



# Heterospecific Amplexus Between a Male Paddy Frog, *Fejervarya multistriata* (Hallowell 1861) (Anura: Dicroglossidae), and a Male Banded Bullfrog, *Kaloula pulchra* Gray 1831 (Anura: Microhylidae), from Hong Kong

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The Banded Bullfrog (*Kaloula pulchra*) is a large microhylid (male SVL 55–77 mm, female SVL 56–76 mm) (Fei et al. 2012). Males have a black throat and usually call during and after rainfall. The species is widely distributed in Asia, where it ranges from northeastern India east through Bangladesh, Myanmar, and Thailand to southern China, and south to Singapore and the islands of Sumatra, Borneo, Sulawesi, and some of the Philippines (the island populations are introduced) (Fei et al. 2012; Frost 2021). The Paddy Frog (*Fejervarya multistriata*), a medium-sized dicroglossid (male SVL 38–42 mm, female SVL 43–49 mm), occurs in subtropical and tropical China and the range presumably also includes populations in adjacent Vietnam, Laos, Thailand, and Myanmar, and isolated records from Mizoram, India (Djong et al. 2011; Fei et al. 2012; Frost 2021). Breeding in both species is triggered by monsoon rains, and both typically use seasonal rain pools or ponds as breeding habitat (Fei et al. 2012).

Heterospecific amplexus has been documented in various anuran species worldwide, including instances between different orders (Howell 2017; Macat et al. 2019), families (Reilly et al. 2016; Shahrudin 2018; Groffen et al. 2019; Lalremsanga 2020), genera (Shahrudin 2016; Groffen et al. 2019), and species (Muansanga et al. 2021) that overlap spatially and temporally in breeding habitat. However, no records document heterospecific amplexus in Hong Kong.

At 2319 h on 8 May 2021, I observed a male *Fejervarya multistriata* engaged in axillary amplexus with a male *Kaloula pulchra* at Shek Pik, Lantau Island, Hong Kong (22°13'42.1"N, 113°53'27.6"E; elev. 61 m asl) (Fig. 1). Males of both species were calling along with male Spotted Treefrogs (*Polypedates megacephalus*). The strange pair was perched in an overflow pool with a concrete base covered by leaf litter. Air temperature and relative humidity at the site were 29 °C and 73%, respectively. The belly and chin of the



**Fig. 1.** Amplexus between a male Paddy Frog (*Fejervarya multistriata*) and a male Banded Bullfrog (*Kaloula pulchra*) at Shek Pik, Lantau Island, Hong Kong. Photographs by the author.

Paddy Frog were flattened and in contact with the dorsum of the Banded Bullfrog. The latter emitted an advertisement call once during amplexus. The pair was still in amplexus when we left the area after 15 minutes of observation.

Previous studies have revealed that the similarity in body size between frog species could contribute to the lack of specific discrimination (Yu and Lu 2013). However, the observed pair in amplexus varied in size. Heterospecific amplexus between males is less frequently reported than between males and females (Mollov et al. 2010). During anuran courtship, male frogs emit species-specific advertisement calls to attract females (Wells 2010), and differences in pitch and call characteristics in those advertisement calls dramatically reduce the likelihood of interspecific mating. However, studies have revealed that the advertisement call of male frogs can be interrupted and altered by anthropogenic noise pollution (Lengagne 2008) or distorted by the calls of other species (Wong et al. 2009).

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