AFRICAN HERP NEWS

Number 49 DECEMBER 2009

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# *African Herp News*

## Newsletter of the Herpetological Association of Africa

**Number 49** **DECEMBER 2009**

## HERPETOLOGICAL ASSOCIATION OF AFRICA

**http://www. wits.ac.za/haa**

**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 Association's journal, *African Journal of Herpetology* (which publishes review papers, research articles, and short communications – subject to peer review) and *African Herp News*, the Newsletter (which includes short communications, natural history notes, geographical distribution notes, herpetological survey reports, venom and snakebite notes, book reviews, bibliographies, husbandry hints, announcements and news items).

**NEWSLETTER EDITOR'S NOTE**

Articles shall be considered for publication provided that they are original and have not been published elsewhere. Articles will be submitted for peer review at the Editor's discretion. Authors are requested to submit manuscripts by e-mail in MS Word '.doc' or '.docx' format.






**COVER PHOTOGRAPH**: *Gerrhosaurus validus maltzahni* from Sesfontein, Namibia. Photograph by: Johan Marais. Canon EOS 5D (1/160, F16, ISO 250).



## EDITORIAL

The HAA owes a great debt of gratitude to Angelo Lambiris for his contribution to the Association as editor of *African Herp News*. During his term as editor Angelo ensured that *African Herp News* was published regularly during which time he filled his role in a friendly and professional manner. Angelo has left me with large shoes to fill, a task that I am excited to embrace. I hope that I can maintain the standards that have been set in the past.

During my term as editor I would like to ensure that *African Herp News* develops a reputation as an outlet for rapid publication of short notes and range extensions. Relatively recent decisions made by the committee have meant that we now aim to publish *AHN* triennially (March, August, and December). This increased output depends entirely on the support from the association members. Thus I ask all members to consider *African Herp News* as an output for their herpetofaunal notes. As editor I will endeavor to ensure speedy turnaround times, and facilitate the production of a high quality publication.

In my attempt to keep the transition between editors as smooth as possible, I do not plan to make a large suite of changes to *African Herp News*. Accordingly, the newsletter will continue to publish short articles, natural history notes, geographic distribution notes, survey results, and association news. One change will see *African Herp News* now publishing Book Reviews that were previously carried by *African Journal of Herpetology*.

Among the HAAs members are some of the best herpetofaunal photographers in the world. One other change that I would like to introduce is the outsourcing of cover and 'filler' photographs to HAA members. Anyone interested in submitting a photograph should contact me in this regard. Unfortunately, we cannot pay for the use of these photographs, but each image will be credited to the author.

Recent developments within the HAA are starting to take shape. Some of these, such as the publication of the journal *African Journal of Herpetology* by Taylor & Francis, are discussed within this issue. Additionally I urge members to look out for information regarding the new HAA website that should be live by the end of 2009. The new website will host an array of new features that I'm sure members will appreciate.

With reference to this, my first issue, I would like to thank Angelo who handed over the reigns along with some useful advice. Angelo had also edited some of the items in this issue when the change was made.

I look forward to the challenge of editing *African Herp News*. African herpetology is undoubtedly in a boom phase with increased research from diverse locations. *African Herp News* looks forward to being part of the challenge.

**Bryan Maritz,**
Newsletter Editor

## MESSAGE FROM THE CHAIRMAN

Recent constitutional changes have opened HAA committee membership, for the first time, to members not resident in Africa. I am deeply humbled that my friends and colleagues in the HAA have placed their trust in me as the first non-African member elected to the chairmanship and I will certainly do my best for the HAA. As many of you know, southern Africa is my home-away-from-home and I am confident that, with the able assistance of our new secretary – Jeanne Tarrant, treasurer – Abeda Dawood, and committee members – Ernst Baard, Mike Bates, Bill Branch, and Louis Du Preez, I will be able to cope — despite the 10,000 km of intervening ocean!

Publications are the most visible products of the HAA and I am pleased to be serving with the capable editorial team of *African Journal of Herpetology*, led by John Measey, and Bryan Maritz, who has taken on the task of editing *African Herp News*. I hope that HAA members will continue to provide high quality content for these publications and I encourage those who have not published in our journals to support the HAA by doing so. We will shortly transition to a new publisher for *AJH*, Taylor & Francis. This will have several advantages for members, including electronic access to content and an even more professional appearance for the journal. John has taken the lead in making this happen and I thank him for his work on behalf of the HAA.

I would also like to take this opportunity to thank the recently "retired" HAA committee members and editors who have contributed so much to our society. I am extremely grateful that Mike Bates, whose selfless service to the HAA as chairman cannot be praised highly enough, remains on the committee as a valuable resource to us newcomers. Mandi Alblas will be missed as secretary/treasurer and I only hope that Jeanne and Abeda will be able to remain as cheerful in their posts as Mandi did in hers. I also thank Alex Flemming (*AJH*) and Angelo Lambiris (*AHN*) for their editorial contributions and indeed, the whole of the HAA committee for their work and commitment.

I have no grand plan for the HAA, but I would like to use my chairmanship to promote inclusiveness in African herpetology and improved integration of African herpetologists with the global herpetological community. I think that we need to be proactive in bringing researchers from outside of southern Africa into the HAA. In particular, francophone herpetologists and our colleagues from East and North Africa should be encouraged to join, publish in our journals, and attend our meetings. Likewise, I think that the HAA and its members should take a central part on the international scene. The resounding success of the 5th World Congress of Herpetology in Stellenbosch certainly raised our profile and I was pleased to see a small but vocal contingent from South Africa at the 6th World Congress in Manaus, Brazil. The next World Congress of Herpetology will be held on my home continent of North America and – wearing another hat, as Secretary General of the World Congress – I invite every HAA member to Vancouver, Canada in August 2012.

