longitude, as failure to correctly identify either in the initial stages can result in entirely erroneous locus codes being determined. As "rule of thumb", remember that horizontal lines represent latitude and vertical lines represent longitude, but the minute readings for latitude are taken from the left or right vertical line, whereas for longitude they are read off the top or bottom horizontal line. To determine 16'S, one can use pencil to mark the position on the left and/or right vertical lines, i.e. latitude, and to determine 32'E, one marks the position on the top and/or bottom horizontal lines, i.e. longitude. When connecting the marked points by straight lines, one finds that the lines cross at the position marked by the solid square in Fig. 1. The locus code at this position is determined by first writing down the values of the degrees latitude and longitude, i.e. 2926, then determining the half-degree, i.e. B, then the quarter-degree, i.e. c and finally the eighth-degree, i.e. 1. The locus code for 29°16'S, 26°32'E is therefore 2926-Bc1.

In some cases there may be uncertainty as to what the correct locus code should be. For example, when the latitude reading is 29°30'S and longitude 26°30'E, one might take the locus code to be 2926-Ad4, 2926-Bc3, 2926-Bb2 or 2926-Da1. The correct code is 2926-Ad4, i.e. 30' belongs to the 0 to 30' part of the degree-unit 29°S, 26°E (i.e. not part of 30 to 60'). Another example is when the co-ordinates are 29°30'S and 26°29'E. In this case, one might give the locus code as either 2926-Ad4 or 2926-Cb2. However, the former is the correct code, as once again, 30'S is regarded as part of the 0 to 30' part of the given degree unit.

It is of great importance that the correct locus code be determined, as incorrect codes may easily enter the literature, especially when researchers are forced to rely on published records. The Geographic Distribution section of the H.A.A. journal relies on accurate locality data. It is therefore hoped that this article will be of assistance to those persons uncertain about the proper use of the grid and locus code method in zoocartography.

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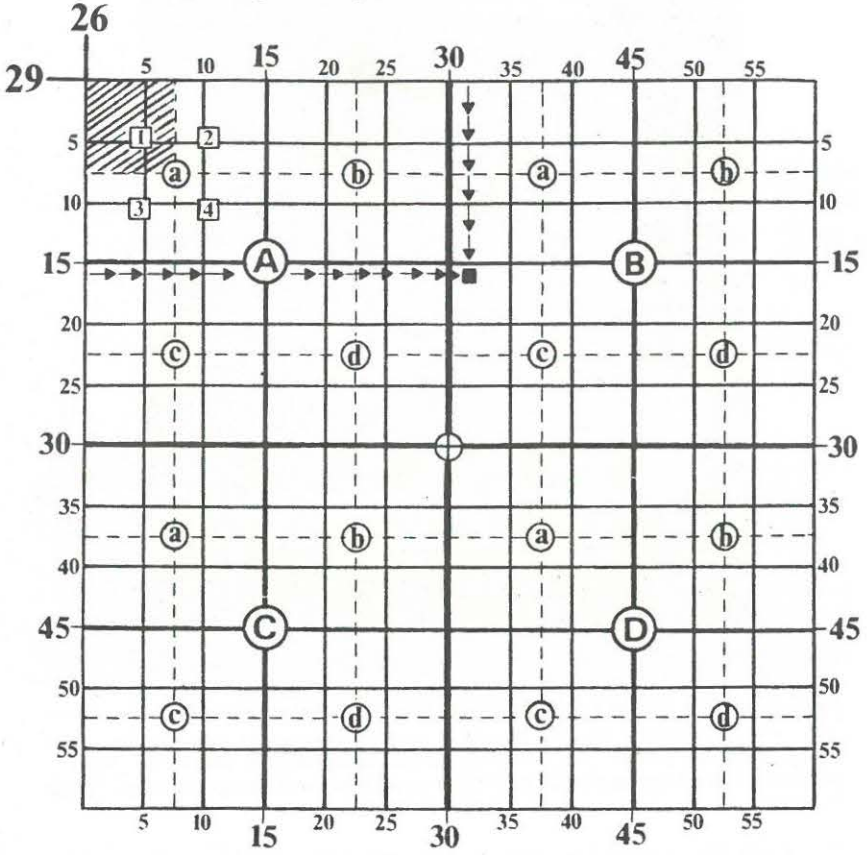

Figure 1: Degree unit 29°S, 26°E, illustrating the use of the locus code for plotting localities on maps (see text).

