

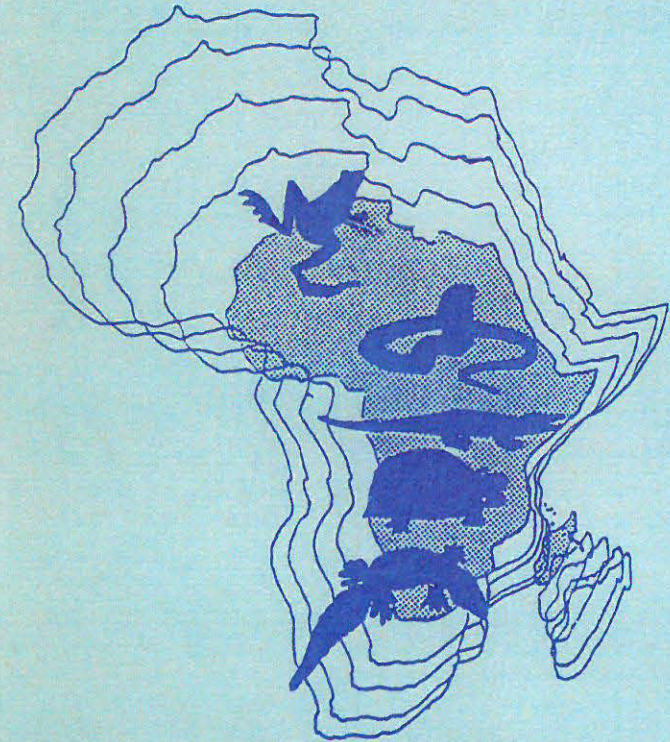
## AFRICAN HERP NEWS

NO. 23: AUGUST 1995

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## AFRICAN HERP NEWS

HERPETOLOGICAL ASSOCIATION OF AFRICA  
NEWSLETTER

AUGUST 1995

NO. 23



## HERPETOLOGICAL ASSOCIATION OF AFRICA

### Founded 1965

The H.A.A. 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 review papers, research articles, short communications and book reviews - subject to peer review) and *African Herp News* (H.A.A. Newsletter) which includes short communications, life history notes, geographical distribution notes, venom and snakebite notes, short book reviews, bibliographies, husbandry hints, announcements and news items.

### 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.

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## EDITORIAL

The time has almost arrived for the *Fourth H.A.A. Symposium on African Herpetology*. As you most probably know by now, this event will be held at St Lucia in KwaZulu-Natal from 23 to 27 October 1995. Orty Bourquin assures me that all necessary arrangements have gone according to plan. All you have to do is get yourself there. A final notice and preliminary programme appear in this issue of *African Herp News*. As you will see, a very exciting list of talks awaits you. If you have not yet registered, do so now, or miss out on what may well be the biggest and best H.A.A. symposium so far!

Two overseas guest speakers have been invited to present papers at the symposium. Prof. Richard Tinsley (University of Bristol, England) will present a paper entitled *Diversity, geographical distribution and general biology of the genus Xenopus*, while Prof. Craig Weatherby (Adrian College, Michigan, U.S.A.; attendance to be confirmed) will talk about *The behaviour and ecology of Geochelone pardalis*. Other papers cover topics such as biodiversity, distribution, conservation, taxonomy, ecology, morphology and reptile husbandry. There will also be a special Conservation Workshop towards the end of the symposium.

I have not received any proposals for candidates for the *Exceptional Contribution to African Herpetology* award, which will therefore not be presented at St Lucia.

The new H.A.A. committee will be announced at the symposium and the results published in the next issue of *African Herp News*, due out in December 1995.

As you will know, special issues of the H.A.A. journal (numbers 36 and 40) were published to document the proceedings of both the first and second H.A.A. symposia on African herpetology. Members will be pleased to know that, thanks to a generous donation from ESKOM, a special issue of the journal is currently being prepared to include summaries of papers dealing with the various southern African lizard families (presented during the *FitzSimons Day* session) and extended abstracts of other papers and posters, all presented at the *Third H.A.A. Symposium on African Herpetology* held at the Transvaal Museum in Pretoria from 11 to 15 October 1993. This special issue will be sent to members later this year. The next "regular" journal, vol. 44(2), will also be posted later this year.

