

Biodiversity Record: Frogs at Springleaf Nature Park

Chen Xuanhe* & Odelia Tam

Email: xuanhezen@gmail.com (*corresponding author)

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Subjects: Asian common toad, *Duttarynus cf. melanostictus* (Amphibia: Anura: Bufonidae);
Four-lined tree frog, *Polypedates leucomystax* (Amphibia: Anura: Rhacophoridae);
Malayan giant frog, *Limnonectes blythii* (Amphibia: Anura: Dicroglossidae);
Crab-eating frog, *Fejervarya cancrivora* (Amphibia: Anura: Dicroglossidae);
Green paddy frog, *Hylarana erythraea* (Amphibia: Anura: Ranidae);
Günther's frog, *Hylarana guentheri* (Amphibia: Anura: Ranidae);
Banded bullfrog, *Kaloula pulchra* (Amphibia: Anura: Microhylidae);
Painted chorus frog, *Microhyla cf. butleri* (Amphibia: Anura: Microhylidae);
Dark-sided chorus frog, *Microhyla cf. heymonsi* (Amphibia: Anura: Microhylidae);
Mukhlesur's chorus frog, *Microhyla cf. mukhlesuri* (Amphibia: Anura: Microhylidae);
Greenhouse frog, *Eleutherodactylus planirostris* (Amphibia: Anura: Eleutherodactylidae).

Subjects identified by: Chen Xuanhe and Odelia Tam.

Location, date and time: Singapore Island, Springleaf Nature Park; 7 August 2025; 2200–2300 hrs.

Habitat: Parkland adjacent to secondary forest and canal (Sungei Seletar) with freshwater and aquatic vegetation.

Observers: Chen Xuanhe and Odelia Tam.

Observations: Eleven species of frogs were observed at Springleaf Nature Park within an hour. A substantial abundance of the introduced greenhouse frog (Fig. 1) with more than 30 individuals, and Mukhlesur's chorus frog (Figs. 2 & 3) with at least 30 individuals, were noted. Other species include the painted chorus frog (Fig. 4) with about 10 examples, dark-sided chorus frog (Fig. 5) with about 10 examples, banded bullfrog (Fig. 6) with five individuals, green paddy frog (Fig. 7) with one individual, Günther's frog (Fig. 8) with four individuals, Asian common toad (Fig. 9) with three individuals, crab-eating frog (Fig. 10) with four examples, Malayan giant frog (Fig. 11) with two individuals. The four-lined tree frog (Fig. 12) was recorded based on its call. Some Mukhlesur's chorus frogs appear to be melanistic (Fig. 3).

Remarks: Out of the eleven species of frogs observed, six are considered native to Singapore: four-lined tree frog, green paddy frog, crab-eating frog, Malayan giant frog, painted chorus frog, and dark-sided chorus frog. The remaining five species: Asian common toad, Günther's frog, banded bullfrog, Mukhlesur's chorus frog, and greenhouse frog, are considered introduced (Ng & Yeo, 2012; Figueroa et al., 2023 as 'Bengal toad' *Duttarynus bengalensis*). The Mukhlesur's chorus frog was first recorded on Singapore Island (Jurong) in 2015 (Law, 2015 as 'East Asian ornate chorus frog' *Microhyla fissipes*) but has since been found at other sites, including Kranji Marsh, Lorong Halus, Pang Sua Woodland, Windsor Nature Park (see Figueroa et al., 2023), Bukit Brown (Chen & Tam, 2023) and Upper Seletar (Chen et al., 2025). The greenhouse frog was first recorded in Singapore at Sembawang in 2016 (Groenewoud & Law, 2016) but has since been found at other sites including Clementi Woods, Dairy Farm Nature Park, Pang Sua Woodland, Fort Canning Park, Sentosa Island, Tengah (see Figueroa et al., 2023), as well as the Singapore Botanic Gardens, Hougang, Tanglin and Mandai West (personal observations).

In December 2021, we have noted the dark-sided chorus frog to be the most abundant species of amphibian at Springleaf Nature Park, with no sightings of Mukhlesur's chorus frog and greenhouse frog. The species, along with the painted chorus frog, also occurred in fewer numbers compared to the present abundance of Mukhlesur's chorus frog and greenhouse frog (personal observations). Although the environmental impacts of Mukhlesur's chorus frog and greenhouse frog are not yet determined, it is possible that they are competing ecologically with native frogs of similar size and habits, such as the dark-sided chorus frog and painted chorus frog.



Figs. 1–12. Dorso-lateral views of frogs photographed at Springleaf Nature Park on the evening of 7 August 2025 (except Fig. 12). Fig. 1. Greenhouse frog, about 2 cm. Fig. 2. Mukhlesur's chorus frog, about 2.5 cm. Fig. 3. Mukhlesur's chorus frog, dark morph, about 2.5 cm. Fig. 4. Painted chorus frog, about 2.5 cm. Fig. 5. Dark-sided chorus frog, about 2 cm. Fig. 6. Banded bullfrog, about 6 cm. Fig. 7. Green paddy frog, about 7 cm. Fig. 8. Gunther's frog, about 7 cm. Fig. 9. Asian common toad, about 7 cm. Fig. 10. Crab-eating frog, about 8 cm. Fig. 11. Malayan giant frog, about 12 cm. Fig. 12. Four-lined tree frog, about 8 cm, photographed in the area in 2021. Sizes in snout-vent length (Photographs by: Chen Xuanhe [Figs. 1-6, 8-12] and Odelia Tam [Fig. 7]).

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