LIZARD PROBLEMS

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Earlier this year while casually driving home and minding my own business, the writing on a trailer in front of me penetrated my subconscious - "Caution - Lizards in Transit". However, before I could take in much more it turned off my route and I continued home with some strange thoughts circling in my skull. Who would need a trailer of that size to transport lizards? - just how many lizards could one pack into such a trailer? - perhaps it was refrigerated or double-walled to prevent overheating? - perhaps ...? Just thoughts.

A few days later I spotted it again but didn't get close enough for a detailed look. However, I was sufficiently stimulated to phone the Natal Park's Board to report my observations and to querry if anyone had obtained permits for the capture and transport of a large number of lizards. When I described the size of the trailer the conservators were also worried.

Now I am in the habit of taking my dog for a walk in the late evening, and on taking an alternative route, I spotted a "Caution" sign on the trailer in the driveway of a private residence. I quickly made a note of the registration number and the address and passed it on to the N.P.B. the following day.

Both the N.P.B. and myself (and I'm sure you readers also) were relieved to discover that the trailer belongs to a band of musicians who use it to transport their instruments and sound equipment - They call themselves:

"Larry and the Lounge Lizards"

Well, you never know, do you?

(Thanks to the owners for laughter and subsequent permission to photograph their "Lizard" trailer.)

HARRY (BRUSHER) MILLS 1840-1905

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Making a living in the New Forest, Hampshire, England, was hard in the 19th century. It was not uncommon for people to earn extra money through unusual activities such as catching snakes or squirrels or digging up and selling royal ferns. One such snake catcher, Harry (Brusher) Mills, became quite famous because he was the first to realise that showing snakes to visitors could be a tourist attraction.

Harry Mills, born in 1840, gained his nickname "Brusher" from sweeping cricket pitches. For 19 years he lived in a Charcoal Burner's hut made of sticks and turf in the middle of the forest.

To catch snakes, Brusher used a long stick with a forked end and a pair of tongs. He would pin the snake down with the stick and then pick it up just behind the head using the tongs.

He sold most of the snakes to the London Zoo for a shilling each. Other snakes were used for making adder fat which was used as medicine. He also made money by demonstrating his snake-catching abilities to visitors to the forest.

He is buried in Brockenhurst churchyard, and the headstone at his grave reads as follows: THIS STONE MARKS THE GRAVE OF HARRY MILLS, [BETTER KNOWN AS "BRUSHER MILLS",] WHO FOR A LONG NUMBER OF YEARS FOLLOWED THE OCCUPATION OF SNAKE CATCHER, IN THE NEW FOREST, HIS PURSUIT AND THE PRIMITIVE WAY IN WHICH HE LIVED, CAUSED HIM TO BE AN OBJECT OF INTEREST TO MANY, HE DIED SUDDENLY JULY 1ST 1905, AGED 65 YEARS. The public house *The Railway Inn* was renamed the *Snakecatcher* in his honour.

There are still adders in the New Forest, but no more snake catchers. All three species of indigenous British snakes are found in the New Forest:
Adder - *Vipera berus*
Grass Snake - *Natrix natrix*
Smooth Snake - *Coronella austriaca*

This information was obtained from the New Forest Museum & Visitors Centre, Lundhurst, Hampshire, England.

"BRUSHER MILLS."
The celebrated snake catcher of the New Forest.

FROG'S SKIN TOXIN KILLS DOG

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In the late summer of 1985 I was called tothe farm "Merino Vlakte" ±8 km south of Warmbaths by Mr J. Friedman to examine some cattle for pregnancy.

My 5 year old Jack Russel bitch was always with me. This dog was an addicted ratter and would always, while I was busy working, be busy looking for rats and mice.

About 2 pm, the farmer and I walked across his farmyard towards the shed where labourers were sorting garlic. On thw ay my dog became hysterically interested in a sheet of corrugated iron lying in the sun. Thinking that she had found a rat I lifted the sheet for her. The dog rushed in and bit a large Bullfrog (*Pyxicephalus adspersus*) and shook the frog but almost immediatly dropped it. The frog appeared to have small white beads on its skin. Otherwise to me seemed a normal aggresive Bullfrog - dark greeny grey back, white marks over the eyes and yellowish belly, somewhat darker under the throat.

the dog foamed at the mouth and rubbed her face on the ground tothe amusement of Mr Friedman and myself. At this moment I had no reason to suspect any thing other than normal irritation caused by frog skin to the mouths of dogs.

We continued to the shed some 20 meters away and collected a bag of garlic and went to the truck. I called my dog who was a little way away and appeared to be walking with her nose sniffing the ground. I was about to turn away when I saw her trip on the smooth ground and fall. She staggered to her feet again but could not lift her head. When I got to the dog she was dead and could not be resuscitated.

