

Note

Mallard (*Anas platyrhynchos*) drake observed consuming an adult Western Tiger Salamander (*Ambystoma mavortium*)

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Abstract

We observed a Mallard (*Anas platyrhynchos*) drake consuming an adult Western Tiger Salamander (*Ambystoma mavortium*) in the southern interior of British Columbia, Canada. To our knowledge, this is the first published report of this predator–prey interaction. We outline the events of the short observation, briefly discuss natural history of the predator and prey relevant to the observed interaction, and provide chronological photographs of the event.

Key words: Mallard; *Anas platyrhynchos*; Western Tiger Salamander; *Ambystoma mavortium*; predator–prey interaction; Species-at-Risk; White Lake Grassland Protected Area

On 11 May 2019, we observed and photographed a Mallard (*Anas platyrhynchos*) drake feeding on an adult Western Tiger Salamander (*Ambystoma mavortium*) near the middle of White Lake (49.309°N, 119.633°W) in the southern interior of British Columbia, Canada (Figure 1). We estimate that the salamander was 15–20 cm long. The Mallard appeared to have difficulty handling the large amphibian, as we observed the bird diving to retrieve it twice after dropping it dead into the water. Adult *Ambystoma* have dorsal serous glands that produce toxins distasteful to predators (Roofe 1961; Brodie and Gibson 1969; Hopkins and Migabo 2010). We speculate that the Mallard's apparent struggle handling the salamander was an attempt to “wash off” these toxins before consuming it.

On manoeuvring its prey into a position suitable for ingestion, the Mallard began tossing its head back and using the salamander's momentum to force it, head first, down its throat (Figure 1). Over the course of this 2–3 minute event, we noted a Mallard hen associating with the drake, and she too was diving periodically. Mallards eat invertebrates and plants primarily (Drilling *et al.* 2020). In

winter, they eat mostly plant matter (Munro 1936; Jorde *et al.* 1983), but are known to increase their protein diet during the breeding season (Swanson *et al.* 1979). To our knowledge, no published record of Mallards feeding on Western Tiger Salamanders exists (Cook 1987); however, Mallards have been observed consuming vertebrates, such as American Toad (*Anaxyrus americanus*; Mueller 1980), fish (Harrison 1962; Harris 2005), and birds (Petrovan and Lue 2017).

White Lake, the namesake of the White Lake Grassland Protected Area, is a shallow, alkaline lake in sagebrush grasslands that is known to dry out completely late in dry summers (Richardson *et al.* 2000). The shallow depth of the lake may provide access to the Endangered Southern Mountain population of Western Tiger Salamander (SARA Registry 2021) for unlikely, opportunistic predators, such as Mallards.

Author Contributions

Writing – Original Draft: N.G.E.; Writing – Review & Editing: N.G.E., I.R.W., and J.G.W.; Conceptualization: N.G.E., I.R.W., and J.G.W.; Observation: N.G.E., I.R.W., and J.G.W.

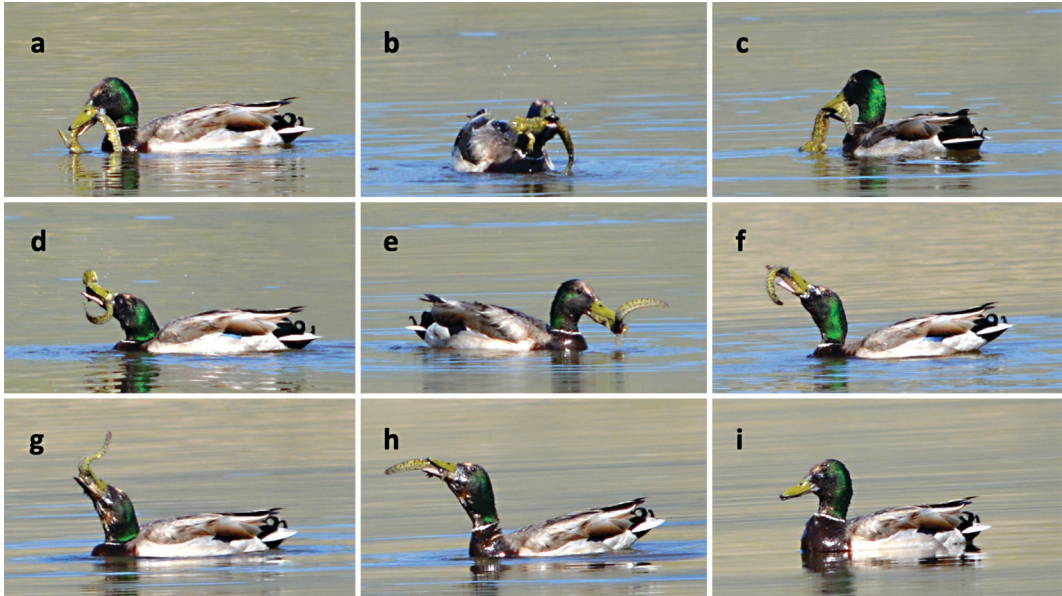


FIGURE 1. Chronological images of a Mallard (*Anas platyrhynchos*) drake consuming a Western Tiger Salamander (*Ambystoma mavortium*). a. Mallard holding the salamander in its bill; b–d. attempting to swallow the adult salamander tail first while thrashing the salamander through the water; e. manoeuvring the salamander so that its head is in the Mallard's bill; f–h. swallowing the salamander head first using its momentum to force it down the Mallard's throat; i. after successfully swallowing the salamander. Photos: I.R. Walker.

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