

On 21 February 2022 at 1245 h, while searching for *Aneides iecanus*, NM and QC encountered an adult *H. wintu* under a rock in a small cave in the Potter Creek drainage in Shasta County, California (420 m elev.). It tucked its legs and tail into its body in somewhat of a circular coiled position and subsequently rolled away from us down the slanted floor of the cave, coming to a stop in a flat section ca. 2 m away. After it reached the bottom, it remained in the coil for a few seconds and appeared unharmed. Both *H. brunus* and *H. wintu* frequent talus and steep slopes, not unlike *H. platycephalus*, and the rolling behavior might allow escape from predators.

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***HYNOBIUS NOTIALIS* (Southern Korean Salamander). BEHAVIOR.** *Hynobius notialis* is a recently described hynobiid salamander endemic to the southern Korean Peninsula, ranging from the foothills of Jiri Mountain and Haman to the north and Gwangyang and Masan to the south (Borzée and Min 2021. *Animals* 11:187). As with most newly described species, the ecology and behavior of the species are poorly known.

At 1549 h on 27 February 2020, we found an adult pair of *H. notialis* on the tributary of Yeongochon River in Goseong, Republic of Korea (35.09862°N, 128.20792°E; WGS 84; 57 m elev.) during an amphibian survey. The stream was ca. 0.5 m wide, and the depth of the area of observation was 9 cm with a decomposing grass substrate. We observed a female *H. notialis* taking a defensive posture similar to that observed in congeneric *H. leechii* (Lee and Park 2016. *The Encyclopedia*

of Korean Amphibians. Checklist of Organisms in Korea 17, Eonature Publishing, Seoul, South Korea. 248 pp.). Upon contact, the observed individual lifted and arched its tail to the left while simultaneously bending it downward (Fig. 1). While the defensive behaviors of *H. notialis* have not been previously documented, our observation suggests a close similarity to other congeneric species with similar ecologies (Lee and Park 2016, *op. cit.*). The observation made in this study was conducted under strict compliance with all relevant regulations.

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***LISSOTRITON HELVETICUS* (Palmate Newt). TAIL BIFURCATION.** *Lissotriton helveticus* is a widespread newt species in Western Europe, distributed from the Iberian Peninsula to as far north as Scotland (Speybroeck et al. 2016. *Field Guide to the Reptiles and Amphibians of Britain and Europe*. Bloomsbury Publishing, London, UK. 432 pp.). It is known to inhabit soft water ponds with abundant vegetation and is often found in anthropogenic environments such as golf courses and farms (Cooke and Frazer 1976. *J. Zool.* 178:223–236; James and Gardner 2009. *Stud. Fen. Hist.* 16:161–170; Boissinot et al. 2019 *Agri. Ecosyst. Environ.* 269:51–61).

On 7 February 2022 at 2103 h, we found an adult *L. helveticus* in a golf course pond in Three Crosses, Gower Peninsula, South Wales (51.63309°S, 4.06695°W; WGS 84). Upon capture, we noticed that the individual's tail was evenly bifurcated ca. 3 mm from the tip (Fig. 1). There was no sign of blood or other attributes that would suggest a fresh wound. We believe our observation is only the second published record of tail bifurcation in adult *L. helveticus* and the first such report from Britain.



FIG. 1. An adult *Hynobius notialis* exhibiting defensive behaviors at a small stream in Goseong, Gyeongsangnam-do, Republic of Korea.



FIG. 1. A bifurcated tail on an adult *Lissotriton helveticus* from Three Crosses, United Kingdom.

The first record was a larval newt in 1932, from a partly neotenic population in a peat marsh near Antwerp, that was full of insect larvae (Giltay 1932. *Bull. Mus. Roy. Hist. Nat. Belgique* 8:1–9). The presence of predaceous insect larvae suggests the possibility that the bifurcation could have been the result of a wound that had hyper-regenerated. The second case was a gravid adult female in 2018 from the Aralar Mountains, Spain (Gosá 2018. *Bol. Assoc. Herpetol. Española* 29:46–48). This individual exhibited polydactyly and had a point of tail bifurcation close (1.07 mm) to the cloaca, and the tail itself was small and underdeveloped. The pond this individual was found in also had dragonfly larvae present, again suggesting predation-associated tail hyper-regeneration as a cause for the bifurcation (Gosá 2018, *op. cit.*).