I could only put her death down to the skin toxin of the frog which seems to have been agravated by the frog baking in the sun under the corrugated iron.

Note: Dr Niels Jacobsen (Transvaal Nature Conservation Division, Pretoria) comments as follows on the above report: *"The identification of the amphibian involved is open to doubt as I have not seen a bullfrog (*Pyxicephalus a. adspersus*) produce a white exudate on its skin. This is more likely to be a toad, probably* Bufo garmani*, which is the most common in the area. The toxins were discussed by Stuart in an earlier H.A.A. journal. However, this case does provide some insight into the toxicity of these glandular exudates to sensitive animals. Perhaps other readers have additional observations which they might like to share with us?"*

REPRINT

THE USE OF ADRENALINE IN THE TREATMENT OF SNAKE VENOM OPHTHALMIA CAUSED BY SOUTHERN AFRICAN SPITTING COBRAS

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Snake venom ophthalmia in southern Africa is associated with members of the cobra family (Elapidae). Five of the nine cobra forms occurring in the region are capable of 'spitting' their venom. Three of these forms are endemic to the southern African region (south of the Zambezi river), while two forms continue their distribution northwards in Africa. The spitting cobras of the region are represented by four 'true cobras' (*Naja*), i.e. the Mozambique spitting cobra, *Naja mossambica*; and the Black-necked spitting cobra, *Naja nigricollis*, represented by three subspecies; *N. n. nigricollis*, *N. n. nigricincta* (endemic) and *N. n. woodi* (endemic). The final member of this group is the Rinkhals, *Hemachatus haemachatus* (endemic). The Rinkhals, although very similar to the true cobras, is not considered a true cobra, as unlike the aforementioned true cobras it is viviparous (gives birth to young), has keeled dorsal scales and apart from two poison fangs, has no other solid teeth in the upper jaw.

Spitting cobras do not actually 'spit' in the true sense of the word. Spitting is achieved by the snake exerting extreme muscular pressure on the venom gland, which forces the venom down the venom canal in the fang. The venom canal of a spitting snake is modified in that it has an "L" shaped bend just prior to exiting the fang, with the discharge orifice being located on the front of the fang, just above the fang point. This results in the venom being ejected forward as a spray from the fangs. 'Spitting' is largely a defence mechanism usually employed only when the snake is threatened. When capturing prey, the snake will not rely on spitting but will always bite, injecting venom directly into the body of the prey. Spitting cobras are capable of spraying their venom accurately into the face of an adversary at distances of over 3 metres (FitzSimons, 1980). The largest of the southern African spitting cobras is *N. n. nigricollis*, which may attain a length in excess of 250 cm (Broadley, 1990). This is considerably shorter than the King cobra, *Naja hannah*, which has been reported as growing to nearly 600 cm in length (Deoras, 1965).

Eye envenomation may lead to severe but transient conjunctivitis, followed by severe swelling of the conjunctiva and eyelids (NTBS Res. Man., 19**), as well as temporary and even permanent blindness (Warrell & Ormerod, 1976). After reviewing recent literature on the treatment of snake venom ophthalmia, and with the exception of one reference, Pringle (1958), all sources recommend washing the eyes out with water, saline solution, milk or any other bland solution. It has also been recommended that the eyes be washed out with dilute antivenom (serum). Broadley & Cock (1982)

recommend a dilution of 1 part serum to 4 - 5 parts water. However, these fluids do nothing to relieve the incredible pain, which may continue for 3 to 4 days. Pringle (1958) suggested the use of Adrenaline eye drops, and this has been found, by the author, to be the most effective method of treatment for snake venom ophthalmia. Dilute adrenaline eye drops (1: 1000) have been used successfully many times in the treatment of snake venom ophthalmia caused by both the Mozambique spitting cobra and the Rinkhals. By using only one to two drops per eye, the burning sensation is relieved instantaneously, with no impairment to vision, and with no other side effects whatsoever. The only contra-indications experienced through the excess application of the drops has been an excessive dilation of the pupils, which may cause slightly impaired vision for a short period of time, and which could possibly lead to damage of the eye if exposed to bright sunlight. Other side effects which may be experienced from the frequent use of adrenaline eye drops are oedema and hyperaemia. Unfortunately, judging from the literature, the use of adrenaline eye drops appears to be poorly known in southern Africa, particularly amongst doctors, and is thus very seldom, if ever used. It is important to note that adrenaline is contra-indicated in narrow-angle glaucoma, as the dilation of the pupil could cause an increase in intraocular pressure (Martindale, 1977).