**Aaron M. Bauer,**
Chairman





## MESSAGE FROM THE JOURNAL EDITORS

In September 2009, the HAA committee voted to accept an offer from the Taylor & Francis publishing group (http://www.tandf.co.uk/journals/) to publish the African *Journal of Herpetology* (*AJH*). This follows a series of negotiations started by the previous *AJH* editor (Alex Flemming) in 2008, which have now culminated in an agreement that will see many exciting and positive changes in the journal over the next few months. Here we want to outline some of the ways in which the journal is likely to change, the impact it will have on HAA members and future authors, and the way the journal is produced and distributed.

As you may well be aware, modern publishing has moved forward significantly in the past decade with the advent of electronic media and distributions which have enabled far wider audiences, especially for specialist journals such as the African Journal of Herpetology. Up to now, the journal has been prepared, formatted, self-published and distributed by successive editors all in their own time. Let me start by saluting them all for their dedication to this task, which has produced an impressive historical archive of nearly 60 volumes spanning more than half a century of African herpetology. The dedication of these editors did not stop with editing manuscripts, but followed all the way through the (sometimes tortuous) publishing process, to stuffing envelopes, licking stamps and carrying boxes to the post-office. While this labour intensive process has served HAA members well over the years, the burden on the editor has been onerous and we felt that shifting the publishing and distribution to a reputable publishing house will allow the editorial staff to focus on ultimately more important issues, such as the quality of manuscripts published in AJH. There are plenty more benefits of moving to a publisher and we will outline some of these below.

### Printed or PDF?

A poll at the beginning of 2009 asked whether HAA members preferred printed or electronic media (or both) for our scholarly journal. The importance in asking this question was whether we should try to distribute the journal electronically to members, and if they would accept this as the only media. Although the response to the questions was poor (only 22 members, or around 7% of the membership, responded), the result was clear. Of those who responded, the vote on the first question "If the HAA journal (African Journal of Herpetology) was available to members in pdf format as well as a print version, would you like" was overwhelmingly in support of both printed version and pdf (59%), with 27% wanting printed version only and 14% pdf only. Everyone wanted the journal, which made the editor very happy. On the second question, a scenario where membership was cheaper if only pdf was taken (i.e. paying more for the printed copy), 45% said they wanted pdf and printed versions, 23% printed only and 32% pdf only. The results suggest that the HAA membership (if those that voted are a representative of all members) are greatly in support of the African Journal of Herpetology and want this as a hard copy, even if they have to pay more. Only 16%

shifted their preference to pdf if the price of membership was increased for hard copies. The committee was able to take these results forward into negotiations with possible publishers and this helped the committee decide on the offer from Taylor & Francis.

**Will the journal look different?**

Although we will maintain the current size and style of AJH, the layout will be revised to look much smarter (done by professionals not the editor). There will be a full cover photo on each issue that will relate to one of the articles, and colour figures will be possible in articles (free in the pdf and at cost in the printed version). The overall style of the journal will be retained, while fine details may change to make the overall look and feel more professional.

**Will the journal be available to me in pdf and print?**

AJH will be printed by Taylor & Francis in South Africa and distributed to HAA members at a better cost than we are able to do ourselves. After negotiations, Taylor & Francis have agreed to allow HAA members free access to pdf versions of AJH papers via their website. This is a huge privilege but it also comes with a responsibility. Members are not allowed to distribute any pdfs from the T&F website. Each pdf will be electronically tagged, allowing T&F to recognize the member that downloaded and distributed the pdf. This will result in downloading privileges being curtailed for the member concerned. The exception is for authors, who have the right to send out copies of their own publications. As the HAA benefits from the sale of every pdf by the publishers, it is in the interest of members not to distribute pdfs of *AJH* articles.

**Will the HAA receive any benefit from the publishers?**

Taylor & Francis have agreed to pay the HAA a proportion of sales of the journal. This will be roughly equivalent to the income previously generated by SABINET distribution in the past. In addition, Taylor & Francis will be marketing AJH internationally, thus increasing the visibility of the journal to both libraries and individuals. It is hoped that this will increase subscriptions as well as swelling membership of the HAA.

The journal is set for many changes in 2010 and we have decided to implement a few additional changes in the way the journal is organised and run. Authors will be asked to comply with a statement of ethics. In addition to short communications and original articles, we will be accepting reviews and mini-review articles. Book reviews will be covered by *African Herp News* and will no longer be printed in the journal.

We will also be expanding the duties of the editorial committee. Mike Bates has agreed to chair the new editorial committee (taking over from Bill Branch) and he is currently looking for nominations for individuals that will create a dynamic committee





for AJH. If you have a nomination, please send this to Mike (herp@nasmus.co.za). After drafting a list of candidates, the final selection will be made by an HAA committee vote.

These relatively minor changes will not detract from the quality of the journal, but we hope instead that they will further enhance the enjoyment gained by all HAA members in the scholarly output on African herpetofauna published in *AJH*.

Lastly, Taylor & Francis have offered to sponsor a special edition of *AJH* for part 1 of the 60th volume in 2011. This special edition will be comprised of review articles that focus on topics in African herpetology. If you are interested in contributing a review, please contact the journal editor (john@measey.com). To mark this special occasion Taylor & Francis will make a financial donation towards the 2011 HAA conference to celebrate the journal, including a student prize (USD 500 or ZAR 3500). "The Donald G. Broadley prize for Excellence in African Herpetology" will honour Don Broadley, a founding member of the Association and the first editor of the *African Journal of Herpetology* (then *Journal of the Herpetological Association of Africa*). The prize will be given to the student who has published the most outstanding manuscript in *AJH* since the last conference (within 2009 and 2010). Candidate manuscripts will be selected by the journal editors and judged by the new editorial committee. We hope that the prize will be presented at every HAA conference.