Finally, I thank all contributors of articles and news items for this issue of *African Herp News*.

See you at St Lucia.

Mike Bates

CHAIRMAN/NEWSLETTER EDITOR

## INCUBATION OF LEOPARD TORTOISE *GEOCHELONE PARDALIS* EGGS UNDER NATURAL CONDITIONS

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*Geochelone pardalis* occurs throughout Namibia, with the exception of the Namib desert (Branch, 1988). It adapts readily to captive conditions and has been bred on many occasions. Females lay up to six clutches of 6-15 eggs during summer; and hatchlings usually emerge after the first rains, 10-15 months later (Branch, 1988).

During 1991 and 1992 I established a breeding group of 10 *G. pardalis*, collected in the Windhoek area. The tortoises were kept in a garden of about 600 m<sup>2</sup> where they fed on natural vegetation as well as lettuce, vegetables and fruit. Mating occurred regularly between September and December 1992, and females deposited several clutches between December 1992 and February 1993.

One of the largest females laid a clutch of 13 eggs on 21 December 1992. After excavating a 25-cm-deep-hole, she deposited her clutch and refilled the hole. A thermocouple was inserted between the eggs to allow for the monitoring of incubation temperatures. Temperature readings were taken every second day with a Sensortek Bailey Bat thermocouple.

The highest temperatures (21,2 - 37,2°C) were registered between 19h00 and 20h00, while the lowest temperatures (16,4 - 30,6°C) were reached between 10h00 and 11h00. Table 1 shows the minimum and maximum temperatures for each month during the incubation period (December 1992 - December 1993).

On 1 January 1994 two hatchlings emerged, and 12 days later, all remaining eggs had hatched. The incubation period thus ranged from 376 to 388 days. Hatching coincided with the arrival of heavy rains in early January 1994.

Temperatures during the winter of 1993 were exceptionally mild (16,4 - 26,3°C), which may account for the relatively short incubation period. In harsh winters, soil temperatures are several degrees colder, prolonging incubation. Branch (1988) noted that *G. pardalis* eggs hatch after eight months if incubated at a constant temperature of 28°C. This is supported by the data obtained under natural conditions during this study. Table 2 shows the average incubation temperatures between December 1992 and December 1993.

For six months of the incubation period (December 1992, January, February, September, November and December 1993) average incubation temperature was 28°C or higher. In March and October it was about 26°C. Only from April to August did the average temperature drop to below 25°C. This suggests that hardly any egg development occurs below 25°C, otherwise the first hatchlings should have emerged during the early rains of October 1993. The rains presumably soften the soil sufficiently to allow hatchlings to burrow out of the soil.

**Table 1:** Minimum and maximum incubation temperatures for a clutch of 13 *Geochelone pardalis* eggs under natural conditions.

Month	D '92	J	F	M	A	M	J	J	A	S	O	N	D '93
Temp. (Min) °C	23,0	21,8	22,1	20,9	18,5	19,7	16,4	17,1	17,8	24,2	18,2	20,6	23,8
(Max) °C	37,0	37,0	34,4	29,7	30,7	27,9	24,2	24,0	26,3	31,8	34,6	36,4	37,2

**Table 2:** Average incubation temperatures for a clutch of 13 *Geochelone pardalis* eggs under natural conditions.

Month	D '92	J	F	M	A	M	J	J	A	S	O	N	D '93
Average incubation temp	30,0	29,4	28,2	25,3	24,6	23,8	20,3	20,5	22,0	28,0	26,4	28,5	30,5

### ACKNOWLEDGEMENTS

I wish to thank Prof. Neil Heideman (University of Namibia, Windhoek) for commenting on the manuscript. I am also grateful to the Ministry of Environment and Tourism for granting the necessary permits.

### REFERENCES

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