The use of adrenaline is not altogether surprising when one considers its action and some of its medical uses. Adrenaline has been used during operations to reduce bleeding as well as to check bleeding from superficial wounds and abrasions (Martindale, 1977). It is also recommended for neutralizing the positive effects of serum sensitivity when using the ophthalmic test of placing the serum in the conjunctival sac (Deoras, 1981), and for the treatment of other forms of anaphylaxis (acute reactions to serum, or serum sensitivity) (Visser, 1978; Broadley & Cock 1982; Christensen in Broadley, 1990). Despite the above uses of adrenaline, it must be stressed that adrenaline has no effect as a treatment for snake bite when injected, and may even prove fatal in certain instances.

The action and effectiveness of adrenaline is related to it being a vasoconstrictor, whereby it constricts arterioles and capillaries when applied locally to mucus membranes and exposed tissue (Martindale, 1977). It would appear that adrenaline constricts the blood vessels of the eye membrane, thus inhibiting the absorption of venom. Owing to the immediate cessation of pain, it would seem that adrenaline possibly also has some analgesic or anaesthetizing effect. How effective the above described treatment is after an extensive time lapse is not known, as the treatment has always been applied within five to ten minutes of eye envenomation.

Although eye envenomation has not been reported to have caused death in humans, death has been observed in the rat, *Rattus rattus*, by the author. An adult rat was observed receiving a direct spray of venom in its eyes from a Mozambique spitting cobra, and the intense discomfort experienced by the rat was immediately apparent. It is difficult to state at exactly what stage the rat could no longer see, or whether or not fear had some effect on its demise, but after approximately forty-five minutes the rat died in considerable rigor. This illustrates just how serious, and damaging snake venom ophthalmia can be if not treated immediately.

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This article is reprinted with kind permission from *Cobra* **6:** 3-5 (Oct-Dec 1991)- Quarterly Newsletter of the Madras Snake Park Trust, India.

FROM THE PRESS

FROGS TODAY, MAN TOMORROW?

Sunday Star Review, 15 September 1991, page 4

The world's amphibian population, which is as old as the dinosaurs, is spiralling towards extinction. An international "Frog Force" has been mobilised to examine the crisis, writes **Robin Mckie.**

An international Frog Force is to be set up to tackle one of nature's most baffling and worrying problems - the demise of the planet's amphibians.

Scientists have discovered that from Australia to Africa, and from Europe to the Rocky Mountains, millions of toads, frogs and salamanders are dying. Animals that have been around since the time of the dinosaurs are disappearing rapidly.

As a result, the International Union for the Conservation of Nature has decided to discover the cause, as a matter of urgency, and last month set up a Task Force on Dwindling Amphibian Populations.

Threat

The union fears that apart from the risk of losing dozens of species of precious amphibians, their demise may also be the first signs of a wider, more pernicious ecological threat.

Just as canary deaths once alerted miners to the threat of gas underground, so amphibian extinctions could be a warning to the world that rising pollution levels are beginning to take serious effect. Today the toad, tomorrow mankind.

The discovery of the threat to the world's frogs was first made two years ago when delegates at an international herpetology conference, held in Canterbury, England, began to compare notes and found to their horror just how alarming had been the decline in numbers.

Across the world, amphibians are dying out in startling numbers, they found. Even in pristine areas, apparently unaffected by the worst effects of Western pollution, such as the forests of Costa Rica and Brazil, the problem is severe.

Since then, matters have continued to deteriorate. A recent issue of the journal *Science*, for example, reveals that researchers studying the Western Toad in central Oregon have found that for the past two years nearly 100 percent of toad eggs died in the early stages of development.

"The adult toads which produced the spawn were normal, and the eggs brought into laboratories for study developed normally - which strongly suggests that those in the wild have been succumbing to unknown environmental factors. It is now up to the task force to determine these factors," states the journal.

Similarly in Britain, conservationists have discovered that the common frog is today anything but that. Indeed, the animal - which once thrived across the nation in wetlands, ponds and meadows - is now believed to be on the verge of extinction.

Acidification of lakes and ponds, and rising levels of metal pollution in river water, are wiping out common frog tadpoles throughout the land.

One survey, carried out by scientists at Trent Polytechnic in Nottingham, England, revealed common frog populations had plummeted to below 30 percent of their former levels in the past three years.

What particularly worries scientists is the realisation that the common frog is known to be an adaptable amphibian, and can usually spawn successfully in tractor ruts, puddles and discarded bath tubs. If it is declining rapidly, then something very serious must be wrong with our environment.

