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CONSERVATION AND NATURAL HISTORY

CEPF Burrowing Frog (*Fejervarya cepfi*) as Prey of a Terrestrial Beetle Larva (*Epomis* sp.)

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Amphibians are important prey for numerous arthropod taxa, including ground beetles (e.g., Toledo 2005; Bernard and Samolag 2014). Previous studies have shown that the larvae of ground beetles in the genus *Epomis* feed exclusively on amphibians and display a unique luring behavior in order to attract their prey (Wizen et al. 2011). Moreover, the larval mandibles are characterized by two curved hooks, a modification for grasping amphibian skin (Brandmayr et al. 2010). However, published observations of *Epomis* beetles attacking amphibians are scarce, with reports from Japan (Crossland et al. 2016), the Middle East (Wizen and Gasith 2011), and two from India (Barve and Chaboo 2011; Wizen et al. 2017). Herein we report predation by *Epomis* larvae on a CEPF Burrowing Frog (*Fejervarya cepfi*), a recently described endemic species known from only a few localities in the northern Western Ghats of Maharashtra, India (Garg and Biju 2017).

Fig. 1. Predation on a CEPF Burrowing Frog (*Fejervarya cepfi*) by a ground beetle larva (*Epomis* sp.) in Amboli Forest, Sindhudurg District, Maharashtra, India. Photograph by Samruddha Patil.

At 1600 h on 12 September 2017, during an amphibian survey at Amboli Forest, a hilly location in the northern Western Ghats in Sindhudurg District, Maharashtra, India (15.964681°N, 74.003616°E; WGS 84; elev. 690 m asl), we observed a CEPF Burrowing Frog on the ground near a pond in the forest. Upon closer inspection, we noticed that the frog (SVL ca. 30 mm) had a small beetle larva attached to its throat (Fig. 1). The larva was a first-instar (the first of five larval stages) *Epomis* larva. The frog appeared otherwise healthy, was not struggling, seemed to behave normally, and moved about on the ground without problems. We collected neither the frog nor the larva.

The frog probably encountered the *Epomis* larva on the ground, and the location of the larva on the frog's throat suggests that the larva enticed the frog to approach by displaying its characteristic luring behavior (Wizen et al. 2011). Because *Epomis* larvae feed exclusively on amphibians in an ectoparasitic manner, the interaction is usually fatal to the amphibian.

Our observation suggests that a population of *Epomis* beetles exists in the area and that its dependence on frogs as prey could have a negative effect on anuran populations. We propose additional monitoring of both frog and beetle populations to evaluate the impact of the beetles on the anuran populations in this region.

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