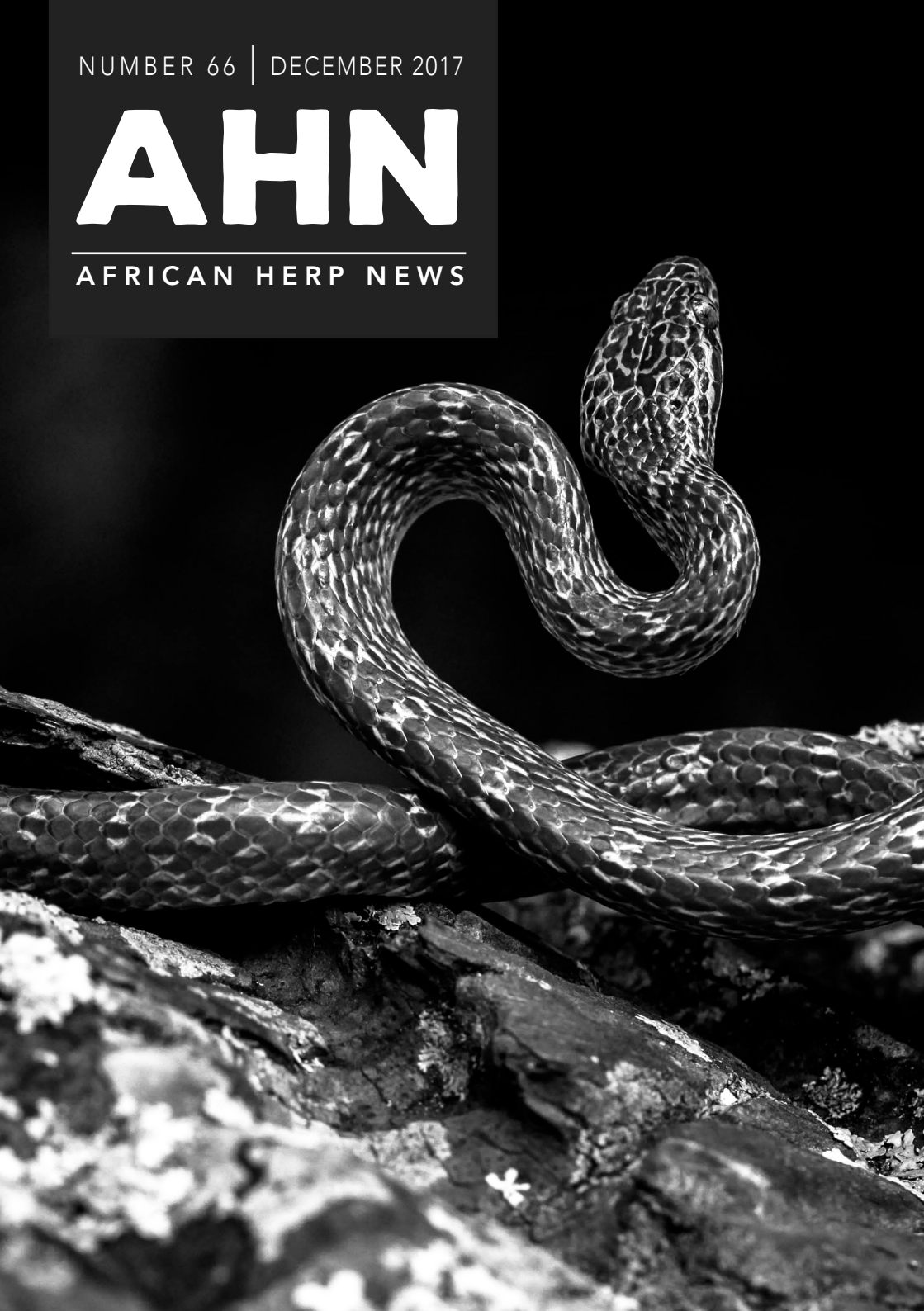
NUMBER 66 | DECEMBER 2017

AHN

AFRICAN HERP NEWS



HAA | Herpetological Association of Africa
www.africanherpetology.org

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, 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.

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

COVER PHOTOGRAPH: *Dipsadoboa aulica*
Photograph by: Nicholas Telford

AHN CONTENTS

UNEXPECTED DECLINE IN A POPULATION OF *HOMOPUS SIGNATUS*

VICTOR J.T. LOEHR

Homopus Research Foundation, Kwikstaartpad 1, 3403ZH IJsselstein, Netherlands.