We hope that new issues of the *African Journal of Herpetology* will be met with approval from all members of the HAA. This is an exciting time to be taking the journal forward, but at the same time, we are conscious of all the giants on whose shoulders we stand. The African Journal of Herpetology represents the work of a great many people over a long period of time. We are indebted to authors, editors and reviewers for all of their hard work and dedication which has allowed the journal to evolve into the prestigious publication that it is today.

**G. John Measey**, Journal Editor & **David C. Blackburn**, **Brian T. Henen** & **Krystal A. Tolley**, Associate Editors

# ANNOUNCEMENTS

## FIRST ANNOUNCEMENT

**10th Conference of the Herpetological Association of Africa**
**11-14th January 2011**
**Cape Town, South Africa**
**Venue: University of Cape Town, Kramer Building**

### *Overview*

The 10th Conference of the Herpetological Association of Africa will take place at the University of Cape Town in Western Cape Province, South Africa, from Tues 11th to Friday 14th January 2011*. This conference is being organized by staff from the South African National Biodiversity Institute and the HAA. The venue lies in the heart of Cape Town, just 10km from tourist attractions such as the V&A Waterfront and the South African Museum. Accommodation will be available at the university residences, or some suggested guest houses (within walking distance). All meals will be catered for at the venue, with an icebreaker at Kirstenbosch Gardens. The conference talks will begin on the morning of the 12th and run through the 14th. Delegates for the conference are expected to arrive by the evening of Tue 11th Jan for registration and icebreaker.

Three keynote speakers, of high international standing and representing a broad array of interests, have been invited to lead the conference (pending funding), Jonathan Losos (Harvard University), Bieke Vanhooydonck (University of Antwerp) and Maarten de Wit (University of Cape Town).

Any parties interested in holding workshops are welcome to contact the conference organizers.

Organizing committee:
Krystal Tolley (k.tolley@sanbi.org.za), John Measey (john@measey.com), Jessica da Silva (jessica.m.dasilva@gmail.com), Keshni Gopal (k.gopal@sanbi.org.za).

### *Additional Announcements*

At this stage the conference fees have not been finalized but, as in previous HAA conferences, we will attempt to provide a low cost conference and to encourage student attendance (accommodation at UCT is very reasonably priced). A circular with additional information will be sent out early in 2010 and a second circular will be distributed mid-year with a call for pre-registration. The call for abstracts will be distributed in September. Please visit the HAA website (http://www.wits.ac.za/haa) for updates.

*Please note that the conference is delayed approximately 6 weeks later than usual, due to the World Cup activities in 2010 making reasonably priced venues and accommodation unavailable until January 2011.





# ARTICLES

## ARTHUR LOVERIDGE'S NOTEBOOK REUNITED

**Bill BRANCH [1] & Aaron M. BAUER [2]**

[1] *Port Elizabeth Museum, P.O. Box 13147, Humewood 6013, South Africa*

[2] *Department of Biology, Villanova University, 800 Lancaster Avenue, Villanova, Pennsylvania 19085, USA*

During the 9th conference of the Herpetological Association of Africa (HAA), held at Sterkfontein Dam, 26 – 29th November 2008, an auction of items donated by members was held. The auction, which is now becoming a regular feature of the HAA conferences, was designed to raise funds for the HAA, give students and non-academic members a chance to acquire herpetological art and literature, and bring enjoyment to the conference banquet. This particular auction was the most successful ever held and raised over R20 000 for the Association. Much of this value was made up of the sale of three items donated by HAA founder, Don Broadley. They included an original first edition of Charles Pitman's *Snakes of Uganda* (1938) which raised R5200, and an excellent copy with hand-coloured plates of Wilhelm Peter's *Naturwissenschaftliche Reise nach Mossambique* (1842) which raised R5000.

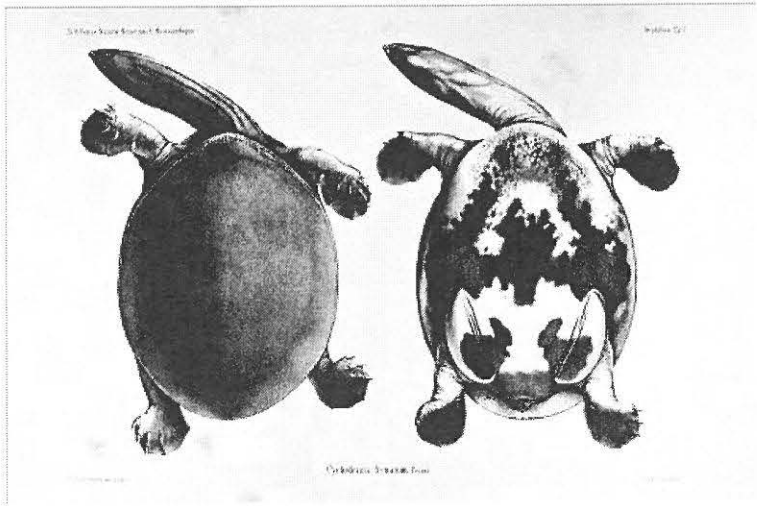

**Fig. 1:** Lithographic plate of *Cycloderma frenatum* from Peters' *Naturwissenschaftliche Reise nach Mossambique* (1842)

The final item was a unique Notebook of handwritten notes by Arthur Loveridge, that was given to Don by Brian Loveridge shortly after the death of his father. The bequest also included a bird study skin (perhaps the first that Loveridge prepared after he arrived in Nairobi) and two Pancake tortoise (*Malacochersus tornieri*) skeletons. These have all been accessioned in the Natural History Museum of Zimbabwe. The first two-thirds of the Notebook appears to be Loveridge's summary of reptile classification prepared when he as a young man and possibly prior to his departure in March 1914 to take up the post of Curator at the newly-formed Natural History Museum of Kenya. The last third of the Notebook comprises lists and measurements of snakes collected in Kenya and recorded during Loveridge's early tenure at the Museum.

