

Tail Malformation in *Ablepharus rueppellii* (Reptilia: Scincidae) from the Occupied West Bank, Palestine

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Abstract: This is the first record of a symmetrical bifurcation and malformation in the tail of Festa's skink, *Ablepharus rueppellii*, in the West Bank, Palestine.

Keywords: Malformation, Bifurcation, *Ablepharus rueppellii*, Scincidae, West Bank, Palestine.

Festa's skink, *Ablepharus rueppellii* (Gray, 1839), is a member of the family Scincidae. The genus *Ablepharus* includes ten species distributed across southeast Europe, the Middle East including Sinai, and across eastern Asia in China and Kyrgyzstan (Sindaco *et al.*, 2008). *Ablepharus rueppellii* (Gray, 1839) is a common species found in the Levant (Palestine, Syria, Lebanon, and Jordan) and in Sinai (Werner, 2016; Disi, 2002; Roll *et al.*, 2013). *A. rueppellii* lives in the Mediterranean phytogeographical zone where it inhabits areas with oak and pine trees (Handal *et al.*, 2016; Werner, 2016). Roll *et al.* (2013) found that *A. rueppellii* penetrates into Al Naqb Desert (southern Palestine); they showed in a distributional map, the localities of this species in the northern and central areas of the West Bank.

Malformation especially of the tail is common in reptilian species (Christopoulos and Pafilis, 2020). Most of the tail malformations appear as bifurcation, and in some cases as trifurcation or other (Pheasey *et al.*, 2014; Kolečka and Jablonski, 2015; Passos *et al.*, 2016; Pelegrin and Leão,

2016). Malformation in the limbs of lizards is uncommon or even rare (Christopoulos and Pafilis, 2020; Kolenda *et al.*, 2017). Most of tail anomalies in lizards come in heterogeneous shapes (Pola and Koleska, 2007; Koleska *et al.*, 2017; Maria and Al-Razi, 2018). Few records of the genus *Ablepharus* reported tail malformation, and none showed symmetrical bifurcation in the tail (Ramadanović and Zimić, 2019; Werner, 2016).

A specimen of *Ablepharus rueppellii* (PMNH-V1046, Beit Jalla, 27.vii.2016) showed malformation in the tail (Figure 1 A and B). The bifurcated parts of the tail were measured as 11 mm to 10.9 mm; this malformation comes with an extra tail under the original tail. The total length of the individual was 78 mm (SVL 31 mm), the tail was measured at 47 mm. Based on pattern, shape, and scalation of the tail, the upper part bifurcation appeared to be original (Figure 1B). The lizard was in good condition when it was collected without other deformities or injuries. The appearance of the malformation in the tail does not seem to have affected its daily life. This is the first record for a symmetrical bifurcation malformation in the tail of *Ablepharus rueppellii* (Figure 1-B). According to Werner (2016) *A. rueppellii* tail was recorded with a lower branch that grew out of a wound in the upper original branch. The same malformation in the tail of *Ablepharus deserti*, as a forked and branched from the major tail, was observed in Kyrgyzstan (Jablonski, 2016).

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Figure 1. *Ablepharus rueppellii*, **A:** Dorsal view Scale bar = 10mm, **B:** Lateral view of the tail, Scale bar = 5mm.

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References

- Christopoulos A and Pafilis P. 2020. Hindlimb malformation in a widely distributed skink, *Chalcides ocellatus*. *Herpetology Notes*, **13**:15-17.
- Disi AM. 2002. Jordan Country Study on Biological Diversity: The Herpetofauna of Jordan. The General Corporation for the Environment Protection, The Hashemite Kingdom of Jordan, Amman.
- Handal EN, Amr Z, and Qumsiyeh M. 2016. Some Records of Reptiles from the Palestinian Territories. *Russian Journal of Herpetology*, **23**(4): 261-270.
- Jablonski D. 2016. Tail bifurcation in a desert lidless skink (*Ablepharus deserti*) from Kyrgyzstan. *Reptiles & Amphibians*, **23**(3), pp.171-172.
- Kolenda K, Wieczorek M, Najbar A, Najbar B and Skawiński T. 2017. Limb malformation and tail bifurcation in sand lizards (*Lacerta agilis*) and common lizards (*Zootoca vivipara*) from Poland. *Herpetology Notes*, **10**: 713-716.
- Koleška D and Jablonski D. 2015. Tail trifurcation recorded in *Algyroides nigropunctatus* (Duméril & Bibron, 1839). *Ecologica Montenegrina*, **3**: 26–28.
- Koleska D, Svobodova V, Husák T, Kulma M and Jablonski D, 2017. Tail bifurcation recorded in *Sauromalus ater*. *Herpetology Notes*, **10**: 363-364.
- Maria M and Al-Razi H. 2018. Observation of tail bifurcation in *Hemidactylus frenatus* (Schlegel, 1836). *Herpetology Notes*, **11**: 953-954.
- Passos DC, Fonseca PHM, Romo de Vivar PR, Kanayama CY, Teixeira VPA, and

- Martinelli AG. 2016 Tail trifurcation in the lizard *Salvator merianae* (Squamata: Teiidae) investigated by computer tomography. *Phyllomedusa* **15**: 79–83.
- Pelegrin N, and Leão SM. 2016. Injured *Salvator merianae* (Teiidae) regenerates six tails in central Argentina. *Cuadernos de Herpetología*, **30**: 21–23.
- Pheasey H, Smith P, Brouard JP, and Atkinson K. 2014. *Vanzosaura rubricauda* (Red-tailed Vanzosaur). Bifurcation and trifurcation. *Herpetological Review*, **45**(1): 138–139.
- Pola L and Koleska D. 2017. Tail bifurcation in Common wall lizard (*Podarcis muralis* Laurenti, 1768) from Liguria, Italy. In 9th Workshop on Biodiversity (Jevany, Czech Republic 8-9 July 2017). Proceedings of the 9th Workshop on biodiversity (pp. 93-97).
- Ramadanović D. and Zimić A. 2019. Record of a *Lacerta agilis* Linnaeus, 1758 with erythronotus colour morph and tail bifurcation. *Herpetology Notes*, **12**: 779-781.
- Roll U, Tallowin O, Berkowic D, Maza E, Ostrometzky Y, Slavenko A, Shacham B, Tamar K and Meiri S. 2013. “Rueppel’s Snake-eyed skink, *Ablepharus rueppellii* (Gray, 1839) (Reptilia: Squamata: Scincidae): Distribution extension and geographic range in Israel,” Check List, **9**: 458 – 464.
- Sindaco R, Jeremčenko VK, Venchi A and Grieco C. 2008. The Reptiles of the Western Palearctic, Annotated Checklist and Distributional Atlas of the Turtles, Crocodiles, Amphisbaenians and Lizards of Europe, North Africa, Middle East and Central Asia (p. 589). Latina: Edizioni Belvedere.
- Werner YL. 2016. Reptile Life in the Land of Israel with Comments on Adjacent Regions. Edition Chimaria. p.494.