Predators such as dragonfly larvae or birds frequently cause deformities in various amphibians (Ballengee and Sessions. 2009. *J. Exp. Zool. B. Mol. Dev. Evol.* 312:770–779) as a result of injuries during failed predation attempts. Following damage to tails, hyper-regeneration can cause bifurcations in newts if parts of the spinal cord are removed and the wound is not too deep (Dawson 1932. *Anat. Rec.* 52:139–149) but complete removal of the tail tip will not (Dziurzynski 1911. *Bull. Internat. de l'Acad. des Sci. de Cracovie* 1911:187–228). The pond in question was home to predaceous aquatic beetles at the time of sampling, and both dragonflies and birds have been spotted around the pond during daylight hours, so a failed predation attempt may have caused the deformity reported herein. There was no obvious pollution in the pond and the general abundance of amphibians (no others found with malformations) and invertebrates inhabiting it suggest good environmental conditions at this location.

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PLETHODON ALBAGULA (Western Slimy Salamander). ABERRANT PATTERN. *Plethodon albagula* is a medium sized lungless salamander found throughout Arkansas, Missouri, Oklahoma, and the Edwards Plateau of Texas, USA. Individuals are typically dark gray or black with light colored spotting across the dorsal region of the body, tail, and legs. At 2225 h on 27 March 2021, an



FIG. 1. Spotless *Plethodon albagula* from Barton Creek Habitat Preserve in Austin, Texas, USA.

adult *P. albagula* was found atop a small boulder along a rocky hillside inside the Barton Creek Habitat Preserve in Austin, Texas, USA (30.30505°N, 97.91172°W; WGS 84; Fig. 1). This individual was solid black, completely lacking the typical white spotting. Other *P. albagula* observed in the preserve exhibited typical coloration. To our knowledge, this is the first observation of a spotless *P. albagula*.

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SPELEOMANTES STRINATII (Strinati's Cave Salamander). PREDATION. In recent years, there have been reports of *Natrix* spp. being found in caves. In some cases, the snakes are thought to have accidentally entered cave systems (Drasler and Zagmajster 2012. *Nat. Slov.* 2:73–75), but in others it is clear that the snakes entered the caves willingly (Lunghi et al. 2018. *Spixiana* 41:160; Mulargia et al. 2018. *Russ. J. Herpetol.* 25:172–176).

Speleomantes strinatii lives in both subterranean habitats and the surrounding woodlands within its geographic range (Sindaco and Razzetti 2021. *Nat. Hist. Sci.* 8:35–46). *Speleomantes* spp. are known prey items for the snake *Natrix natrix* (Lanza et al. 2006. *Atti del Mus. Civ. Sto. Nat. Trieste* 52:5–135). Salvidio et al. (2017. *Sci. Nat.* 104:20) suggested that caves had a lower predation risk for *S. strinatii* than woodlands.

A cave in the Municipality of Savignone (Province of Genova, Region of Liguria, Italy) at 407 m elev. was visited several times in August 2021 by the authors. This cave system is U-shaped,

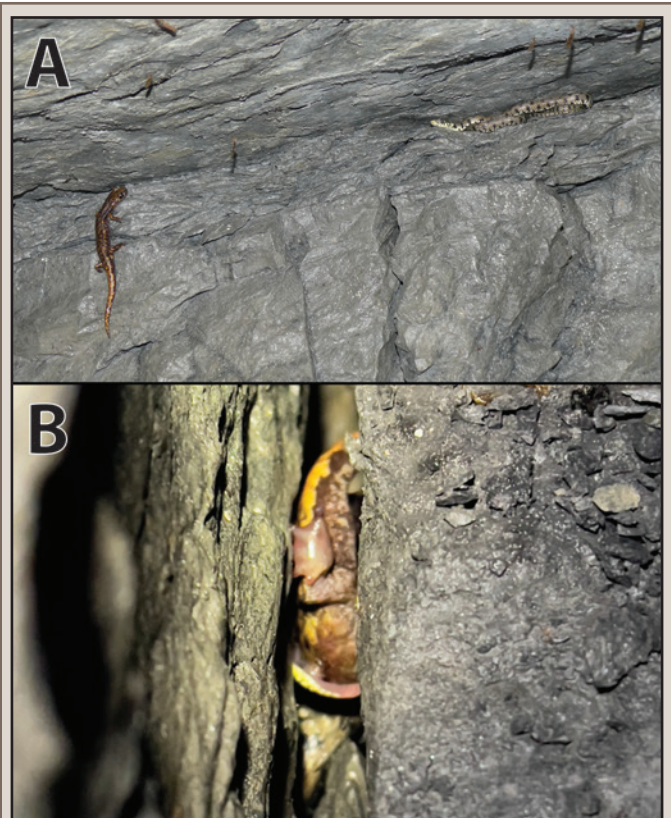


FIG. 1. A) *Natrix helvetica sicula* close to a *Speleomantes strinatii* inside a cave in the Municipality of Savignone, Province of Genova, Region of Liguria, Italy; B) *Natrix h. sicula* swallowing a *S. strinatii*.

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