Laurence and Kirsty Wahlberg successfully bid for the Notebook (R3500), and then generously donated it back to the HAA when its unique and historic significance was explained. After discussion between members of the HAA committee and Don Broadley it was decided to 'repatriate' the Notebook to the Museum of Comparative Zoology (MCZ), Harvard University. This is where Loveridge worked for the greater part of his life, and where many of his other notebooks and memorabilia are housed.

On 10 August 2009, Aaron Bauer, on behalf of the HAA, formally presented Loveridge's first Notebook to Professor James Hanken, Alexander Agassiz Professor of Zoology and Curator and Director of the MCZ. The Notebook is now archived in the Ernst Mayr Library at Harvard, along with Loveridge's other material. Professor Hanken has formally acknowledged receipt of the Notebook, and expressed his thanks to the HAA.

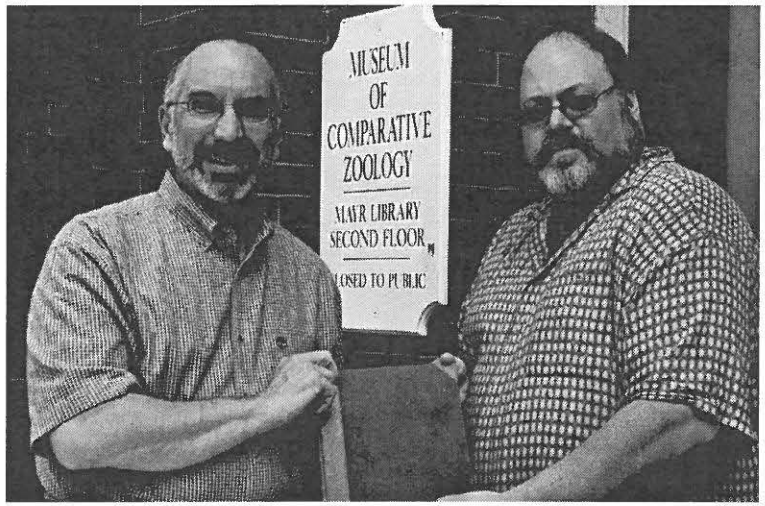


**Fig. 2:**. Professor Aaron Bauer (right) makes the formal presentation, on behalf of the HAA, of Loveridge's Notebook to Professor James Hanken, Curator of Herpetology and Director of MCZ, Harvard.





On behalf of all HAA members the Committee wishes to express its deep gratitude to Don Broadley for donating his treasured publications to the HAA auction. We also thank Laurence and Kirsty Wahlberg for re-donating Loveridge's Notebook back to the HAA so that it could be re-united with his other memorabilia at Harvard.

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## DEALING WITH THE THREAT OF AN ALIEN INVASION

**Gavin P. R. MASTERSON**

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Alien invasive species are one of the major threats to the conservation of global biodiversity (e.g. Mortensen *et al.*, 2008). On 3 April 2009, the second draft of the Alien and Invasive Species (AIS) Regulations, which fall under the National Environmental Management: Biodiversity Act, 2004 (NEMBA; no 10 of 2004), was published for public comment. The draft AIS Regulations contained lists of alien species that need to be regulated, controlled or prohibited. On 20 October 2009, scientists, conservation officials and trade representatives met at Kirstenbosch in Cape Town to discuss comments regarding the herpetofaunal component of the draft lists and workshop the species that will be published in the final draft of the AIS Regulations.

Species that received challenges or comments were evaluated by the workshop participants, while species that received no comments were considered eligible for the final lists. According to the objectives set by the Department of Environmental Affairs (DEA), each species included in the final lists needed to be based on relevant biological information and defensible in a court of law. During the workshop, species were evaluated in terms of (1) the likelihood that they may establish free-living populations in South Africa and (2) the potential for the establishment of such a population to result in negative impacts to indigenous species. Decisions regarding each species were based on discussion, consideration and finally, consensus between all parties.

I would like to thank Dr. Krystal Tolley for chairing the workshop, as well as all those who contributed to the success of the workshop. For those who are interested, the latest draft of the AIS Regulations can be downloaded from www.deat.gov.za. The final draft of the AIS Regulations is intended for publication in the first quarter of 2010.

### References

MORTENSEN, H.S., DUPONT, Y.L. & OLESEN, J.M. 2008. A snake in paradise: disturbance of plant reproduction following extirpation of bird flower-visitors on Guam. *Biological Conservation* **141**: 2146-2154.

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# NATURAL HISTORY NOTES

## REPTILIA: CHELONIA

### TESTUDINIDAE

***Homopus femoralis* Boulenger, 1888**
**Greater Padloper**

### NESTING

Very little is known about the reproduction of *Homopus femoralis*. As a part of a long-term ecological study, two fieldworkers surveyed a 7.7 ha field site near Beaufort West, South Africa, for 102 hours from 2 – 14 December 2008. During this period several tortoise nests were found. In total, 22 eggs were distinguished, representing 11 nests. Except for one intact egg, the eggs consisted of variably sized shell fragments, and most shells were broken in two to three large parts (Fig. 1). Their appearance suggested that the eggs had hatched; fracture serrations seemed similar to those of captive hatched eggs (V.J.T. Loehr, *pers. obs.*), yolk residues were absent, and depredated eggs would be expected to consist of smaller fragments.

**Fig. 1:** Egg shells of *Homopus femoralis*. (Photo: Siebren Kuperus)

Most nests were found on a steep mountain slope. This makes it unlikely that eggs were from sympatrically occurring *Psammobates tentorius verroxii*, which were seen only on levelled areas. Clutches found at lower altitude included three-egg clutches, while *P. t. verroxii* produce one or two eggs in a clutch (Hofmeyr, Henen, & Loehr, 2005: *Canadian Journal of Zoology* **83**: 1343–1352). All eggs found were probably from *Homopus femoralis*.





