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**Abstract**

The taxonomy of two similar frogs from the top of the Drakensberg escarpment, the Maluti River Frog and the Phofung River Frog is not settled. I examine the relevant types and type descriptions, and discover a number of errors in the literature. Some of the recent taxonomic changes were found to be unsupported. The Maluti River Frog is assigned to *Amietia vertebralis* (Hewitt, 1927), and the Phofung River Frog to *Amietia hymenopus* (Boulenger, 1920).

**Key words:** Drakensberg, taxonomy, *Amietia*, *Strongylopus*, types

**Introduction**

The Maluti-Drakensberg highlands are the home to three River Frogs: Queckett's River Frog, the Maluti River Frog and the Phofung River Frog. The latter two possess umbracula, and have been confused in collections. Tarrant et al. (2008) suggested the common names Maluti River Frog for the larger species, and Phofung River Frog for the smaller species.

Queckett's River Frog *Amietia quecketti* (Boulenger, 1895) was recognised as a good species by Channing & Baptista (2013). The taxonomy of the other two species is not stable. The Maluti River Frog has recently been referred to *Amietia vertebralis* and later *Amietia umbraculata*, while the Phofung River Frog may be *Amietia vertebralis*, *Amietia hymenopus*, or it may be in the genus *Strongylopus* (Poynton 1964, Tarrant et al. 2008, Clarke & Poynton 2012). This paper addresses the taxonomic discord. Collection abbreviations: AACRG—African Amphibian Conservation Research Group, North West University, South Africa; BM—old acronym for NHMUK; NHMUK—Natural History Museum, London; NMSA—Natal Museum, Pietermaritzburg, South Africa; PEM—Port Elizabeth Museum South Africa, part of Bayworld; TM—Transvaal Museum, Pretoria, South Africa, now part of the Ditsong Museums.

**The river frogs of the Maluti-Drakensberg massif**

The Drakensberg massif was formed around 180 Ma (Moulin et al. 2011) and consists of a sandstone base capped with a layer of basalt that is over 1000 m thick in places (Haskins & Bell 1995). The eastern and southern faces form a steep escarpment, which is the result of millions of years of erosion. The Kingdom of Lesotho is situated on part of the Drakensberg and related mountain ranges and highlands, enclosed within the boundaries of South Africa. These highlands have many endemics, and are rich in plant and animal species (Mucina & Rutherford 2006, Zunkel 2003). They remain less accessible, although recent repeated visits by herpetologists have provided interesting data (Tarrant et al. 2008, Kruger et al. 2011).

Two of the common amphibian species on top of the Drakensberg are the Phofung River Frog and the Maluti River Frog. Both species are found in the streams draining the high mountains. The Maluti River Frog is fully aquatic, while the Phofung River Frog can also be found in vegetation along stream edges (Fig. 1). They can be distinguished from the other river frog that occurs there, *Amietia quecketti* (Channing & Baptista 2013) as both...
**Amietia vertebralis** (Hewitt, 1927). Dubois 1987

**Rana umbraculata** Bush, 1952


**Discussion**

This study of the Maluti and Phofung river frogs has shown how important type specimens and accurate type descriptions are. Although the type of *Rana vertebralis* PEM1550 is now in poor shape, it was in the only jar of specimens not in good condition that were recently transferred to the Port Elizabeth Museum (Bayworld) (W.R. Branch, pers comm.). When Poynton examined the specimen for his dissertation and 1964 monograph, the specimen was still in good condition, and he had no hesitation in assigning *Rana umbraculata* Bush, 1952 as a junior synonym of *Rana vertebralis* (despite the fact that Bush was proud of the species, and was then Poynton’s PhD supervisor).

Subsequent to FitzSimons (1948b) expanded "description" of *Rana vertebralis*, this became the de facto reference for the species, rather than the type. For example, three slightly different sets of measurements of TM 21353 show that this was regarded as representing *Rana vertebralis* (FitzSimons 1948a, 1948b; Bush 1952), while the measurements of the type were only taken from the description, despite the fact that they were incomplete.

The presence of an umbraculum in the Phofung River Frog *Amietia hymenopus* was only reported recently (Du Preez & Carruthers 2009). Previous to that, all specimens with umbracula might have been identified as Maluti River Frogs *Amietia vertebralis*. Tarrant et al. (2008) discovered numerous misidentified specimens in museum collections.

Although Tarrant et al. (2008) emphasise that they have not found any Maluti River Frogs at Mont-aux-Sources, the type locality of *Rana vertebralis*, specimens are reported from there by Bates (2002) who shows that the species is widespread in Lesotho, KwaZulu-Natal and the Eastern Cape provinces.

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**References**


APPENDIX. Material examined.

PHOFUNG RIVER FROG

_Rana hymenopus_ Boulenger, 1920.
Holotype NHMUK 1947.2.28.65
_Amietia hymenopus_ (Boulenger, 1920)
AACRG 0647–50, 2397, 2398 Mont-aux-Sources; NMSA 737, 740, 741, 745 (two specimens), 5597–98 Mont-aux-Sources; NMSA 5587–8 Top of Giant's Castle, Lesotho; NMSA 6351–2 Top of Organ Pipes Pass, Lesotho.

MALUTI RIVER FROG

_Rana dracensenis_ FitzSimons, 1948
Holotype NMSA 734 Mont-aux-Sources
_Phrynobatrachus lawrencei_ FitzSimons, 1947
Holotype NMSA 669 Champagne Castle, Drakensberg


PHOFUNG RIVER FROG

_Rana hymenopus_ Boulenger, 1920.
Holotype NHMUK 1947.2.28.65
_Amietia hymenopus_ (Boulenger, 1920)
AACRG 0647–50, 2397, 2398 Mont-aux-Sources; NMSA 737, 740, 741, 745 (two specimens), 5597–98 Mont-aux-Sources; NMSA 5587–8 Top of Giant's Castle, Lesotho; NMSA 6351–2 Top of Organ Pipes Pass, Lesotho.

MALUTI RIVER FROG

_Rana vertebralis_ Hewitt, 1927
Holotype PEM A1550 Mont-aux-Sources
Paratypes PEM A1551, A1552, A1562 and A10562 Mont-aux-Sources
_Amietia vertebralis_ (Hewitt 1927)
AC3037 Sani Pass top, Drakensberg; AACRG 1104–05 Upper Sani, Lesotho; AACRG 0276, 0489, 0678,1108 Lesotho; NMSA 2608–9 Drakensberg Gardens, Drakensberg; NMSA 6297 Underberg, Yealand;
_Rana umbraculata_
Paratypes (male and female) NMSA 712 Drakensberg Gardens, Drakensberg