Necrophilia was shown to be a functional reproductive behaviour in one frog species only. Necrophilia, also called necrogamy or Davian behaviour, is attempted copulation with dead conspecifics. This behaviour has been reported in some anuran species, but did not result in successful reproduction (e.g. Brito et al. 2012; Gómez-Hoyos 2012; Mollov et al. 2010; Izzo et al. 2012). Necrophilia and interspecific amplexus are considered maladaptive behaviours as they may result in an increased predation rate (Benard 2007) and reproductive interference (Pearl et al., 2005; D’Amore et al., 2009). Furthermore, necrophilia and interspecific amplexus are considered an ecological trap because the individuals are normally not capable of successful reproduction (Ayres 2010). However, Izzo et al. (2012) found that *Rhinella proboscidea* (Spix, 1824) used a “necrophilia strategy” with fitness advantages for both partners. Male *R. proboscidea* were observed in axillary amplexus with a dead conspecific female, compressing its abdomen with rhythmic movements, and expelling the oocytes (Izzo et al. 2012). The eggs were reared in a laboratory until they reached embryo stage 13, confirming that the male was successful in externally fertilizing the oocytes from the dead female (Izzo et al. 2012). The sex ratio in *R. proboscidea* is strongly male-biased, so if a female dies, the low probability of a male finding another partner makes fertilizing oocytes from dead females genetically beneficial for both sexes (Izzo et al. 2012). Here we present data suggesting that necrophilia may also be a beneficial reproductive strategy for a prolonged breeder, *Rana uenoi* (previously called *R. dybowskii*; Matsui, 2014) in the Republic of Korea.

On 23 February 2017 at 16:30 h, we observed a male *R. uenoi* in amplexus under ice with an inverted dead female *R. uenoi* (Fig. 1). The individuals were located in a small ditch along a rice field in the South Gyeongsang Province (34.799509°N, 127.330697°E; WGS84; 12 m a.s.l.). The posture of the inverted female suggests that amplexus began post-mortem. The eggs in Figure 1 are newly spawned eggs, based on the absent swelling of the external protective jelly, which starts swelling after contact with water 15 to 20 min after spawning. This species has a male-biased sex ratio (15:1; pers. obs.), like *Rhinella proboscidea* (10:1 in Izzo et al. 2012). Necrophilia is uncommon in prolonged breeders, and this is the first record of this behaviour in *R. uenoi*. This finding suggests that *R. uenoi* could also benefit from the “necrophilia strategy” for reproductive success. This behaviour deserves further research, particularly in prolonged breeders such as *R. uenoi*.

**Figure 1.** A male *R. uenoi* in amplexus with an inverted dead female. Compression may have resulted in the expulsion of oocytes for fertilization.
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Reference