Nests were typically located at the base of shrubs or rocks (Fig. 1). Out of 11 clutches, five consisted of three eggs, five consisted of one egg, and one consisted of two eggs. Average egg length was 34.4 mm (range 31.1 – 37.5 mm, n = 7). Average egg width was 27.5 mm (range 25.1 – 29.7 mm, n = 9). The shells were fragile and would easily fragment and scatter. Large fragments might indicate that eggs had hatched relatively recently. October experienced reasonable rainfall (V.J.T. Loehr, unpublished data). Eggs might have hatched in response to these rains.

The egg that was found intact (33.2 x 26.2 mm) was not buried and was exposed to full sun. The contents of the egg appeared fresh (clearly defined yolk, neutral smell), indicating it had been laid recently. It was found after 1.8 mm of rain had fallen in a period of drought, but it remains unclear why it was not properly buried.

**Acknowledgements**
We would like to thank Western Cape Nature Conservation for permission to study *H. femoralis* (permit number AAA-004-000214-0035). Thanks to AOC Terra MBO Meppel for providing time to perform this study.

**Submitted by**
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## REPTILIA: SQUAMATA; SERPENTES

### COLUBRIDAE

***Prosymna stuhlmannii* Pfeffer 1893**
**East African Shovel-snout**

### DIET

On the evening of the 22 November 2008, an East African Shovel-snout (*Prosymna stuhlmannii*) was found on the floor of a well-lit room in the Skukuza Rest Camp, Kruger National Park, South Africa. Immediately surrounding the specimen were several small alate termites, seemingly drawn indoors by the light. Closer inspection of the snake revealed a pair of alate wings protruding from its mouth. Branch (1998; *A field guide to snakes and other reptiles of southern Africa*. Third Edition. Struik, Cape Town) states that this species feeds exclusively on gecko eggs. This observation suggests that *P. stuhlmannii* may include termites in its diet. It appears that the finer details surrounding the feeding habits of these elusive, non-venomous African snakes are poorly known, calling for further, more substantial investigations into the biology of the members of this genus.

**Submitted by**
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## REPTILIA: SQUAMATA; SAURIA

### SCINCIDAE

***Trachylepis affinis* Gray, 1838**
**Senegal Mabuya**

### REPRODUCTION

*Trachylepis affinis* ranges from Angola, north along the African coast to Senegal (Welch, 1982: *Herpetology of Africa: A Checklist and Bibliography of the Orders Amphisbaenia, Sauria and Serpentes.* Robert E. Krieger Publishing Company, Malabar, Florida). In Gabon, *T. affinis* eggs were deposited in February and hatchlings observed in March (Pauwels & Vandewege, 2008: Reptiles du Gabon, Smithsonian Institution, Lannoo SA, Tielt, Belgium). Here I add information on the reproduction of *T. affinis* from a histological examination of museum specimens, including the first information on the testicular cycle and minimum sizes for reproductively mature *T. affinis* males and females.

Thirty-two *T. affinis* from Cameroon in the Natural History Museum of Los Angeles County (LACM), Los Angeles, California were examined. These were collected from the Littoral Province: (LACM 125702-125707, 125765, 125798-125801, 125835-125838, 125843, 125844, 125887-125890, 125892, 125911,125912, 125950-125955) and Southwest Province (LACM 125674, 125675) during 1975. These included fifteen males SVL (mean ± SD) = 70.2 mm ± 5.3 mm; range = 59 - 78 mm and seventeen females SVL (mean ± SD) = 72.4 mm ± 6.1 mm; range = 63 - 84 mm.

For histological examination, the left testis was removed from males to study the testicular cycle and the left ovary was removed from females to check for the presence of yolk deposition or corpora lutea. Slides were stained with Harris' haematoxylin followed by eosin counterstain. Histology slides were deposited in LACM. An unpaired t-test was used to compare male and female mean body sizes and the relationship between female SVL and clutch size was examined by linear regression analysis.

There was no significant size difference between male and female mean body sizes ($t = 1.1$, $df = 30$, $P = 0.29$). The only stage present in the testicular cycle was spermiogenesis in which the seminiferous tubules are lined by clusters of spermatozoa or metamorphosing spermatids. Males exhibiting spermiogenesis were found in the following months (frequency in parentheses): October (1), November (11), November-December (2), December (1). The smallest reproductively active male (exhibiting spermiogernesis) measured 59 mm SVL (LACM 125954).





Monthly stages in the ovarian cycle of *T. affinis* are shown in Table 1. Four stages were present: (1) quiescent (no yolk deposition underway); (2) early yolk deposition (vitellogenic granules are present in the ooplasm); (3) enlarged follicles > 5 mm; (4) oviductal eggs are present. For thirteen females, clutch size (mean ± SD) was 2.9 ± 0.86 range = 2 - 4.

**Table 1:** Monthly stages in the ovarian cycle of *T. affinis*; 1* = one female and 4** = two of four females with oviductal eggs and concomitant yolk deposition for a subsequent clutch.

| Month | n | Quiescent | Early yolk deposition | Enlarged follicles > 5 mm | Oviductal eggs |
|---|---|---|---|---|---|
| October | 1 | 0 | 0 | 0 | 1* |
| November | 8 | 1 | 3 | 3 | 1 |
| Nov-Dec | 2 | 0 | 0 | 1 | 1 |
| December | 6 | 0 | 0 | 2 | 4** |

Linear regression analysis revealed the relationship between female body size (SVL) and clutch size was not significant ($P = 0.074$). The presence of one female from October (LACM 125675) and two females from December (LACM 125887, 125888) with oviductal eggs for a clutch to soon be deposited and concurrent yolk deposition for a later clutch indicates that female *T. affinis* may produce multiple clutches in a single reproductive season. The smallest reproductively active female measured 63 mm SVL (LACM 125892), contained enlarged ovarian follicles (> 5 mm) and was collected in December.

