

## Observation of predation of *Hyliola regilla* (Anura: Hyliidae) by a post-metamorphic *Rana draytonii* (Anura: Ranidae)

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Several research publications and natural history notes have focused on *Rana draytonii*, Baird & Girard, 1852, (California Red-legged Frog) diet as their primary subject matter (Hays, 1955; Arnold and Halliday, 1986; Hayes and Tennant, 1986; Alvarez, 2013). All but two of these reports have focused on the adult life stage. In their study, Hayes and Tennant (1986) also investigated the juvenile life stage (presumed to be post-metamorphic animals) but did not report on the specific prey items of juveniles, focusing only on adult diet. Alvarez (2013) reported cannibalism of post-metamorphic individuals by similar sized conspecifics, as well as cannibalism in larvae. More recently, Alvarez et al. (2020) reported on an observation of juvenile *R. draytonii* feeding on a large crane fly (Family: Tipulidae) and stressed the importance of collecting data on diet of this life stage for this threatened species. Currently, however, there remains a paucity of information on the diet of the juvenile life stage of *R. draytonii*. Herein we report on the predation of an adult *Hyliola regilla* (Baird & Girard, 1852) by a post-metamorphic (herein: juvenile) *R. draytonii*.

As part of a peer-level *R. draytonii* workshop in 2017, we conducted surveys for *R. draytonii* within ponds at the Big Gun Conservation Bank, in El Dorado County, California, USA (39.03886°N, -120.73320°W; WGS 84, 1070 m elevation). We encountered numerous *R. draytonii*, but rarely encountered other amphibian species during the survey. A juvenile *R. draytonii* was collected and handled for comparison to an adult animal. Upon close inspection we noted the hind foot of a *H. regilla*, which had been captured and partially swallowed by the

juvenile *R. draytonii* (Fig. 1). We believe that this is the first reported instance of a juvenile *R. draytonii* preying upon *H. regilla*. Adult *R. draytonii* have been reported to feed on adult *H. regilla* (Arnold & Halliday, 1986; Hayes & Tennant, 1986). Hayes and Tennant (1986) suggested that large prey relative to the predator body size may be energetically important to individual frogs, but also reported that large prey is typically consumed by larger frogs. Alvarez (2013) reported cannibalism of one juvenile *R. draytonii* by another and observed frequent attempts of the same behaviour in Contra Costa County, California, USA. This may suggest that although gape-



**Figure 1.** A post-metamorphic (i.e., juvenile) *Rana draytonii* which recently fed upon an adult *Hyliola regilla*. Red arrow indicates the toes of the hind foot of the *Hyliola*. Photo by Matt Coyle.

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limited juvenile frogs are likely to consume a variety of small prey items, they readily prey on larger sized prey items as well. We strongly suggest that understanding the diet of different life stages of declining and rare species may contribute to better management of those species.

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