



A new giant species of *Arthroleptis* (Amphibia: Anura: Arthroleptidae) from the Krokosua Hills Forest Reserve, south-western Ghana

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Abstract

We describe a new giant species of *Arthroleptis* from the eastern part of the Upper Guinean rain forest, West Africa. This species from the Krokosua Hills Forest Reserve, south-western Ghana is the largest member of the genus from West Africa. It differs from all known West African *Arthroleptis* by its large size, its peculiar coloration and a number of morphological characters, such as e.g. an extremely broad head. *Arthroleptis krokosua* **sp. nov.** is most similar to large members of the genus from East and Central Africa, particularly *A. variabilis* and *A. adolfifriederici* from which it differs in lateral and ventral colouration patterns, larger size (> 43 mm), as well as head shape (heads width / snout-vent length: 0.45; 0.40 in *A. variabilis* and *A. adolfifriederici*). Genetic divergence in 550 bp of 16S rRNA was 4.97–5.14 % between the new species and *A. variabilis*. The new species seems to have no apparent affiliations to any other West African member of the genus. All other West African *Arthroleptis* are much smaller in size and differ in body shape.

Key words: *Arthroleptis krokosua* **sp. nov.**, forest, Globally Significant Biodiversity Areas, taxonomy, Upper Guinea

Introduction

Historically the forests of western Ghana have not been prime subjects of thorough herpetological surveys even though West Africa has been the target of herpetological investigations for more than 100 years. A first review on herpetological investigations in Ghana has been published in 1988 (Hughes 1988) and since the work by A. Schiøtz, in the 1960s (Schiøtz 1964a, b, 1967), only a very few significant contributions to the Ghanaian amphibian fauna have been published (e.g. Hoogmoed 1979, 1980; Hughes 1979). The few surveys conducted in forested areas typically revealed between 10 and 20 amphibian species per site (for a summary see Rödel & Agyei 2003), which is a rather low species richness compared to neighbouring countries, such as Côte d'Ivoire or Guinea (Rödel & Branch 2002; Rödel 2003; Rödel & Ernst 2003, 2004; Rödel & Bangoura 2004; Rödel *et al.* 2004). However, it has been speculated that the Ghanaian forests are not less diverse than Ivorian or Guinean forests, but are simply less well explored and species richness in this region should hence be higher than previously assumed. For this reason, the western Ghanaian forests were assigned an exceptionally high priority for rapid assessment during the Conservation Priority Setting Workshop held in Ghana (Bakarr *et al.* 2001). As a direct outcome of that workshop, Conservation International conducted a Rapid Assessment Program (RAP) survey in three selected forests of south-western Ghana classified as Globally Significant Biodiversity Areas (GSBA), from 22 October to 10 November 2003, at the end of the rainy season (McCullough *et al.* 2005). Results of this survey have confirmed that the western Ghanaian forests indeed have higher amphibian species richness than previously assumed. Thorough investigations yielded new coun-