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CONTENTS

EDITORIAL..... 1

MESSAGE FROM THE CHAIRMAN..... 2

MESSAGE FROM THE JOURNAL EDITORS 3

ANNOUNCEMENTS..... 6

ARTICLES

BRANCH, W.R., & BAUER, A.M. Arthur Loveridge's Notebook Reunited 7

MASTERTSON, G.P.R. Dealing with the threat of invasive species 9

NATURAL HISTORY NOTES

KUPERUS, S., & LOEHR, V. *Homopus femoralis* Boulenger, 1888. Nesting..... 10

MILLER, A. *Prosymna stuhlmannii* Pfeffer, 1893. Diet 11

GOLDBERG, S. *Trachylepis affinis* Gray, 1838. Reproduction 12

GOLDBERG, S. *Trachylepis acutilabris* Peters, 1862. Reproduction..... 13

GOLDBERG, S. *Trachylepis brevicollis* Wiegman, 1837. Reproduction..... 14

GOLDBERG, S. *Meroles reticulatus* Bocage, 1867. Reproduction 16

GOLDBERG, S. *Pedioplanis undata* A. Smith, 1838. Reproduction..... 17

CUNNINGHAM, P. *Cyrtopodion scabrum* Heyden, 1827. Predation 19

INSTRUCTIONS TO AUTHORS..... 22

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Submitted by

Ashadee K. MILLER, School of Animal, Plant and Environmental Sciences, University of the Witwatersrand, P.O. WITS, Johannesburg, 2050 South Africa. E-mail: dustmite@iafrica.com.

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 & Vandeweghe, 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 \pm SD) = 70.2 mm \pm 5.3 mm; range = 59 - 78 mm and seventeen females SVL (mean \pm SD) = 72.4 mm \pm 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 spermiogenesis) 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 \pm SD) was 2.9 \pm 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

Stephen R. GOLDBERG, Whittier College, Department of Biology, PO Box 634, Whittier, California 90608, USA. E-mail: sgoldberg@whittier.edu.

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 \pm SD) = 50 mm \pm 4.4 mm; range = 43 - 58 mm) and seven females SVL (mean \pm SD) = 53 mm \pm 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 spermatids. 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.

Submitted by

Stephen R. GOLDBERG, Whittier College, Department of Biology, PO Box 634, Whittier, California 90608, USA. E-mail: sgoldberg@whittier.edu.

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 \pm SD) = 122 mm \pm 10.5 mm; range = 95 - 132 mm) and four females (SVL (mean \pm SD) = 115 mm \pm 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 haematoxylin 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*.

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Submitted by

Stephen R. GOLDBERG, Whittier College, Department of Biology, PO Box 634, Whittier, California 90608, USA. E-mail: sgoldberg@whittier.edu.
