



# A Resplendent Quetzal, *Pharomachrus mocinno* (Trogoniformes: Trogonidae), Feeding its Chicks a Matuda's Spike-thumbed Frog (*Plectrohyla matudai*) and an Anole (*Anolis* sp.) in Guatemala

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Predator-prey interactions are major drivers of natural selection and play vital roles in shaping community ecology and ecosystem function (e.g., Downes and Shine 1998; Nordberg and Schwarzkopf 2019; Mora et al. 2023; Junaid et al. 2025), and studying predator-prey dynamics is key to understanding energy flow in food webs (e.g., Souza et al. 2023; Junaid et al. 2025). Documenting what species eat also is essential for understanding their ecological roles and evolutionary patterns (e.g., Clark 2002; Barends et al. 2025), and knowledge of a predator's diet, foraging strategy, and prey selection is essential for understanding its impacts on prey

ecology, behavior, and spatial distribution (Nordberg et al. 2018; Junaid 2026).

Many species of birds are important predators of amphibians and reptiles (e.g., Poulin et al. 2001; Cubas-Rodriguez et al. 2024; Escalante and Junaid 2025). Resplendent Quetzals (*Pharomachrus mocinno*), currently listed as Near Threatened on the IUCN Red List (BirdLife International 2023), occur in Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama (e.g., Solórzano and Oyama 2010; Bolaños-Sittler et al. 2020, 2021; Solórzano et al. 2025). These birds, which inhabit the canopy and subcanopy of



**Figure 1.** A female Resplendent Quetzal (*Pharomachrus mocinno*) with a Matuda's Spike-thumbed Frog (*Plectrohyla matudai*) (left) and an anole (*Anolis* sp.) (right) in its beak in San Rafael Pie de la Cuesta, San Marcos, Guatemala. Photographs by Walter Rodriguez.

**Table 1.** Recorded amphibian and reptilian prey of Resplendent Quetzals (*Pharomachrus mocinno*).

| Species                          | Locality                        | Reference                                  |
|----------------------------------|---------------------------------|--------------------------------------------|
| <b>Amphibia: Hylidae</b>         |                                 |                                            |
| <i>Plectrohyla matudai</i>       | San Marcos, Guatemala           | This study                                 |
| <b>Reptilia: Anolidae</b>        |                                 |                                            |
| <i>Anolis</i> sp.                | Monteverde, Costa Rica          | Wheelwright (1983)                         |
|                                  | San Marcos, Guatemala           | This study                                 |
| <i>Anolis tropidolepis</i>       | Monteverde, Costa Rica          | Wheelwright (1983)                         |
| <b>Reptilia: Phrynosomatidae</b> |                                 |                                            |
| <i>Sceloporus malachiticus</i>   | Talamanca Mountains, Costa Rica | Carleton and Smith (2016)                  |
| <b>Reptilia: Anguidae</b>        |                                 |                                            |
| <i>Abronia</i> sp.               | Chiapas, Mexico                 | García-Padilla and Escalante-Pliego (2022) |
| <i>Abronia smithi</i>            | Chiapas, Mexico                 | García-Padilla and Escalante-Pliego (2022) |
| <i>Abronia monticola</i>         | Talamanca Mountains, Costa Rica | Rojas-Carranza and Wong (2024)             |

undisturbed, humid, evergreen montane forests, cloud forests, densely vegetated ravines, and cliff areas (BirdLife International 2023), are primarily frugivorous, but also feed on insects, snails, frogs, and lizards (Skutch 1944; Avila H. et al. 1996; BirdLife International 2023; Solórzano et al. 2025). We herein report predation on a frog and a lizard in Guatemala.

At 0700 h on 11 April 2024, in San Rafael Pie de la Cuesta, San Marcos, Guatemala (14.93121, -91.90890), we observed a female *Pharomachrus mocinno* holding a frog in its beak (Fig. 1). The prey was identified as a Matuda’s Spike-thumbed Frog (*Plectrohyla matudai*). Approximately one minute after the initial observation, the female flew to a nearby nest and fed the frog to her chicks. *Plectrohyla matudai* (Hylidae) occurs in Guatemala, Honduras, and Mexico (IUCN SSC Amphibian Specialist Group 2016; Frost 2026), where it inhabits pine-oak, cloud, and tropical rainforests closely associated with low vegetation and dense leaf litter along small montane streams (IUCN SSC Amphibian Specialist Group 2016). Later the same day, at 1000 h, in the same locality, we observed the same female *P. mocinno* carrying an anole (*Anolis* sp.) in its beak (Fig. 1). Within 2 min, the female again flew to the nearby nest and fed the lizard to her chicks. To the best of our knowledge, this is the first report of a Resplendent Quetzal preying on *Plectrohyla matudai*, although predation on anoles has been previously documented (Wheelwright 1983) (Table 1).

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