But why are frogs and toads so vulnerable and sensitive at present? Scientists believe the answer lies with their lifestyle. Because they have two stages of life - being born in water and living on land - amphibians come into contact with twice the usual number of harmful substances.

Chemicals

In addition, their permeable skin allows them to absorb chemicals, so that they are particularly vulnerable to poisons found in contaminated soil and polluted water.

Most of these problems usually arise locally, of course - from an accidental release of chemicals from a factory, for example.

That does not represent a threat to the entire family of world amphibians, however. The real alarm arises because amphibians are dying in unison across the globe - which suggests a far more pernicious cause is to blame.

Its discovery is now a priority goal for the union's Frog Force.

The Observer

A NEW NAMIBIAN SNAKE

Bull. Chicago Herp. Soc. 27(7): 159, July 1992

"D.G. Broadley [1991, *Annals of the Transvaal Museum* 35(14): 209-215] describes *Lycophidion namibianum* from an adult female from west of Usakos, Karbib District, Namibia. The new species was formerly confused with *L. hellmichi*. The new species seems to be distributed in the Bushy Karoo-Namib Desert, with most specimens coming from rocky areas. However, one specimen was found in the Namib Desert trying to climb up a dune. The author reviews other Namibian species in the genus *Lycophidion* and presents a key for identification."

SANGOMA'S BIG SNAKE RAPED ME - WOMAN

The Citizen, December 1992

Moses Mamaila

SNAKE RAPE!

That's what Lesotho widow Matebuho Mahlehla, 44, says happened to her.
She says the "huge" snake nearly "crushed my pelvis in two."
The Khubetoane villager said that on November 6 she was sleeping when she heard her door being battered.
She said: " I looked through the window and I could not believe my eyes. I saw a huge snake.
"I was terrified! In a few minutes, the creature had broken the door and entered the hut."
Then the two-metre long reptile, as thick as a big man's thigh, threw itself on to her bed and roamed her body.
Mahlehla became so terrified that she went into a trance.
After sexually harassing her, she said the snake said she could "cry like a baby" and left her in agony.
She said her body was "nearly sliced in half" near her private parts.
Mahlehla walks with the aid of a stick and in great pain.
Spoken to on her way to hospital, she said she had waited to see if God would answer her prayers and heal her wounds before seeking treatment.
But the pain seemed to grow worse by the day, so she decided to "come out" in the face of disbelief and humiliation.
She said: "Whether you believe me or not doesn't matter, but as you can see, that snake molested me."
In a shocking admission, Mapulelo Senkgana said the snake was hers.
She said it was shown to her in a vision by her ancestors as she had two spirits, that of sangoma and prophet.
Did she send it to rape Mahlehla?
Senkgana said her snake went to Mahlehla's house because it "wanted blood ... they had slaughtered an animal".
"I owe my snake blood. That is why it left me for the night and went to search for blood. But if ever it molested the woman I really cannot say."
Although Senkgana admitted owning the snake in front of many villagers who were upset about its "criminal activities", they were calmed.
It was clear that she had escaped trial by the "people's court".

Submitted by: Dr N.H.G. Jacobsen, Transvaal Nature Conservation Department, P.O. Box 16120, Pretoria North, 0116, Republic of South Africa.

SLANGE WORD WAGHONDE!

Vaal Weekland, 11 September 1992

Marlene Miller

Vervang daardie lastige ou blafbek met 'n slang. Dit is die nuwe gier wat die Vaaldriehoek beetgepak het - of is dit gepik het?

Die 28-jarige mnr. Fazel Bhyat, inwoner van Roshnee en sakeman van Parys, wat sy slange uithuur aan mense wat met vakansie gaan of lang tye van die huis af weg is, vertel dat daar reeds mense in Johannesburg is wat van hierdie nuwe metode gebruik maak om hul huise te beskerm. Net die waarskuwingsbordjie op die voordeur van sy huis, wat lui "Beware of the snakes", is al genoeg om net daar in jou voetspore om te draai!

Die luislange wat nie giftig is nie, word ook uitverhuur vir kabaretvertonings en films.

Vreemde troeteldiere
Mnr. Bhyat is van kindsbeen af al lief vir diere en het toe reeds sy familie op hol gehad met sy snaakse troeteldiere. Hy is ook 'n voëlboer van formaat. In sy netjiese hokke by sy huis boer hy hoofsaaklik met jako's (African Greys), kaketoes, arapapegaaie (macaws), geel, blou en wit ringnekke, snorparakiete, Alexandrians, Millies, Gold en Mantles en Pentagonians. Ook hierdie waardevolle voëls word deur slange beskerm.

