The genus *Ceratophrys* occurs in the Neotropics and currently includes eight described species. The distribution of the Chacoan horned frog, *Ceratophrys cranwelli*, is associated with the Chaco, with records in Argentina, Bolivia, Brazil and Paraguay (Brusquetti & Lavilla, 2006; Vieira et al., 2006; Frost, 2013). There are few studies on the reproductive behaviour of *C. cranwelli*. Males call at the margin of ponds and females deposit multiple egg masses around the pond, which hatch into carnivorous tadpoles (Lavilla & Scrocchi, 1990; Perotti, 1997). Herein, we describe the reproductive behaviour of *C. cranwelli* from Porto Murtinho (Retiro Conceição Farm; -21.6842°S, -57.7778°W; Datum SAD-69, 90 m a.s.l.), Mato Grosso do Sul, central Brazil.

Our observations were made on 29 November 2012, in a temporary pond surrounded by a stepic-savanna vegetation in the south Pantanal, the only Brazilian area under the Chaco influence (Souza et al., 2010). We video recorded the behaviour of a pair of *C. cranwelli* using an underwater compact camera. Our observations began when the soil was drenched following a heavy rain (between 17:39 h - 17:58 h) and a male *C. cranwelli* started calling. At 18:05 h, the male was (Fig. 1A) 60 cm away from a closed-canopy temporary pond. At 18:19 h, a female *C. cranwelli* arrived and stopped at 50 cm from the male. The female displayed aggressive behaviour toward the male twice, before accepting amplexus. At 18:24 h, the male first approached the female but was not successful. Then the female lunged at him and tried to bite him. At 18:25 h, the male approached the female again, calling with the right lateral side of his body towards her frontal region. The male jumped near the female, which again responded with aggressive behaviour, this time biting the male on the right side of his body (Fig. 1B). After being bitten by the female, the male jumped away from her, but returned to call a few minutes later, positioning the right side of his body towards her. The female remained observing the male for a few seconds and approached him at 18:34 h, allowing an axillary amplexus (Fig. 1C). The male always called with the right side of his body towards the female, and whenever he tried to approach her, she reacted aggressively. The amplexus only occurred when the male remained calling motionless and the female approached him. Even during the embrace, the female tried to prey on a small anuran that jumped ahead. Approximately 15 minutes after the amplexus had started, the pair jumped toward the temporary pond (Fig. 1D), submerging and returning to the surface after 30 to 40 seconds. The female still had the male on her back, which remained with his rear legs moving. The amplexant pair remained in amplexus in the pond until 19:22 h, when we ceased observations.

In extremely seasonal environments, such as the Chaco and Pantanal, explosive breeding anurans (*sensu* Wells, 1977), such as *C. cranwelli* (Natale et al., 2011), have little time to feed and reproduce during the short rainy season (Prado et al., 2005; Souza et al., 2010). The genus *Ceratophrys* includes voracious species with...
large mouths, which consume a large range of prey sizes, including small vertebrates (Duellman & Lizana, 1994; Schalk, 2010; Schalk & Montaña, 2011). Thus, for *C. cranwelli*, the explosive reproduction (Natale et al., 2011), combined with the unpredictability of rainfall, and their morphological characteristics result in voracious feeding behaviour by both tadpoles and adults (Vera Candioti, 2005; Natale et al., 2011; Salgado Costa et al., 2013). The aggressive behaviour of the female observed here could be explained by the fact that she might have already reproduced earlier in the season, but we were unable to check if the female had mature oocytes in her ovaries. However, as the female accepted the amplexus and remained with the male for at least 50 min, we believe that both male and female were able to reproduce. Our observation suggests that the aggressiveness of the female toward the male may be a consequence of the voracious feeding behaviour of the species and indicate that in unpredictable environments, male predation by females during courtship may occur, especially when females are larger than males (Fig. 1C). More observations on this species and other anurans with similar ecology and behaviour are needed to support our hypothesis and examine the evolutionary consequences of this unusual behaviour.

**Acknowledgments.** The authors are grateful to I. Sazima for the valuable suggestions on the manuscript. NR Silva acknowledges CNPq, Hecolab and Universidade Federal da Grande Dourados for financial support. MF Gonçalves acknowledges Universidade Federal da Grande Dourados and Universidade Federal de Mato Grosso do Sul for help and financial support. PR Souza acknowledges Fundect-MS for financial support and Jorge Gonçalves for help in the field. MF Demetrio acknowledges CAPES, Hecolab and Universidade Federal da Grande Dourados for financial support. CPA Prado acknowledges CNPq and São Paulo Research Foundation (FAPESP JP # 2009/12013-4) for financial support.
A voracious female during the courtship of *Ceratophrys cranwelli*

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Accepted by Diogo Provete