

New locality for the Juniper Skink, *Ablepharus kitaibelii* Cocteau, 1833 in Serbia: expanding its known range and connecting it with the Croatian population

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The Juniper Skink, *Ablepharus kitaibelii* Cocteau, 1833, is a small, slender and rather secretive lizard (Speybroeck et al., 2016) and the northernmost representative of the Scincidae family in Europe (Herczeg et al., 2004). Its range encompasses the area from southern Slovakia in the north and northeast Croatia in the west to southern Greece, including many islands, and western Turkey (Speybroeck et al., 2016). The distribution seems more or less compact in the Balkans and scattered in the Pannonian plain, with isolated occurrences across Slovakia, Hungary and the northern parts of Croatia and Serbia. Its distribution in Serbia has been covered in great detail (Karaman, 1939; Prša, 1954; Pasuljević, 1965, 1968, 1977; Džukić et al., 1972, 1974; Tomović et al., 2001, 2018, 2022; Ljubisavljević et al., 2015; Ljubisavljević and Džukić, 2015). There are also published online records of this species from Serbia available (Golubović et al., 2018; iNaturalist, 2026a, b). In Serbia, it generally occurs along the north-to-south ascending elevation gradient (Pasuljević, 1976; Ljubisavljević et al., 2002), being associated with thermophilic open oak forests and shrubs, open steppe and forest-steppe fragments (Ljubisavljević et al., 2002) or ecotones of the steppe biomes in the south (Matvejev and Puncer, 1989). Most records are in the Mountain-valley region, where the Juniper Skink occurs from the valleys to the mountain slopes, at elevations between 130–1300 m (Ljubisavljević et al., 2015; Tomović et al., 2022). In the Peripannonian region, it is more sporadically distributed, occurring only on oak forest-covered hillsides with clearings. In the Pannonian Plain

in the Vojvodina province, the Juniper Skink occurs only in a handful of locations, mainly in remaining steppe fragments and open-forested hillsides in Subotica and Deliblato Sands, and Fruška Gora and Vršac mountains (Ljubisavljević et al., 2015).

On 1 March 2026, around 16:00 h, an active individual of *A. kitaibelii* was found in herbaceous vegetation at the edge of the loess profile on the bank of the Sotsko Lake (45.1601°N, 19.3364°E, elevation 148 m, UTM CR 60, Sot village, Šid municipality), inside the Fruška Gora National Park area (Fig. 1). The air temperature was 15 °C. Although the ambient air temperature was below the optimal spring temperature reported for this species (18 °C, Pasuljević, 1976), the skink was active, likely using the warm loess ground heated by the afternoon sun on a west-facing hillside. The individual was carefully caught by hand for inspection and a photo voucher, and then released into its natural habitat (Fig. 2). The vegetation consisted of the edges of the open oak and hornbeam forest (*Carpinetum orientalis-Quercetum*), with bushes of European cornel, bramble and turfs of grass.

This locality is situated roughly 24 km to the west of the closest known occurrence *A. kitaibelii* inside the Fruška Gora National Park in Serbia (Ljubisavljević et al., 2015) and 7 km to the southwest of the nearest known record in Ilok city park, Republic of Croatia (Szövényi and Jelić, 2011). Previously, the population in Ilok was considered to be restricted (Szövényi and Jelić, 2011). Ilok and Sotsko Lake lie both at the western foothills of the Fruška Gora Mountain. The distribution of the Juniper Skink in the Fruška Gora Mountain area still appears patchy, with 14 known localities (Szövényi and Jelić, 2011; Ljubisavljević et al., 2015; Golubović et al., 2018; iNaturalist, 2026a, b) (Table 1; Fig. 1B), the westernmost currently being Sotsko Lake. These populations could be remnants of a former metapopulation fragmented by anthropogenic activities such as logging, agriculture and infrastructure

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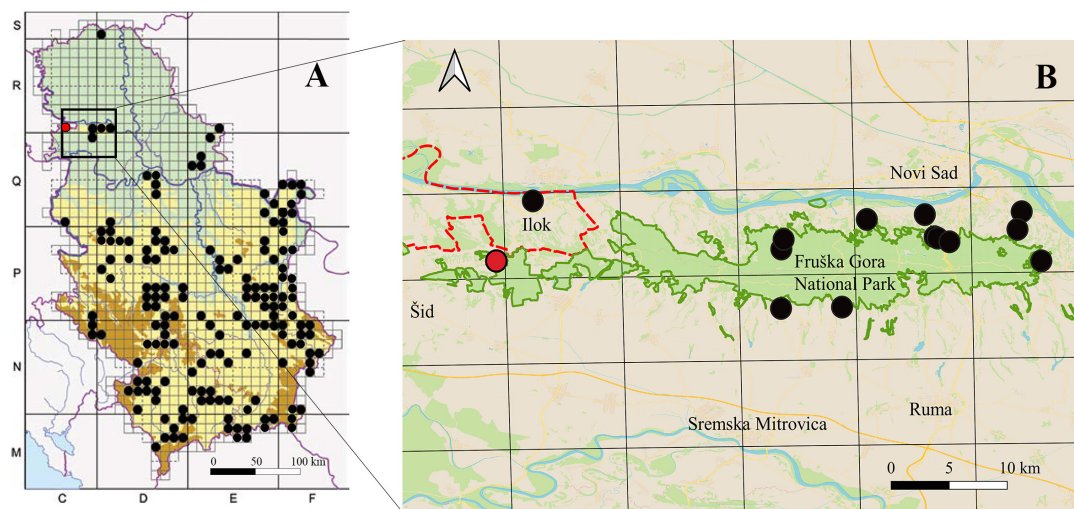