**Acknowledgments**
I thank Christine Thacker (LACM) for permission to examine *T. affinis* specimens.

**Submitted by**
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### SCINCIDAE

***Trachylepis acutilabris* Peters, 1862**
**Wedge-snouted Skink**

### REPRODUCTION

*Trachylepis acutilabris* occurs from Little Namaqualand, South Africa through southern Namibia to southern Angola and the Democratic Republic of Congo (Branch,

1998: *Field Guide to Snakes and other Reptiles of Southern Africa.* Third edition. Struik, Cape Town). Little has been reported on reproduction of *T. acutilabris*. Here, I present the first information on the ovarian and testicular cycles of *T. acutilabris* from a histological analysis of gonadal material.

Twenty-three *T. acutilabris* from Namibia in the Natural History Museum of Los Angeles County (LACM), California, were examined. These were collected from the Erongo Region (LACM 77581, 77589, 77590, 77592-77597, 77599, 77601-77603, 77606-776010, 77612, 77614, 77615, 114600) and Kunene Region (LACM 127492) during 1971 and 1972. These included sixteen males SVL (mean ± SD) = 50 mm ± 4.4 mm; range = 43 - 58 mm) and seven females SVL (mean ± SD) = 53 mm ± 5.0 mm; range = 47 - 60 mm).

For histological examination, the left testis was removed from males to study the testicular cycle and the left ovary was removed from females to check for the presence of vitellogenesis (yolk deposition). Slides were stained with Harris haematoxylin followed by an eosin counterstain. Histology slides were deposited at LACM.

Two stages were observed in the testicular cycle: (1) Recrudescence, which occurs prior to sperm formation. Seminiferous tubules contain mainly primary spermatocytes and some secondary spermatocytes. (2) Spermiogenesis in which the seminiferous tubules are lined by spermatozoa or clusters of metamorphosing spertmatids. Fourteen males from October and November were undergoing spermiogenesis, one (SVL = 46 mm) exhibited a late stage of recrudescence in which occasional spermatids were noted (LACM 77596). I presume spermiogenesis would have commenced shortly. One male from January was undergoing spermiogenesis. The smallest spermiogenic males (LACM 77612, 77614) both measured 43 mm SVL.

Six females from October and November exhibited quiescent ovaries (no yolk deposition). One female (LACM 127492) from March (SVL = 50 mm) was undergoing early yolk deposition with basophilic granules in the ooplasm of the ovarian follicles. The presence of six reproductively inactive females from October and November may suggest some seasonality in the ovarian cycle.

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I thank C. Thacker (Natural History Museum of Los Angeles County Los Angeles, California) for permission to examine specimens.

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**SCINCIDAE**

***Trachylepis brevicollis* Wiegmann, 1837**
**Sudan Mabuya**

**REPRODUCTION**

*Trachylepis brevicollis* occurs in parts of Uganda, Kenya, Tanzania, Sudan, Somalia, Ethiopia, Eritrea and the southern Arabian peninsula (Spawls *et al.,* 2002: *A Field Guide to the Reptiles of East Africa.* Academic Press, San Diego, California). There is a report that *T. brevicollis* gives birth to live young (Cimatti. 2006: *Reptilia* **46**: 65-70). Here, I present the first litter size and histological information on the testicular cycle of *T. brevicollis*.

Fourteen *T. brevicollis* from Kenya in the Natural History Museum of Los Angeles County (LACM), California, collected between 1970 and 1971, from Rift Province, Kenya (LACM 63227, 63228, 63230-63234, 63236, 63238, 63240, 63241, 65755, 65656, 65871) were examined. These included ten males (SVL (mean ± SD) = 122 mm ± 10.5 mm: range = 95 - 132 mm and four females (SVL (mean ± SD) = 115 mm ± 15.0 mm; range = 100 - 133 mm).

For histological examination, the left testis was removed from males to study the testicular cycle and the left ovary was removed from females to check for the presence of vitellogenesis. I counted oviductal eggs and enlarged ovarian follicles (> 4 mm in length). Slides were stained with Harris hematoxylin followed by eosin counterstain. Histology slides were deposited at LACM.

Two stages were observed in the testicular cycle: (1) Recrudescence, which occurs prior to sperm formation. Seminiferous tubules contain mainly primary spermatocytes and some secondary spermatocytes. (2) Spermiogenesis (= sperm formation). Seminiferous tubules are lined by clusters of sperm and metamorphosing spermatids. Six males from March, and three from June and July were undergoing spermiogenesis. The smallest spermiogenic male measured 118 mm SVL. One sub-adult from March (SVL = 95 mm) exhibited recrudescence. It is unknown at what size it would have commenced spermiogenesis. Four females from March were examined, three of which had quiescent ovaries that were not undergoing yolk deposition. One female (LACM 63230) that measured 133 mm SVL contained four developing embryos. This represents the first brood size reported for *T. brevicollis*.

**Acknowledgment**
I thank C. Thacker (Natural History Museum of Los Angeles County, Los Angeles, California) for permission to examine specimens.

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## LACERTIDAE

***Meroles reticulatus* Bocage, 1867**
**Reticulate Sand Lizard**

## REPRODUCTION

*Meroles reticulatus* is known from coastal areas of the northern Namib Desert from near Walvis Bay to southern Angola (Branch, 1998: *Field Guide to Snakes and other Reptiles of Southern Africa.* Third edition. Struik, Cape Town). Additionally, Branch (1998, *op. cit.*) reports that a female from October contained four large eggs. In this note I add information on *M. reticulatus* reproduction including clutch size and timing of egg production. The first information on the testicular cycle, and minimum sizes for male and female reproductive activity are also presented.

