

Tail bifurcation in *Plestiodon skiltonianus*

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Plestiodon skiltonianus (Smith, 2005), commonly known as the Western Skink, is a smooth-scaled species with a range from southern Idaho to northern Arizona in the Western United States (Tanner, 1957). The Western Skink is a part of the evolutionarily related *skiltonianus* group of lizards, of which none have previous records of tail bifurcation that we could find (Richmond & Reeder, 2002). Tail bifurcation is found in all of the major lizard groups and the most closely related species with this recorded observation is *Plestiodon inexpectatus* (Brandley et al, 2012; Koleska et al, 2017; Mitchell et al, 2012).

On July 13 2019, one *P. skiltonianus* with a bifurcated tail was captured in a medium Sherman aluminium box trap designed for the live capture of small mammals that had been baited with bird seed and filled with biodegradable batting. As the traps were being collected at 17:00 PST, the malformed individual was found in the back of a trap, though the trap had not been triggered by its weight. The field site is at 39.4993°N, -117.0053°E on United States Forest Service land in Lander County northeast of Austin, Nevada, USA at an elevation of 1920 meters. At the time of encounter there was more than 50% cloud cover with light rain. The habitat area is an ecotone of mixed sagebrush habitat with some conifer canopy that seasonally has snow runoff in a small creek, but water was no longer present at this visit. Lines of small mammal traps have been deployed in this area along a gradient of sagebrush habitat to pinyon-juniper woodland three times a year since 2017 as a part of a larger study investigating the biodiversity impacts of conifer removal projects in the Great Basin.

The majority of tail bifurcations in other lizard species are likely the result of abnormal tail regeneration after a lizard sheds its tail in response to a threat and are common across several lizard families (Clause et al. 2006; Conzendey et al. 2013; Dudek & Ekner-Grzyb, 2014; Pelegrin & Leão, 2016; Tamar et al. 2013). Caudal

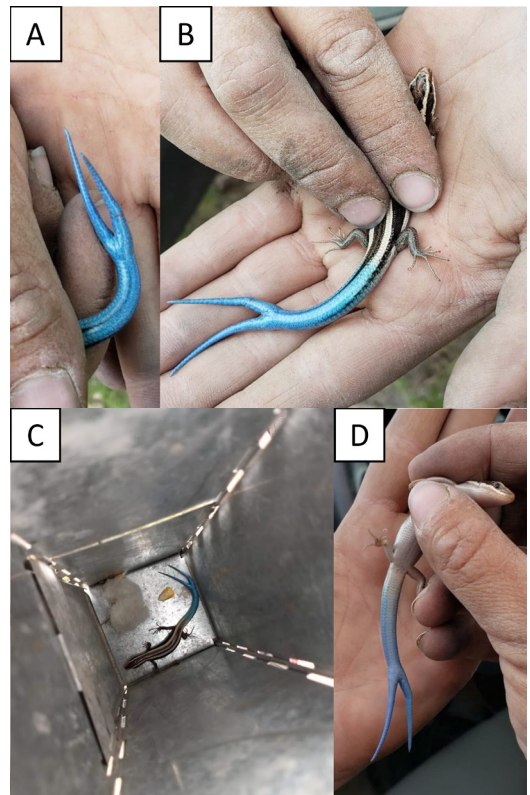


Figure 1. The *Plestiodon skiltonianus* with tail bifurcation. (A) The posterior view of the abnormality. (B) Full dorsal length of the individual shown in comparison to human hand. No other visible damage is present besides tail bifurcation. (C) The individual found resting within the box trap. (D) Ventral side of the individual.

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autotomy, where the lizard's tail is lost to increase the chance of survival as the attacker is distracted by the lost limb, is both an anti-predatory strategy, but can also occur during intraspecific aggression (Brown *et al.* 1995; Pola & Koleska, 2017). After partial caudal autotomy, tail bifurcation can occur if the regrowth is not aligned with the original tail (Arnold, 1988). The *P. skiltonianus* captured with tail bifurcation did not have signs of any other external injury or poor condition (Fig. 1).

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