Conservation assessments for long-lived, iteroparous species such as tortoises need long-term population monitoring to underpin population trends. Although approximately 25% of the world's extant tortoise species occur in South Africa, very few long-term monitoring studies have been published. Consequently, conservation assessments are often based on surveys, range sizes, and assumptions that suitable habitat within ranges will contain healthy populations. I studied a population of the speckled dwarf tortoise, *Homopus signatus*, in habitat that met the species' known requirements. Two mark-recapture studies, conducted from 2000 to 2004 and from 2012 to 2015, were combined in a long-term population model. Although the habitat in the study site appeared to change little between 2000 and 2015, the initially dense *H. signatus* population shrunk almost two-thirds in size. In 2012-2015, virtually no hatchlings and juveniles were left. Moreover, the initial equal sex ratio shifted to a strongly female-biased sex ratio. The population model indicated that apparent survival was similar throughout the study, but the number of new entrants into the population (via births and immigration) decreased. Anecdotal information suggests that predation of hatchlings by increasing numbers of pied crows (*Corvus albus*) may have contributed to the population changes. This study demonstrates that conservation assessments should not assume that apparently suitable habitat in the H. signatus range will contain populations with a favourable conservation status, and emphasises the need for long-term population monitoring studies.

DENSITIES OF *ARTHROLEPTELLA LIGHTFOOTI* ACROSS THE CAPE PENINSULA: PRELIMINARY RESULTS FROM ACOUSTIC SPATIAL CAPTURE-RECAPTURE

MARIKE LOUW[1*], RES ALTWEGG[2], ANDREW TURNER[3], JASPER SLINGSBY[4], BEN STEVENSON[5], DAVID BORCHERS[5] & JOHN MEASEY[1]

[1]Centre of Invasion Biology, Department of Botany and Zoology, Stellenbosch University, Stellenbosch, South Africa; [2]Statistics in Ecology, Environment and Conservation, Department of Statistical Sciences, University of Cape Town, Rondebosch 7701, South Africa; [3]Scientific Services, Western Cape Nature Conservation Board, Private Bag X 5014, Stellenbosch, 7599, South Africa; [4]South African Environmental Conservation Network, Fynbos Node, Newlands, Cape Town, South Africa; [5]Centre for Research into Ecological and Environmental Modelling, University of St Andrews, The Observatory, Buchanan Gardens, St Andrews, Fife KY169LZ, United Kingdom.

The Cape Peninsula moss frog, *Arthroleptella lightfooti*, is a visually cryptic species that is endemic to the Cape peninsula. Traditional capture-recapture techniques are difficult to employ in studying visually cryptic species. Acoustic spatial capture-recapture (aSCR) provides non-invasive means to study vocalizing animals. This technique is used to obtain quantitative estimates of call densities of calling animals. The aim of this project is to use aSCR techniques to compare the densities of calling *A. lightfooti* across their entire distribution on the Cape peninsula. An acoustic array consisting of six microphones and a recorder were set up at sites for 45 minutes to record frog calls. A total of 60 arrays were set up across the distribution range of *A. lightfooti* from August to October 2016 and the recordings were analysed in an aSCR package in R to obtain the densities of calling *A. lightfooti* at each array. We present the first calling density distribution across the entire range of any frog. Reliable density estimates can be a valuable input for the management of natural areas on the Cape Peninsula. This technique can also be of conservation importance and it can be used to investigate and identify factors that potentially influence population densities.

PHYLOGENETIC RELATIONSHIPS IN THE *PACHYDACTYLUS CAPENSIS* SPECIES COMPLEX (SAURIA: GEKKONIDAE)

BUYISILE G. MAKHUBO* & MICHAEL F. BATES

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

The *Pachydactylus capensis* species complex includes populations of terrestrial and rupicolous geckos with an extensive distribution in southern Africa. The most recent molecular phylogeny supported the recognition of two primary clades: a *P. capensis*, *P. affinis* and *P. vansoni* clade, and a *P. tigrinus* and *P. oshaughnessyi* clade. We examine genetic patterns within the former clade based on extensive sampling, especially within South Africa, and evaluate the genetic boundaries indicated. Preliminary analysis based on sequence data suggests the existence of several cryptic lineages.

FIRST AID FOR SNAKEBITE – AN OVERVIEW

JOHAN MARAIS

African Snakebite Institute, P.O. Box 102222, Moreleta Plaza, 0167, South Africa..