Thirteen *M. reticulatus* from the Erongo Region, Namibia deposited in the Natural History Museum of Los Angeles County (LACM), Los Angeles, California were examined. The sample included six males (SVL (mean ± SD) = 48.5 mm ± 3.8 mm, range: 41 – 51 mm), three females (SVL (mean ± SD) = 47.3 mm ± 2.1 mm, range: 45 – 49 mm), and four juveniles (SVL (mean ± SD) = 35.3 ± 2.5 SD, range: 34 – 39 mm) collected in November 1972 and January 1976 (LACM 77669, 77675 – 77685, 127488).

For histological examination, the left testis was removed from males to study the testicular cycle and the left ovary was removed from females to check for the presence of vitellogenesis (yolk deposition) and/or corpora lutea. Counts were made of oviductal eggs. Slides were stained with Harris haematoxylin followed by eosin counterstain. Histology slides were deposited at LACM. An unpaired t-test was used to compare male versus female body sizes (SVL) using Instat vers. 3.0b, Graphpad Software, San Diego, CA.

There was no significant size difference between male and female mean body sizes (unpaired *t*-test, $P = 0.645$). The only stage observed in the testicular cycle was sperm formation (= spermiogenesis) in which the seminiferous tubules are lined by groups of spermatozoa and/or metamorphosing spermatids. This condition was observed in November ($n = 6$). The smallest reproductively active male measured 41 mm (LACM 77679) and was collected November 1972.

One female (LACM 77682) from November exhibited early yolk deposition and would have subsequently produced eggs. One female (LACM 77681) from November measured 45 mm SVL and was reproductively inactive. The smallest reproductively active female (LACM 127488) measured 48 mm SVL, was collected in January, and contained three oviductal eggs - a new minimum clutch size for the species.

Of four subadult *M. reticulatus* from November, three measured 34 mm, and one measured 39 mm. The gonads of the three 34 mm *M. reticulatus* were extremely small and their sex could not be reliably determined; the 39 mm specimen was a female with inactive ovarian follicles.





The congeneric *Meroles cuneirostris* from Namibia (Goldberg & Robinson, 1979: *Herpetologica* **35**: 169–175) exhibited a prolonged reproductive cycle with a short period of inactivity in austral autumn. *Meroles suborbitalis* from South Africa (Goldberg, 2006: *Texas Journal of Science* **58**: 250–262) also followed a prolonged period of reproduction. Examination of *M. reticulatus* from additional months are needed to fully characterize its reproductive cycle.

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## LACERTIDAE

***Pedioplanis undata* A. Smith 1838**
**Western Sand Lizard**

## REPRODUCTION

*Pedioplanis undata* occurs from southern Angola to northern and central Namibia (Branch, 1998). There is a report from a field guide that mating occurs in November – January and young hatch in January – March (Branch, 1998). In this note I add information on *P. undata* reproduction including a clutch size and the first information on the testicular cycle.

Seventeen *P. undata* from Namibia deposited in the Natural History Museum of Los Angeles County (LACM), Los Angeles, California collected 1972 and 1973 were examined. These included specimens from Erongo Region (LACM 77521, 77529 – 77531, 77533 – 77538), Khomas Region (LACM 77743, 77749), and Otjozondjupa Region (LACM 77749, 77750, 77776, 77784, 77832). The samples consisted of 13 males (SVL (mean ± SD) = 49.7 mm ± 4.8, range: 43 – 58 mm), three females (SVL (mean ± SD) = 50.0 mm ± 2.6, range: 47 – 52 mm) and 1 subadult (SVL = 38.0 mm). Lizards were collected between 31 October and 12 November 1972, during November 1972 or during November 1973.

For histological examination, the left testis was removed from males to study the testicular cycle and the left ovary was removed from females to check for the presence of vitellogenesis (yolk deposition) and/or corpora lutea. Counts were made of oviducal eggs. Slides were stained with Harris haematoxylin followed by eosin counterstain. Histology slides were deposited at LACM. An unpaired t-test was used to compare male versus female body sizes (SVL).

There was no significant size difference between male and female mean body sizes (unpaired t-test, $P = 0.917$). The only stage observed in the testicular cycle was sperm formation (= spermiogenesis) in which the seminiferous tubules are lined by groups of spermatozoa and/or metamorphosing spermatids. This condition was observed in ten specimens collected in October – November and three males collected in November. The smallest reproductively active males measured 43 mm SVL (LACM 77521, 77537), respectively.

The smallest reproductively active female (early yolk deposition) measured 47 mm SVL (LACM 77743) and was collected November 1972. A second female collected 31 October – 12 November (LACM 77535) contained quiescent ovaries (no yolk deposition). A third female (LACM 77832) collected November that measured 52 mm SVL contained 7 oviductal eggs which is the first egg clutch reported for *P. undata.*

Based on the above data, the reproductive cycle of *P. undata* begins slightly earlier than the congeners *P. lineoocellata* and *P. namaquensis*, studied from South Africa by Goldberg (2006a) and Goldberg (2006b) in which reproduction was mainly concentrated in summer (Goldberg, 2006a,b). In contrast, reproduction was underway in spring in *P. burchelli* from South Africa (Nkosi *et al.*, 2004). Thus it appears there is interspecific variation in the onset of reproduction in African species of *Pedioplanis.* Examination of *P.undata* from additional months are needed to fully ascertain its reproductive cycle.

**Acknowledgements**
I thank C. Thacker (Natural History Museum of Los Angeles County) for permission to examine specimens.

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**GEKKONIDAE**

***Cyrtopodion scabrum* Heyden, 1827**
**Keeled Rock Gecko**

**PREDATION**

On 22 July 2009 at 09h00 I observed an adult *Cyrtopodion scabrum* fall prey to a Great Grey Shrike (*Lanius excubitor*) whilst exposed and moving between rocks recently disturbed during maintenance activities. *C. scabrum* are generally viewed as anthropogenous nocturnal semi-terrestrial geckos that forage on insects around sources of artificial light (Werner, 1991; Disi et al., 2001).