Hy het reeds in 1983 slange aangeskaf en sedertdien is hierdie reptiele deel van sy lewe. Hy glo dat die slange hom help ontspan. Die slange word gereeld gebad en eet eenkeer per week sowat ses muise op 'n keer.

Eet, toe, Brutus!
Dit was juis toe hy met sy geliefde Brutus, 'n luislang van byna twee meter wat sowat 11 kg weeg by die deur inkom, dat 'n mens besef het 'n slang bly 'n grillerige ding, maar 'n groot afskrif middel is hy beslis.

Met Brutus wat oor my nek en rug gesels het en sy warm asem in my ore geblaas het, sodat die hoendervleis op my hele lyf uitslaan, het ek besef dit is tyd om na die res van die dieretuin te gaan kyk.

Nog diere wat deel uitmaak van sy boerdery is Kol visse, en ander koue en warmwater visse, asook twee sy-apies waarmee hy teel.

Enige belangstellendes kan Fazel bedags by tel 01601-4543 skakel.

I CONGRESS: CANTERBURY 1989

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WORLD CONGRESS OF HERPETOLOGY

also serving as Section of Herpetology *of the* International Union of Biological Sciences (IUBS)

6 July 1992

Dear Editor:

The World Congress of Herpetology is pleased to announce the upcoming publication of a new book, "HERPETOLOGY: CONTEMPORARY RESEARCH ON THE BIOLOGY OF AMPHIBIANS AND REPTILES," which will be issued in December 1992. This volume comprises the official record of our successful First Congress, which was held in the United Kingdom in 1989. The book includes:

- Revised and updated versions of the Plenary Lectures
- A detailed, illustrated summary of the First Congress
- A list of all Delegates with their *current* addresses.

The volume is being produced as a cloth-bound book that will be a convenient summary of our discipline for students and will serve as a valuable general reference. The publisher, the Society for the Study of Amphibians and Reptiles, has kindly agreed to make the book available at a reasonable price. We believe that this volume will be of broad interest and will provide a benchmark against which progress in our field can be measured.

Since the World Congress has no journal or newsletter of its own, we must rely on herpetological societies around the world to help publicize this book. We would be most grateful it you could do so through your society's publications. Please find enclosed a copy of our advertisement for that purpose; you may use it as is or may extract the key information to fit your available space.

Your consideration is greatly appreciated.

Sincerely yours,

Kraig Adler

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Leiden, January 6, 1993

WORLD CONGRESS OF HERPETOLOGY

To Affiliated Organisations of WCH

Dear Colleague,

According to the constitution of WCH it is my duty to inform you about the fact that at the Second World Congress 10 new members of the Executive Committee and 26 new members of the International Herpetological Committee have to be elected. By means of this letter I am asking your cooperation to make nominations and make the following announcement known to your members by publication in your organisation's journal or newsletter. I want to point out that governing bodies of Affiliated Organisations may make their own nominations for the International Herpetological Committee.
If by any chance the entire message is too large for you to print comfortably in your journal, you could leave out the paragraphs 'Present EC members' and 'Present IHC members'. However, due to the provisions about seconding nominations this information is very useful and I would prefer to have it printed with the rest of the message.
Hoping you will see fit to publish the enclosed "Call for nominations" as soon as possible, and thanking you for your cooperation,

Sincerely yours,

Dr. Marinus S. Hoogmoed
Secretary General WCH

Affiliated Organisations: All-Union Herpetological Committee (Russia); American Society of Ichthyologists and Herpetclogists; Asociación Herpetológica Argentina; Asociación Herpetológica Espanola; Australasian Affiliation of Herpetological Societies; Australian Society of Herpetologists; British Herpetological Society; Canadian Association of Herpetologists; Centro Pirenaico de Biologia Experimental; Chinese Society of Herpetologists; Chinese Society for the Study of Amphibians and Reptiles; Czechoslovak Zoological Society (Herpetological Section);Deutsche Gesellschaft für Herpetologie und Terrarienkunde; Herpetological Association of Africa; Herpetological Society of Japan; Herpetologists' League; Indian Herpetological Society; Israel Herpetological Information Centre; Nederlandse Schildpadden Vereniging; Nederlandse Vereniging voor Herpetologie en Terrariumkunde; Polish Zoological Society (Herpetological Section); Sociedad Herpetológica Mexicana; Sociedade Brasileira de Herpetologia; Societas Europaea Herpetologica; Societat Catalana d'Ictiologia i Herpetologia; Societé Batrachologique de France; Societé Herpetologique de France; Society for research on Amphibians and Reptiles in New Zealand; Society for the Study of Amphibians and Reptiles; Sveriges Herpetologiska Riksförening.

