

# *African Herp News*

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## HERPETOLOGICAL ASSOCIATION OF AFRICA

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### 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.

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**COVER PHOTOGRAPH:** *Nucras taeniolata* from Groendal Wilderness Area, Eastern Cape Province, South Africa. Photograph by: Werner Conradie. Canon EOS 450D (1/160, F32, ISO 100).

Carl Gans (1959, 1964) conducted detailed studies of morphological variation in the pan-African egg-eating snake genus *Dasypeltis*. His taxonomic conclusions were conservative however, and he recognized only six species: *D. scabra*, *D. palmarum*, *D. inornata*, *D. fasciata*, *D. medici* (two subspecies) and *D. atra*. Since then large collections of *Dasypeltis* from throughout the continent have accumulated in various museums. In 2006 Trape & Mané reviewed the genus in West Africa and described three new species: *D. confusa*, *D. sahelensis* and *D. gansi* (two subspecies); and another new species from this area is currently being described (S. Trape pers. comm.). We have initiated morphology-based revisions of *Dasypeltis* in the W half of Southern Africa, E half of Southern Africa, central Africa, and NE Africa & SW Arabia. A separate molecular phylogenetic study (mitochondrial and nuclear genes) has now been extended to provide pan-African coverage of the genus. Where possible we have used both morphological and genetic data to resolve taxonomic problems. Preliminary phylogenetic results indicate that apart from the basal species *D. medici*, there are two distinct *Dasypeltis* clades: 1) populations from W, SW and central Africa (*D. s. loveridgei*, and sister species *D. palmarum* and *D. confusa*), and 2) remaining species analysed so far (*D. inornata*, *D. scabra*, and sister species *D. fasciata* and *D. atra*). *D. scabra* in Southern Africa consists of three clades, with two possible new species. Molecular and morphological data indicate that *D. s. loveridgei* of Namibia and adjacent regions in SW Africa, currently considered a synonym of *D. scabra*, is in fact a distinct species sympatric with the latter in north-central Namibia. Populations in S Namibia and N Cape of South Africa, as well as NW Namibia and SW Angola, respectively, appear to represent new subspecies of —*D. loveridgei*||. A morphology-based revision of *Dasypeltis* in NE Africa & SW Arabia confirms the validity of *D. abyssina*, a species with unusual dorsal and ventral colour patterns, and high ventral counts, and identifies a new subspecies of *D. abyssina* from Ethiopia, Eritrea and the Arabian Peninsula. Distribution ranges of the various taxa have been mapped and will be illustrated. Although previously considered restricted to W Africa, *D. confusa* is widely distributed through central Africa to Uganda and as far south as S Angola; while *D. atra* extends from S Tanzania to central Ethiopia and westwards into E DRC.

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**Bauer, Aaron** (Villanova University); Heinecke, Matthew; Jackman, Todd (Villanova University)

### **Substrate-mediated endemism in southern African geckos**

Southern Africa has a rich lizard fauna, within which gekkonid geckos are a dominant group. High species-richness in geckos is associated with substrate-specificity which, in conjunction with the complex geological history of the subcontinent, has resulted in

extensive cladogenesis and narrow endemism in most rupicolous species. Phylogenetic analyses of each of several major clades of southern African geckos: the *Pachydactylus* group (*Pachydactylus*, *Rhoptropus*, *Colopus*, *Chondrodactylus*, *Elasmodactylus*), *Goggia* and *Afroedura* recovered well-resolved trees with most branches receiving significant support. Divergence timing and diversification analyses reveal that an increase in the rate of speciation in the most species-rich genus, *Pachydactylus*, was associated with a shift from terrestriality to rock-living in the late Oligocene to early Miocene. Rupicolity is ancestral in both *Goggia* and *Afroedura*. Basal lineages in these two taxa are present in the southwestern Cape of South Africa where several species of *Pachydactylus* also occur, but their chief diversification has been in the temperate Cape Fold Mountains (*Goggia*) and along the Eastern Escarpment and into the Eastern Cape (*Afroedura*), where *Pachydactylus* is poorly represented. Conversely, *Pachydactylus* and its related genera have their greatest diversity in the arid regions of the Northern Cape and Namibia, where the other genera are represented by only two species each. The approximately contemporaneous diversification of these genera suggests that ecological interactions between them may have contributed to their largely complementary distributions.

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**Blackburn, David** (California Academy of Sciences)

### **Diversification of the Squeaker Frogs across Africa's mountains**

The deep-time historical biogeography of Africa's montane faunas remain incompletely known, especially the relationships between montane regions. I present recent and ongoing work on the phylogenetic relationships within the frog genera *Arthroleptis* (Squeakers) and *Cardioglossa* (Long-fingered Frogs), which are sister taxa. The evolutionary history of these genera sheds light on the relationships between species in the mountains of the Cameroon Volcanic Line (CVL), the Albertine Rift, and the Eastern Arc. The phylogenetic relationships within these genera reveal replicated biogeographic patterns, including the discovery that the Albertine Rift fauna is of mosaic origin, with some montane species part of clades from the CVL and others from the Eastern Arc.

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**Bowie, Rauri** (University of California-Berkeley)

### **Climate cycles, stability, and diversification in an African biodiversity hotspot**

That existing models based on contemporary environmental variation fail to predict richness patterns of many species including the bulk of vertebrates on most continents, is now well-established. To understand species distribution patterns we need to integrate large-scale macroecology with evolutionary biology. Of particular interest are mountains