This small to medium sized gecko is widely distributed from Eritrea through to Pakistan including most of the Arabian Peninsula (Leviton *et al.*, 1992; Disi *et al.*, 2001). As a smallish nocturnal gecko it's predators are expected to be many although diurnal avian predators were not expected.

The situation which led to this specific individual's demise was out of the ordinary. During maintenance work at the King Khalid Wildlife Research Centre in central Saudi Arabia, approximately 80 km north of Riyadh, I noticed a *C. scabrum* moving around on rocks after having been disturbed, seemingly searching for an alternative hiding place. Whilst I was observing this an adult Great Grey Shrike perched nearby and showed interest in the distressed gecko, although it was initially put off by my presence. After a while hunger overcame prudence and the shrike attacked the gecko, seized it behind the head and consumed it, including the tail which the gecko had shed on being caught.

Shrikes are often considered raptor-like passerines preying mainly on a diverse range of invertebrates (mainly insects) and small vertebrates (Cramp & Perrins, 1993) including smaller birds (e.g. Warblers, House Sparrows and sub-adult Larks from Saudi Arabia – Robinson, *pers. comm.*). Vertebrates are consumed in relation to the season and latitude (i.e. increased vertebrates in the diet during summer and the further north one travels) with reptiles forming a small proportion of the diet (e.g. 0.5% of diet during winter in Bulgaria, (Nikolov *et al.*, 2004)).

Although my sighting of *C. scabrum* falling prey to a Great Grey Shrike could be viewed as an opportunistic meal for the shrike and not so an unusual outcome given the situation, this sighting not only confirms the dangers nocturnal species face when negotiating daylight hours, but adds the Great Grey Shrike to the list of predators *C. scabrum* has from Saudi Arabia.

**Acknowledgements**
My appreciation goes to Ernest Robinson (Director KKWRC, Thumamah) for commenting on a draft of this note.

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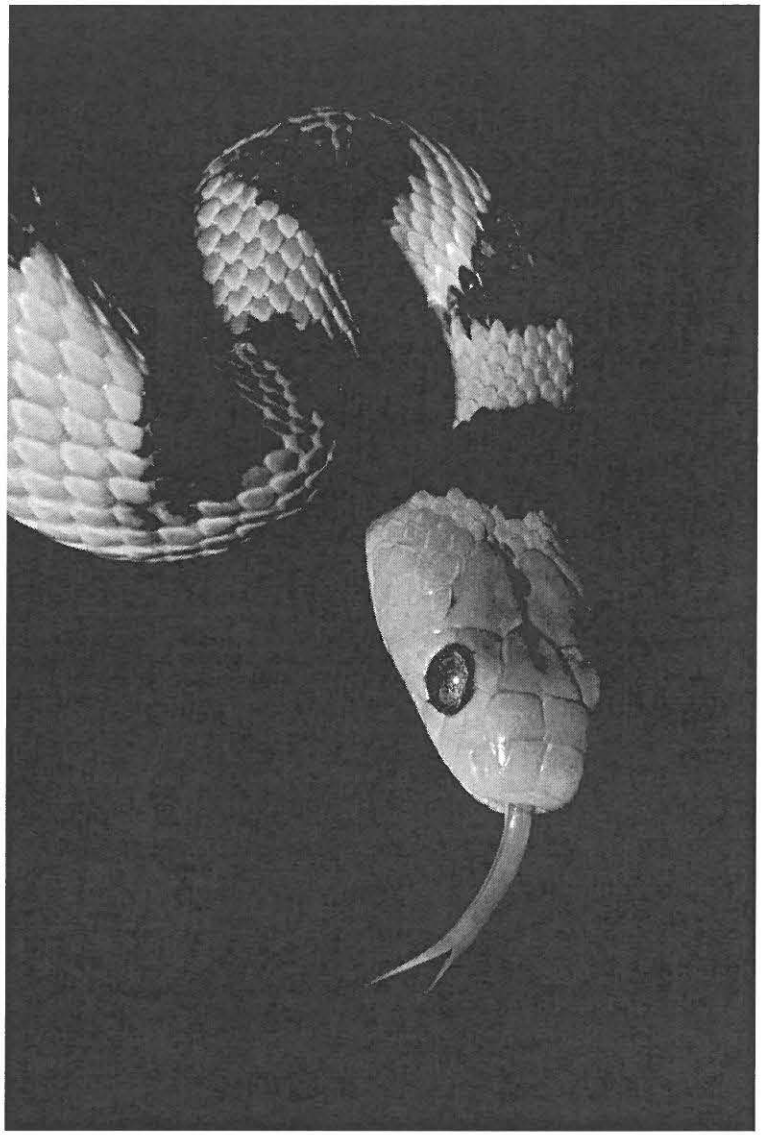

*Telescopus beetzi* from Koingnaas, Northern Cape, South Africa. Photograph by: Bryan Maritz. Canon EOS 350D (1/200, F20, ISO 200).

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BRANCH, W.R., 1998: *Field Guide to the Snakes and Other Reptiles of Southern Africa*. Third edition. Struik, Cape Town.

BROADLEY, D.G. 1994: The genus *Scelotes* Fitzinger (Reptilia: Scincidae) in Mozambique, Swaziland and Natal, South Africa. *Ann. Natal Mus.* **35**: 237-259.

COOK, C.L., & MINTER, L.R., 2004: *Pyxicephalus adspersus* Peters, 1854. pp. 303-305, *in* Minter, L.R., Burger, M., Harrison, J.A., Braack, H.H., Bishop, P.J., and Kloepfer, D. (eds.), *Atlas and Red Data Book of the Frogs of South Africa, Lesotho and Swaziland*. SI/MAB Series #9. Smithsonian Institution, Washington, DC.

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