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African Herp News **18:** December 1992

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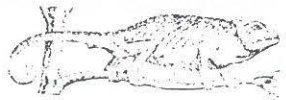

WORLD CONGRESS OF HERPETOLOGY

Call for nominations for membership of the Executive and International Herpetological Committee.

During the Second World Congress of Herpetology, to be held in Adelaide, Australia between December 29, 1993 and January 6, 1994, half of the members of the Executive Committee and half of the members of the International Herpetological Committee will retire. Membership to both these committees is open to all herpetologists and should be as representative as possible of herpetological subdisciplines and the geographic distribution of herpetologists. Retiring members are eligible for re-election.
Nominations to fill the vacancies can be taken now till August 29, 1993.
Nominations must be seconded either by any two members of either the Executive or International Herpetological Committees, or, in the case of the International Herpetological Committee, by the governing body of an Affiliated Organisation.
Where the number of nominations exceeds the number of vacancies then the election will be by open ballot (during the business meeting) of a format to be determined by the Executive Committee.

Present Executive Committee members (with asterisk retiring at SWCH): R. Avery, UK; W. Böhme, Germany; *D.G.Broadley, Zimbabwe; *R.L.Carroll, Canada (Treasurer); *G. Casas-Andreu, Mexico; *H.G.Cogger, Australia; *J.C.Daniel, India; *I.S.Darevsky, Russia; W.E.Duellman, USA; T.R.Halliday, UK; *M.S.Hoogmoed, Netherlands (Secretary General); K.Klemmer, Germany; *M.R.K.Lambert, U.K.; J. Lescure, France; J.M.Savage, USA; *P.E.Vanzolini, Brazil; M.H.Wake, USA; Y.L.Werner, Israel; R.Whitaker, India; *E.Zhao, China.
Present International Herpetological Committee members: R.A.Acuna Mesen, Costa Rica; P.Alberch, Spain; *J.-L.Amiet, Cameroon; N.Ananjeva, Russia; C.Andrén, Sweden;* H.Arnold, UK; A.M.Baéz, Argentina; *I.Baran, Turkey; *W.Beçak, Brazil; *B.D.Bell, New Zealand; L.J.Borkin, Russia; S.D.Bradshaw, Australia; *W.R.Branch, South Africa; *E.R.Brygoo, France; J.Castanet, France; C.H.Daugherty, New Zealand; *A.Dubois, France; *J.R.Formas, Chile; D.R.Frost, USA.; *C.Gans, USA.; D.M.Green, Canada; *H.Heatwole, USA.; *R.E.Honegger, Switzerland; *R.F.Inger, USA.; U.Joger, Germany; *R.F.Laurent, Argentina; *M.J.Littlejohn, Australia; *S.H.Mao, Taiwan; L.R.Maxson, USA; R.W.McDiarmid, USA; *G.Nilson, Sweden; *G.Pasteur, France; E.Pianka, USA; J.B.Rasmussen, Denmark; *A. de Ricqles, France; *O.Rieppel, Switzerland; Z.Rocek, Czechoslovakia; *B.Sanchiz, Spain; *Y.Sawai, Japan; R.Shine, Australia; M.P.Simbotwe, Zambia; *Z.Spinar, Czechoslovakia; I.R.Swingland, UK; *L.P.Tatarinov, Russia; *F.Tiedemann, Austria; R.C.Tinsley, UK; L.Trueb, USA; *M.J.Tyler, Australia; R.Wasserzug, Canada; *G.R.Zug, USA.

Venue. Individuals or groups who wish to propose sites for the Third Congress (to be held 1996-1999) should submit one-page-maximum proposals indicating meeting and housing facilities, names of persons who might serve as local Organizing Committee, and special attractions of the site (until November 15, 1993).

Nominations and venue proposals to be submitted to the Secretary General: Dr. Marinus S.Hoogmoed, Nationaal Natuurhistorisch Museum, Postbus 9517, 2300 RA Leiden, The Netherlands.