Figure 1. Maps showing the Republic of Serbia (A) and inset of Fruška Gora National Park region (B). Black dots: published records of *A. kitaibelii* in Serbia (Ljubisavljević et al., 2015; Ljubisavljević and Džukić, 2015; Tomović et al., 2022) and neighbouring Croatia (Szövényi and Jelić, 2011, enlarged map section only) and internet records (Golubović et al., 2018; iNaturalist, 2026a, b). Red dot: the here reported finding from Sotsko Lake. Green-lined area: borders of the Fruška Gora National Park. Map A is modified from Ljubisavljević et al. (2015). Map B was drawn using QGIS ver 3.12.3 București (QGIS developmental team, 2021) with a Voyager No Labels basemap (©CARTO©OpenMapTiles©OpenStreetMap contributors, 2025).

development, which have been recorded even within the protected zone of the National Park Fruška Gora. Still, the Juniper Skink is a small and secretive reptile that is more often than not difficult to detect. Some records of the Juniper Skink in Serbia are very old (30+ years) and without recent reconfirmation, such as the northernmost Serbian record in Subotica sands (Prša, 1954; Ljubisavljević et al., 2015), the urbanised areas of Košutnjak forest, Belgrade (Karaman, 1939; Aleksić, 1954, Ljubisavljević et al., 2015), and Vrnjačka Banja (Pasuljević, 1965). Destruction of the suitable steppe and forest-steppe habitats for agriculture, industry, infrastructure or urbanisation is probably the greatest threat to this species (Herczeg et al., 2004; Korsós et al., 2008), together with stone exploitation, inappropriate forest management (logging of native oak forests and planting allochthonous monocultural tree species), habitat destruction by rigorous grass cutting, and/or overgrowth by invasive plant species and disturbance by human activity (Szövényi and Jelić, 2011). In Serbia, the Juniper Skink is considered as endangered according to the distribution, ecology and life history (DELH) criteria, owing to its fragmented range, presence of peripheral populations, small litter size and short lifespan (Ljubisavljević and Džukić, 2015).

Although only one individual was found, this does not

vouch for a viable population at the Sotsko Lake locality. An anthropogenic translocation of this individual from elsewhere can't be completely ruled out. Still, the individual was found in an adequate habitat for the species, at the very beginning of the season. Suboptimal



Figure 2. Voucher photo of the Juniper Skink from Sotsko Lake (A) and from the surrounding habitat photo (B). Photos by Aleksandar Urošević.

Table 1. Literature and online records of *A. kitaibelii* from the Fruška Gora Mountain area. For online available data, URLs are provided.

UTM	Source	Locality	Entry URL	Observer
CR 70	Szövényi and Jelić, 2011	Ilok	NA	NA
CR 90	Ljubisavljević et al., 2015	Andrevlje	NA	NA
CR 90	Ljubisavljević et al., 2015	Testera	NA	NA
CQ 99	Ljubisavljević et al., 2015	Grgurevci	NA	NA
DR 10	Ljubisavljević et al., 2015	Zanoš	NA	NA
DR 10	Ljubisavljević et al., 2015	Krstuševine	NA	NA
DR 00	iNaturalist.org, 2026a	Fruška Gora	https://www.inaturalist.org/observations/236220485	see URL
DR 00	iNaturalist.org, 2026b	Fruška Gora	https://www.inaturalist.org/observations/215935822	see URL
DR 00	Golubović et al., 2018	NA	https://biologer.rs/contributor/public-field-observations/253381	N. Veljković
DR 00	Golubović et al., 2018	NA	https://biologer.rs/contributor/public-field-observations/126549	N. Veljković
DR 00	Golubović et al., 2018	NA	https://biologer.rs/contributor/public-field-observations/44852	B. Nadaždin
CQ 99	Golubović et al., 2018	NA	https://biologer.rs/contributor/public-field-observations/163577	M. Maričić
DR 10	Golubović et al., 2018	NA	https://biologer.rs/contributor/public-field-observations/162477	N. Veljković

temperatures likely prevented more individuals from emerging. Hence, there is a considerable likelihood that this is indeed a local population. It is possibly even connected with the Croatian one, which is only seven km away, possibly forming a metapopulation. Increased field efforts in the area, especially in patches with suitable habitat in both Serbia and neighbouring Croatia, could result in the discovery of more populations, and further bridging of the distribution gaps. The research should go hand in hand with active protection of the Juniper Skink and its habitats and raising awareness in the general public of this important yet often overlooked species.

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