



## The tadpole of *Ptychadena schillukorum* (Werner, 1908 “1907”) (Amphibia: Anura: Ptychadenidae)

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The Ptychadenidae Dubois, 1987 are a frog family endemic to Sub-Saharan Africa and Madagascar (Frost 2008). Within the genus *Ptychadena* Boulenger, 1917 49 species are currently recognized as valid (Frost 2008), most of them breeding in temporary savanna ponds (Rödel 2000; Channing 2001; Channing & Howell 2006). In the Pendjari Biosphere Reserve (PBR) in northern Benin this genus is extraordinary diverse. Here we recorded seven sympatric and partly syntopic *Ptychadena* species (Nago *et al.* 2006). The tadpoles of six West African species, *P. bibroni* (Hallowell, 1845), *P. pumilio* (Boulenger, 1920), *P. oxyrhynchus* (Smith, 1849), *P. tellinii* (Peracca, 1904), *P. tournieri* (Guibé & Lamotte, 1955) and *P. trinodis* (Boettger, 1881) have already been described (Lamotte & Zuber-Vogeli 1953; Guibé & Lamotte 1958; Lamotte *et al.* 1958, 1959; Lamotte & Perret 1961; Perret 1966; Rödel 2000; Rödel & Spieler 2000). Hence, *P. schillukorum* (Werner, 1908 “1907”) is the only West African savanna *Ptychadena* with an unknown tadpole. *P. schillukorum* ranges from Senegal, east to south-western Ethiopia and southern Somalia, south to Malawi, central Mozambique, south-eastern Democratic Republic of Congo and western Angola (Channing 2001; Nago *et al.* 2006). Recently it was reported from Egypt (Baha el Din 2006). It is hence either a very widespread savanna species or a member of a complex of cryptic species (see Nago *et al.* 2006 and Frost 2008 for synonyms of *P. schillukorum*). In West Africa it only occurs in drier savannas. In PBR these frogs breed in shallow savanna ponds, often in syntopy with *Phrynobatrachus francisci* Boulenger, 1912 and *Phrynobatrachus natalensis* (Smith, 1849) (Nago *et al.* 2006). The PBR is located in the Soudanian savanna zone in northern Benin (N 10°30-11°30, E 0°50-2°00). The climate is characterized by a short rainy season from late May or even June/July to early October. The mean annual precipitation is 1000 mm and the mean annual temperature is 27°C. For more details see Nago *et al.* (2006).

On 4 June 2005 we received a clutch of 1089 floating eggs from a couple (ZMB 73275, GAN Be104), captured amplexant in the field (see Figs. 2 & 7 in Nago *et al.* 2006). These frogs were placed in a small plastic aquarium (PT2 Firma Hoch; 25 x 15 cm; 10 cm water depth) where they deposited their eggs. The clutch was divided onto two larger plastic boxes, filled with rain water. Hatched larvae were fed *ad libitum* with commercial fish food (TetraMin®). The water was partly changed every two days. Every two to three days, tadpoles were randomly collected and preserved in 5% formalin (ZMB 73272). This was done until, after one month, the first froglets metamorphosed. The remaining specimens were released at the location where their parents were captured.

Tadpoles were staged according to Gosner (1960). The description of the tadpole morphology follows Altig & Johnston (1989). Terminology of mouth parts and keratodont formula is in accordance with Dubois (1995). The tadpole description is a summary of all specimens from Gosner's stages 23-41. Measurements were taken with a dial calliper ( $\pm 0.1$  mm) or a measuring ocular in a dissecting microscope ( $\pm 0.1$  mm; Zeiss Stemi SV 6). We measured body length (BL), body width (BW, measured at the plane of the eyes), body height (BH), snout-spiracle distance (SSD), distance snout-nose (SN), distance nose-eye (NE), tail length (TL), total length (BL + TL), dorsal fin height (UF), ventral fin height (DF) and height of tail axis (TA; maximum tail height = HT, HT = TA + UF + DF). Measures are given in mean values with standard deviation and are summarized in Tab. 1. Drawings were done with the aid of a camera lucida. Vouchers were deposited in the collections of the Museum für Naturkunde, Berlin (ZMB) and S.G.A. Nago (GAN). The latter collection will be housed at the University of Abomey-Calavi, Cotonou, Benin.

*Tadpole description* (measurements summarized in Tab. 1).— Body ovoid in dorsal view, a slight constriction behind their eyes; body length 1.6-2.1 of body width; body width and height almost equal; eyes positioned dorsolaterally;