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ANNOUNCING

The 17th Annual International Herpetological Symposium
Miami Beach, Florida, U.S.A.
June 17 - June 20, 1993

As the New President of the International Herpetological Symposium, Inc., I am pleased to announce the program for the 17th IHS meeting. The 1993 Symposium will be held at the Marco Polo Hotel, in Miami Beach, Florida. Located directly on the beach, the Marco Polo is a beautiful location for what promises to be an exceptional meeting. An excellent panel of speakers from the United States, Europe, South Africa, Australia and Sri Lanka has been scheduled. Workshops on both traditional and exciting new topics are planned, giving you the opportunity to ask questions of some of the world's leading authorities on herpetology and reptile husbandry.

On Friday, a Southern-style barbecue picnic lunch will be held at the Miami Metrozoo, followed by a trip to the Everglades National Park. A traditional ice-breaker social is planned for Thursday evening, and a poolside smorgasbord, followed by a guest speaker and auction, is scheduled for Saturday night. As always, we expect to have a large number of herp vendors in attendance. In order to make your visit to the South Florida area even more memorable, admission discounts have been arranged for many of the area's famous tourist attractions. IHS registrants and their families will receive admission discounts at Parrot Jungle, Fairchild Gardens, Butterfly World, Everglades Holiday Park Airboat Rides, Orchid Jungle, and the Miami Seaquarium.

The 1993 IHS meeting will no doubt be one of the most informative and enjoyable symposiums yet. This will be a rare opportunity to meet and talk with herpetologists from the United States and around the world. Don't miss this exceptional panel of speakers, workshops and social events.

Richard A. Ross, M.D.
President, IHS, Inc.

Schedule of Events

Wednesday, June 16, 1993

Registration	7:00 pm - 10:00 pm

Thursday, June 17, 1993

Registration	7:00 am - 5:00 pm
Opening remarks	8:15 am - 8:45 am
Keynote Speaker	8:45 am - 9:30 am
Papers/Workshops	9:30 am - 5:00 pm
Dinner (open)	5:00 pm - 7:00 pm
Icebreaker	7:00 pm - 10:00 pm
Slideshow Contest	9:00 pm

Friday, June 18, 1993

Registration	8:00 am - 12:00 pm
Papers/Workshops	8:30 am - 12:00 pm
Buses to Zoo	12:30 pm
Buses to Everglades	3:30 pm
Buses return to hotel	6:30 pm
Dinner (open)	

Saturday, June 19, 1993

Registration	8:00 am - 3:00 pm
Papers/Workshops	8:00 am - 5:00 pm
Poolside Smorgasbord	7:00 pm - 9:00 pm
Guest Speaker	9:00 pm - ???
Auction	To follow

Sunday, June 20, 1993

Papers/Workshops	9:00 - 12:00 pm
Closing Remarks	12:00 pm

Please note that there will be approximately 90 minutes allowed for lunch on Thursday and Saturday.

Selected Keynote Addresses

Gems from the Forbidden Zone: The Herpetofauna of Richtersveld National Park and the Diamond Zone of Southern Namibia.
Dr. William Branch, Curator of Herpetology, Port Elizabeth Museum, South Africa.

A Distributional survey of *Python anchietae* and *P. sebae* in Northern Namibia.
Dr. William Branch, Curator of Herpetology, Port Elizabeth Museum, South Africa.

Hotel Registration Information

The Marco Polo Hotel has reserved 150 rooms for IHS registrants until May 21, 1993. A special registration fee of $44.00 + tax per room, per night, will be available for up to four persons per room. To register, call the Marco Polo Hotel at (800) 327-6363 or (305) 932-2233 and state that you are attending the IHS meeting. The address of the Marco Polo is P.O. Box 6625, Miami Beach, FL 33154. Please note that if you are arriving by plane, your destination airport should be Forth Lauderdale International Airport, located about 20 minutes from the hotel. Greyline limousine service is available for transportation to and from the airport for a nominal charge. Each attendee is responsible for making his/her hotel arrangements - returning the IHS registration form will not register you at the hotel, nor will it guarantee you a room; rooms are on a first-come first-served basis.

Symposium Registration Information

The registration fee for the 1993 IHS meeting has been reduced to $125,00 and there is no additional charge for late registrations. However, only a very limited number of full registrations will be available at the door. Only the full registration fee includes the IHS publication. Mail-in registrations should be received by June 1, 1993. Registrations received after this date may be subject to space available limitations. Full refund for cancellations will be made if notification is received in writing by May 15, 1993. After that date, a 50% refund will be made for cancellations.

Full registration	$125.00
Paper Sessions only	$75.00
Spouse registration (no Papers)	$50.00

For further information regarding the Symposium, please write to:

Richard A. Ross, MD
President, IHS, Inc.
c/o Institute for Herpetological Research
P.O. Box 2227
Stanford, CA 94309, USA

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