Indigenous Names for South African Frogs and Aspects of Folk Taxonomy, A Zululand Case Study

Fortunate M. Phaka, Edward C. Netherlands, Donnavan J.D. Kruger, and Louis H. du Preez

Background

- Social element for FBIP funded project
- Major outcomes of that FBIP project:
  - Two new *Breviceps* species described
  - Six new amphibian and reptilian blood parasite species described (includes new genus and life cycle description)
  - 226 amphibian DNA barcode entries to BOLD and GenBank (includes 7 new species entries to BOLD)
  - Bilingual (isiZulu and English) frog field guide (comprehensive list of indigenous species names)

Background

- Bilingual (isiZulu and English) frog field guide (comprehensive list of indigenous species names)

Motivation

- Taxonomy allows for meaningful conversations about biota, feeds our need to organise the world into recognisable units
- Scientific taxonomy = standardised way of organising biota
- Folk taxonomy = Pre-scientific taxonomy based on culture, thus localised in application

Motivation

- Early collection and investigation of vernacular (Afrikaans and English) names for South African amphibians revealed a need for standardisation
- Today a level of standardisation has been reached for Afrikaans and English names
- This created a gap to reach a level of standardisation with South Africa's other languages

Methods

- Semi-structured questionnaire used to collect IsiZulu frog names from Zululand locals along with reasoning behind the names

Methods

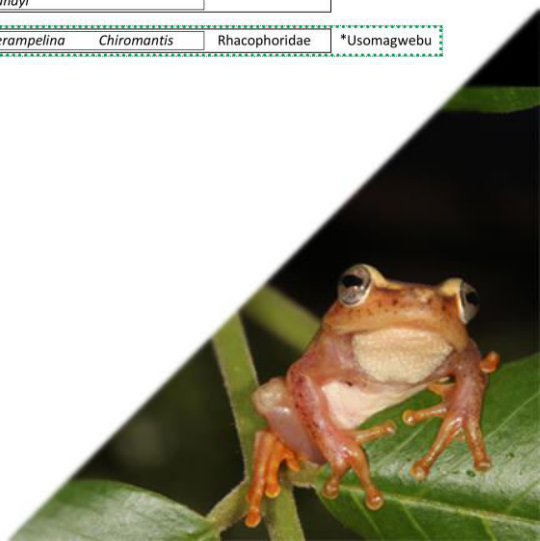
- Semi-structured questionnaire used to collect IsiZulu frog names from Zululand locals along with reasoning behind the names
- Folk taxonomy within the Zululand context investigated
- Classification and nomenclature principles studied and used to formulate individual isiZulu frog names
- Formulated names published to increase their universality

Results

- Six uninominal names used for frogs in Zululand
- No isiZulu names for individual species in Zululand
  - species grouped according to habits, habitats or appearance

