



A new brevicipitid species (Brevicipitidae: Callulina) from the fragmented forests of the Taita Hills, Kenya

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Abstract

A new species *Callulina dawida* is described from the Taita Hills, Kenya. It is distinguished from other members of the genus on the basis of the degree of digital expansion. The species further differs from other members of the genus based on molecular sequence comparisons and on its call. The morphological variation in the new species is described, including a comparison of internal and external characters and sexual dimorphism with other species of *Callulina*. The conservation status of the species, on the basis of its restricted distribution and land use changes in the area, is considered to be of high concern. An updated key of the species of *Callulina* is provided.

Key words: *Callulina*, Brevicipitidae, Taita Hills, Eastern Arc Mountains, Afromontane

Introduction

The brevicipitid genus *Callulina* is found throughout the Eastern Arc Mountains (EAM), from its northern most extent in the Taita Hills of Kenya (Howell, 1993) down to the Udzungwa Mountains (Frontier, 2001) in southern Tanzania. Described species are generally associated with forest habitats. Species of *Callulina* are easily distinguished from other brevicipitines by the degree of expansion of the finger and toe tips (Parker, 1934; de Sá *et al.* 2004). Whereas all other brevicipitines (*Breviceps*, *Probreviceps*, *Balebreviceps*, and *Spelaeophryne*) have round finger and toe tips and are predominantly fossorial, species of *Callulina* show expanded finger and toe tips that are likely to be an adaptation to their more arboreal lifestyle. *Callulina* was long considered to be a monotypic genus, with *C. kreffti* distributed throughout the EAM (Schjøtz, 1981). This notion was recently challenged with the description of populations from the West Usambaras as *C. kisiwamsitu* (de Sá *et al.* 2004). The recognition of two distinct species in geographically adjacent areas of the Usambaras highlighted an uncertainty about the taxonomic status of other mountain populations distributed throughout the EAM (de Sá *et al.* 2004). Populations of *Callulina* that are isolated and geographically widely separated in the Eastern Arc Mountains, deserve detailed investigation and ongoing work on *Callulina* indicates that many new species await description (Menegon *et al.* 2008).

In this paper we describe a new species of *Callulina* from the Taita Hills, Kenya and provide details on internal and external morphological variation, and the advertisement call of the species. We focus on a complex of morphological characters that Parker (1934) identified as being taxonomically informative for distinguishing between brevicipitid genera and species. More recently, the morphological characters that