



Bloating in a Spiny-headed Treefrog Tadpole (*Triprion spinosus*) in Costa Rica

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Bloating is a visible, non-skeletal anomaly characterized by abnormal body inflation due to gas accumulation (Szkudlarek and Najbar 2021). Bloating is observed in amphibians as a nonspecific clinical manifestation shared across various diseases (Ferreira and Rosa 2017). A literature review by Henle et al. (2017) identified 158 cases of bloating in more than 51 amphibian species. Some specific case reports include the Common Toad (*Bufo bufo*), Wood Frog (*Lithobates sylvaticus*), Pacific Treefrog (*Pseudacris regilla*), Moor Frog (*Rana arvalis*) and European Common Frog (*Rana temporaria*) (Johnson et al. 2001; Vershinin 2005; Szkudlarek and Najbar 2021).

The Spiny-headed Treefrog (*Triprion spinosus*), listed as Near Threatened (NT) on the IUCN Red List, is known to occur in Costa Rica, Guatemala, Honduras, Mexico, and Panama (IUCN SSC Amphibian Specialist Group 2020; Peralta-Hernández and Peralta-Hernández 2020; Cortés Suárez et al. 2021; Frost 2025; García-Padilla et al. 2025).

Triprion spinosus, a moderately large frog distinguished by cranial-integumentary co-ossification that gives the appearance of a crown on the head (Cerón-de la Luz et al. 2023), is a canopy-dwelling species that occurs in lowland rainforests and montane humid forest (IUCN SSC Amphibian Specialist Group 2020). Habitat loss and *Batrachochytrium dendrobatidis* have been reported as primary factors driving its decline (IUCN SSC Amphibian Specialist Group 2020).

At 0920 h on 16 May 2025, we observed a tadpole of *T. spinosus* feeding on eggs provided by the female in Centro Manu, Buenos Aires, Guapiles, Costa Rica (10.15803, -83.78252). At this site, breeding habitats were created by Kenneth Matarrita Gutiérrez using bamboo sections tied to trees, which were readily utilized by *T. spinosus* (Fig. 1A). At 1004 h on 10 July 2025, we recorded a bloated tadpole (Fig. 1B–C) at the same site. Numerous individuals were breeding successfully, and we observed no other bloated individuals or any signs of disease. At present, cause(s), severity, and poten-



Figure 1. Breeding habitat for Spiny-headed Treefrogs (*Triprion spinosus*) in bamboo sections tied to trees (A), a bloated tadpole in Centro Manu, Buenos Aires, Guapiles, Costa Rica compared to healthy conspecifics (B–C). Photographs by Raby Nuñez Escalante.

tial mortality associated with this condition are unknown. To the best of our knowledge, this is the first documented case of bloating in a tadpole of *T. spinosus* in nature.

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