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)
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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
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- 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

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Genus</th>
<th>Family</th>
<th>Indigenous name</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Arthroleptis</em></td>
<td><em>Arthroleptis</em></td>
<td>Arthroleptidae</td>
<td>Umanswini Idwi*</td>
</tr>
<tr>
<td><em>Arthroleptis</em> walbergii</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Leptopelis</em> mossambicus</td>
<td><em>Leptopelis</em></td>
<td></td>
<td>Isele</td>
</tr>
<tr>
<td><em>Leptopelis</em> natalensis</td>
<td><em>Leptopelis</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breviceps adspersus</td>
<td>Breviceps</td>
<td>Breviceptidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Breviceps bagginsi</td>
<td>Breviceps</td>
<td>Breviceptidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Breviceps carruthersi</td>
<td>Breviceps</td>
<td>Breviceptidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Breviceps mossambicus</td>
<td>Breviceps</td>
<td>Breviceptidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Breviceps passmorei</td>
<td>Breviceps</td>
<td>Breviceptidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Breviceps supranus</td>
<td>Breviceps</td>
<td>Breviceptidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Pyronotophynus</td>
<td><em>Pyronotophynus</em></td>
<td>Bufonidae</td>
<td>Ixwo</td>
</tr>
<tr>
<td><em>Schismaderma</em> corens</td>
<td>Schismaderma</td>
<td></td>
<td>Ixwo</td>
</tr>
<tr>
<td>Sclerophrys capensis</td>
<td>Sclerophrys</td>
<td>Sclerophryidae</td>
<td>Ixwo</td>
</tr>
<tr>
<td>Sclerophrys germani</td>
<td>Sclerophrys</td>
<td>Sclerophryidae</td>
<td>Ixwo</td>
</tr>
<tr>
<td>Sclerophrys guturalis</td>
<td>Sclerophrys</td>
<td>Sclerophryidae</td>
<td>Ixwo</td>
</tr>
<tr>
<td>Sclerophrys pusilla</td>
<td>Sclerophrys</td>
<td>Sclerophryidae</td>
<td>Ixwo</td>
</tr>
<tr>
<td>Hadramaphrynus</td>
<td>Hadramaphrynus</td>
<td>Heleophrynidae</td>
<td>Ixwo</td>
</tr>
<tr>
<td><em>Hiledrantha</em> morita</td>
<td>Hiledrantha</td>
<td></td>
<td>Ixwo</td>
</tr>
<tr>
<td>Hemius guttatus</td>
<td>Hemius</td>
<td>Hemisotidae</td>
<td>Isinana</td>
</tr>
<tr>
<td>Hemius marmoratus</td>
<td>Hemius</td>
<td>Hemisotidae</td>
<td>Isinana</td>
</tr>
</tbody>
</table>

### Hyperoliidae
- *Africhirus aureus*
- *Africhirus delicatus*
- *Africhirus farnesini*
- *Hyperolius argus*
- *Hyperolius marmoratus*
- *Hyperolius pickersgilli*
- *Hyperolius poweri*
- *Hyperolius pusillus*
- *Hyperolius semidicus*
- *Hyperolius tuberlinguis*
- *Phrycnorhychus maculatus*
- *Phrycnorhychus* ( viele subspecies )
- *Kassina senegalensis*
- *Kassina*
- *Tremarctophis marmoratus*
- *Tremarctophis* ( viele subspecies )
- *Racophorus* ( viele subspecies )
- *Ceratophrys* ( viele subspecies )
- *Rhacophorus* ( viele subspecies )

### Umpagapoja
- *Amietia delalandii*
- *Amietia*
- *Cacosternum boettigieri*
- *Cacosternum nanum*
- *Cacosternum striatum*
- *Nathanobatrachus bonebergil*
- *Natanobatrachus*
- *Pyxicephalus edulis*
- *Pyxicephalus*
- *Strongylus fasciatus*
- *Strongylus grayii*
- *Tomopterna cryptotis*
- *Tomopterna krugerensis*
- *Tomopterna natalensis*
- *Tomopterna tadyl*
- *Hiledrantha* morita

### *Ukomagwe*
- *Hiledrantha* morita
- *Hiledrantha* morita
Results

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