Advice given regarding the first aid treatment of snakebite is often

incorrect, inefficient, and can be outright dangerous. Additionally, published magazines and popular books that often offer advice are not subjected to peer review and can result in widespread misinformation regarding the treatment of snakebite. Here I review several recommendations regarding the treatment of snakebite published over the last 85 years. Fitzsimons (1932) recommended a tourniquet for all bites (despite acknowledging that venom is spread largely through the lymphatic vessels) followed by a cut with a lancet or penknife and the wound being washed out with a saturated solution of potassium permanganate. Fitzsimons (1970) recommended a tourniquet, cutting and sucking, and the application of potassium permanganate. Broadley & Cock (1975) recommend suction to remove venom and the application of a tourniquet for elapid bites. Visser & Chapman (1978) also recommend the use of an arterial tourniquet for all snakebites but warn that it is 'dangerous first-aid'. The Department of Health produced '*Poisonous South African Snakes and Snakebite*' in 1978 in which Reitz recommended the use of a tourniquet and ice packs. An undated booklet published by Dettol, in collaboration with Visser (early 1980s), recommended the injection of an adequate dose of antivenom as soon as possible. Branch (undated) in a booklet First Aid Treatment for Snakebite recommended pressure immobilisation. Marais (1985), in '*Snake versus Man'*, recommended the use of a pressure bandage and mentioned suction if only to help reassure the victim. Paolini (1995) stated that the use of a tourniquet is controversial, based on work done on cobras in the Philippines, and recommended the use of a pressure bandage. Spawls & Branch (1995), in the '*Dangerous Snakes of Africa*", gave sound advice – avoid tourniquets, cutting and sucking, but use a pressure bandage. Buys (2003), in '*Medical Management of Snakebite in Namibia*', advocates the use of both a ligature or tourniquet as well as pressure immobilisation. Marais, in '*Snakes and Snakebite in Southern Africa*' (1999), *'A Complete Guide to Snakes of Southern Africa*' (2004), '*Snakes and Snakebite in Southern Africa*' (revised 2014) recommends the use of pressure immobilisation for neurotoxic bites. These cases illustrate the changes in snakebite first aid treatment through time. Current thinking suggests it is best to transport the victim to the nearest hospital with a trauma unit. In severe neurotoxic envenomation victims may need artificial respiration.

TOWARDS UNDERSTANDING INTERSPECIFIC COMPETITION IN SNAKES: QUANTIFYING THE DIETS OF *NAJA NIVEA* AND *DISPHOLIDUS TYPUS*

BRYAN MARITZ*, JANINE GREUEL, INSHAAF LAYLOO & CAITLIN SMITH

Department of Biodiversity and Conservation Biology; University of the Western Cape; Private Bag X17, Bellville, 7535, South Africa.

Top-down regulation of populations is widely recognised as an important ecological process in many systems. Despite snakes representing, possibly, the most successful radiation of tetrapod predators, very few studies have demonstrated top-down regulation by snakes on their prey, at least in part because of the paucity of knowledge regarding snake natural history and ecology. In the Kalahari Desert, sociable weavers (*Philetairus socius*) are ecosystem engineers that build large communal colonies used by obligate and facultative commensal species. Sociable Weaver chicks and eggs are heavily preyed upon, and probably regulated, by the snakes *Naja nivea* and *Dispholidus typus*. Surprisingly, despite these snakes being widespread and abundant, their diets have been poorly quantified, limiting our understanding of how these species might be influencing the biology of their prey or even each other. Thus we initiated two studies regarding the diet and foraging ecology of these two species. Using information derived from the literature, citizen science, and the examination of museum specimens, we reviewed and characterised the diets of these species. We confirm that *N. nivea* consumes a wide range of prey types including snakes, rodents, anurans, lizards, birds and their eggs, and even chelonians. Prey types were relatively evenly distributed, with no single prey type accounting for more than 33% of observations, and four prey types accounting for more than 10% of observations. Conversely, *D. typus*, had a diet dominated by birds and their eggs (48%) and lizards (42%; > 97% of which were chameleons), but that was nearly as diverse as that of *N. nivea* with observations of rodents, anurans, and snakes in their diet. Across their ranges, the two species show 31% overlap in diet, suggesting relatively limited potential for interspecific competition in areas of sympatry. However, at local scales, limited prey availability may drive increased niche overlap and stronger competition, especially around spatially-explicit and temporally predictable resources such as breeding sociable weavers. Moreover, the high frequency of snakes in the diet of *N. nivea* suggests the potential for intra-guild predation as a complex form of interspecific competition in the Kalahari. Indeed, preliminary field observations show high rates of colony occupancy by snakes, suggesting that opportunities for direct