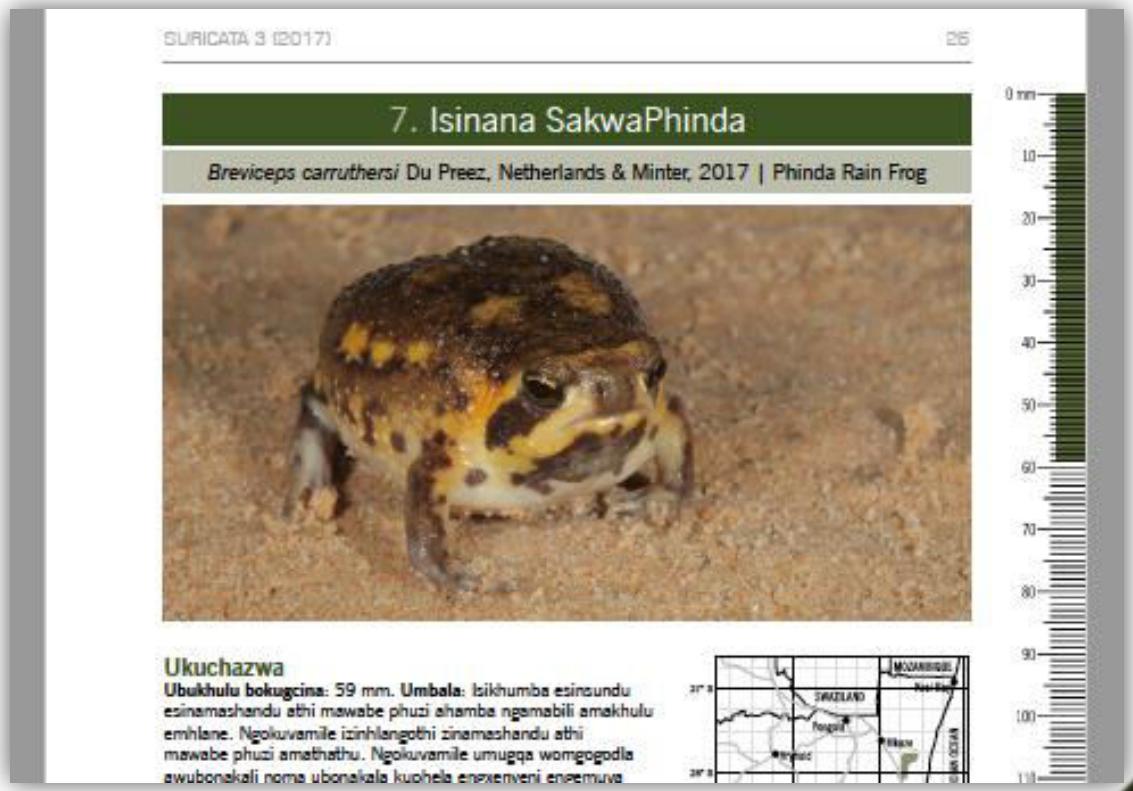
Results

Scientific name	Genus	Family	Indigenous name
Arthroleptis stenodactylus	*Arthroleptis*	Arthroleptidae	*Umanswininiza**
Arthroleptis walhbergii			
Leptopelis mossambicus	*Leptopelis*		*Isele*
Leptopelis natalensis			
Breviceps adspersus	*Breviceps*	Breviceptidae	*Isinana*
Breviceps bagginsi			
Breviceps carruthersi			
Breviceps mossambicus			
Breviceps passmorei			
Breviceps sopranus			
Poyntonophrynus fenoulheti	*Poyntonophrynus*	Bufonidae	*Ixoxo*
Schismaderma carens	*Schismaderma*		
Sclerophrys capensis	*Sclerophrys*		
Sclerophrys garmani			
Sclerophrys gutturalis			
Sclerophrys pusilla			
Hadromophryne natalensis	*Hadromophryne*	Heleophrynidae	*Isele*
Hemisus guttatus	*Hemisus*	Hemisotidae	*Isinana*
Hemisus marmoratus			
Afrixalus aureus	*Afrixalus*	Hyperoliidae	Umgqagqa
Afrixalus delicatus			
Afrixalus fornasinii			
Hyperolius argus	*Hyperolius*		
Hyperolius marmoratus			
Hyperolius pickersgilli			
Hyperolius poweri			
Hyperolius pusillus			
Hyperolius semidiscus			
Hyperolius tuberilinguis			
Phlyctimantis maculatus	*Phlyctimantis*		+UKassina
Kassina senegalensis	*Kassina*		
Phrynomantis bifasciatus	*Phrynomantis*	Microhylidae	Isele
Phrynobatrachus acridoides	*Phrynobatrachus*	Phrynobatrachidae	
Phrynobatrachus mababiensis			
Phrynobatrachus natalensis			
Hildebrandtia ornata	*Hildebrandtia*		Ixoxo
Ptychadena anchietae	*Ptychadena*	Ptychadenidae	Uvete
Ptychadena mossambica			
Ptychadena nilotica			
Ptychadena oxyrhynchus			
Ptychadena porosissima			
Ptychadena taenioscelis			
Xenopus laevis	*Xenopus*	Pipidae	Idwi
Xenopus muelleri			
Amietia delalandii	*Amietia*	Pyxicephalidae	Isele
Cacosternum boettgeri	*Cacosternum*		
Cacosternum nanogularum			
Cacosternum nanum			
Cacosternum striatum			
Natalobatrachus bonebergi	*Natalobatrachus*		
Pyxicephalus edulis	*Pyxicephalus*		Ixoxo
Strongylopus fasciatus	*Strongylopus*		Isele
Strongylopus grayii			
Tomopterna cryptotis	*Tomopterna*		
Tomopterna krugerensis			
Tomopterna natalensis			
Tomopterna tandyi			
Chiromantis xerampelina	*Chiromantis*	Rhacophoridae	*Usomagwebu



Results

- Studied folk taxonomy guidelines supplemented with existing vernacular guidelines to formulate individual names



SURICATA 3 (2017) 26

7. Isinana SakwaPhinda

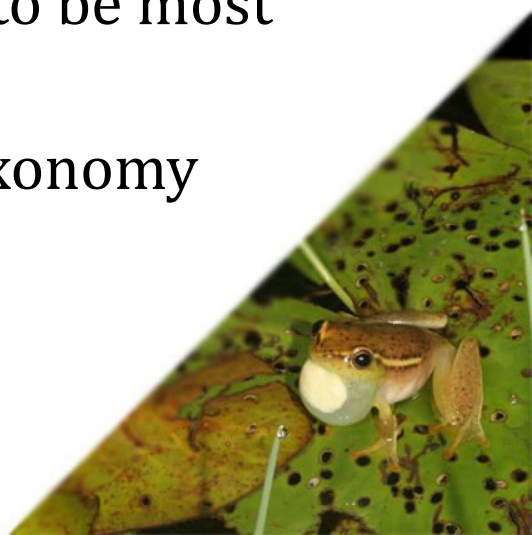
Breviceps carruthersi Du Preez, Netherlands & Minter, 2017 | Phinda Rain Frog

Ukuchazwa

Ubukhulu bokugcina: 59 mm. **Umbala**: Isikhumba esinsundu esinamashandu athi mawabe phuzi ahamba ngamabili amakhulu emhlane. Ngokuvamile izinhlangothi zinamashandu athi mawabe phuzi amathathu. Ngokuvamile umugqa womgogodla awubonakali noma ubonakala kuphela enxenyeni eneemuva

Discussion

- Folk taxonomy vs scientific taxonomy in Zululand
  - Similar intellectualist approach
  - Taxon ranked higher than the species group should be uninominal (ICZN Code)
  - 32 of 58 species names were binomina (ICZN Code)
- Dominance of generic taxa indicates human perception of evolutionary groupings and reveals genera to be most recognizable taxonomic level
- A surprisingly systematic and developed taxonomy
- Principles show similarity across cultures




So, where to from here?