

New locality record extending the distribution of the Glossy-bellied racer snake *Platyceps ventromaculatus* (Gray, 1834) in the Southeastern Anatolia, Turkey

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Abstract

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In this study, new data on the distribution of the Glossy-bellied racer, *Platyceps ventromaculatus* from the Anatolian Peninsula, Turkey is presented from field surveys in September 2019. The color pattern, and morphological and pholidolial characteristics were assessed. As a result, the occurrence record from Kızıltepe, Mardin Province extends the known distribution of the species in Southeastern Anatolia.

Key words: Anatolia, Colubridae, distribution range, herpetofauna, snake

The Glossy-bellied racer, *Platyceps ventromaculatus* (Gray, 1834) is a species complex of colubrid snake that ranges from southwestern Asia (Wall, 1944; Aengals et al., 2011; Sindaco et al., 2013) to Southeastern Anatolia in Turkey (Yıldız, 2011). It is one of the Saharo-Sindian racer snake species complexes that is considered under the genus *Platyceps* (Schätti and McCarthy, 2001).

Due to its habitat preferences in terrestrial zones, it can be found in bushes, old houses, and rocks in rural areas (Schätti and Schmitz, 2006), but also in harsh desert habitats and vegetation such as *Euphorbia* clumps (Whitaker and Captain, 2004).

Platyceps ventromaculatus was reported from the Southeastern Anatolia for the first time by Baran (1982). After that, Yıldız (2011) updated its distribution along this region with several new locality records. Recently, Üçeş and Yıldız (2020) evaluated all previous specimens with a new finding from Akçakale District.

In the present study, we share a new locality record of *P. ventromaculatus* from the southeastern-most region of Mardin to establish its presence throughout Southeastern Anatolia.

The specimen was found injured in Kızıltepe, Mardin on 11 September 2019 and could not survive. Therefore, it was deposited in the Hacettepe University Biodiversity Advanced Research Center, Ankara, Turkey. The exact location of the specimen was detected by GPS (Garmin GPSMap 64s) at 37°11'42"N, 40°37'1.2"E, and 489 m a.s.l. (Fig. 1).

Color pattern characteristics of this Mardin specimen were recorded and photographed while the specimen was alive (Fig. 2). After its death, the specimen was stored in 96% ethanol for further molecular studies.

The morphological measurements and pholidosis (scale pattern and morphology) features were evaluated using previous publications of *P. ventromaculatus* taxonomy and population comparisons (Whitaker and Captain, 2004; Schätti, 2006; Yıldız, 2011). Pholidosis features were examined using a stereo microscope (LEICA EZ4), and morphological measurements, except the Snout-vent length (SVL), were taken using the Alamet S 0.06 software (created by Dr. Şenol Alan) to minimize measurement errors, with an accuracy of 0.001 mm, by one repetition. SVL was measured to the nearest millimeter using a ruler. For comparison the morphological features of the Anatolian

specimens deposited in the Adıyaman University

Zoology Museum were also used (Table 1).

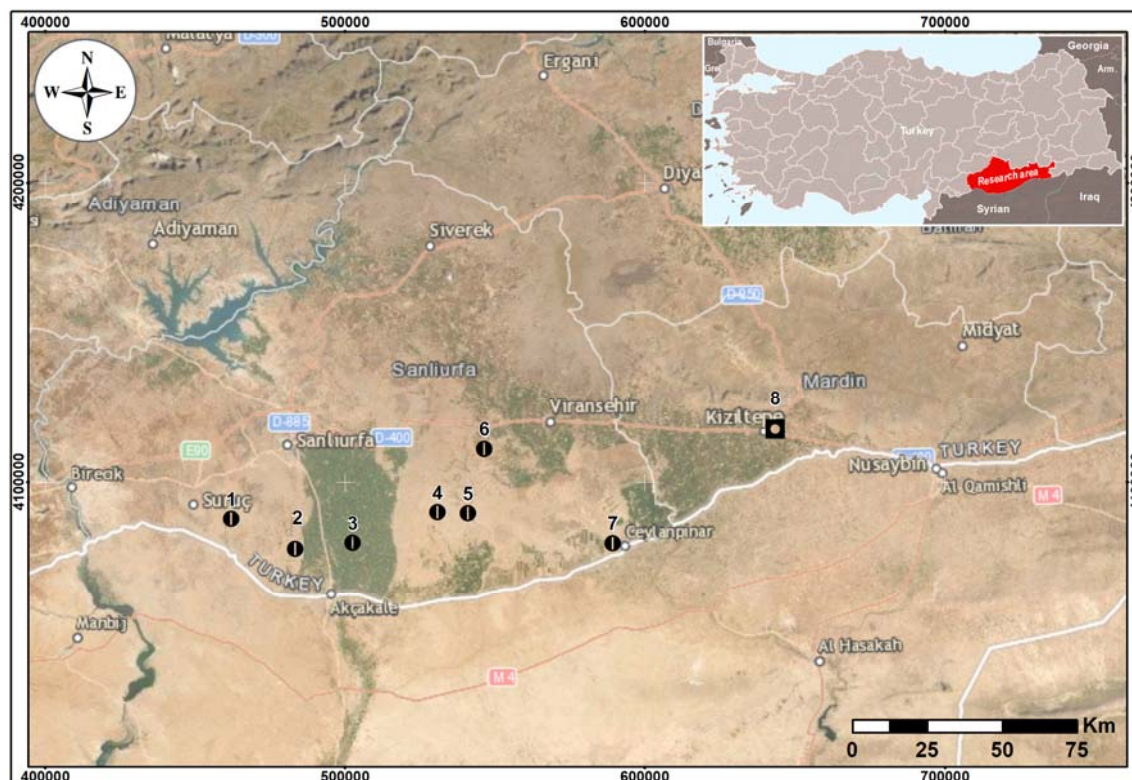


Figure 1: Distribution of *P. ventromaculatus* in Southeastern Anatolia (vertical lined numbered dots show the occurrence records from previous studies and circular dot in black square shows the new locality record. 1- Büyükağacı, Suruç, Şanlıurfa (Yıldız, 2011), 2- Sırgören, Akçakale, Şanlıurfa (Üçeş and Yıldız, 2020), 3- Harran Ruins, Harran, Şanlıurfa (Yıldız, 2011), 4- Dilimli, Eyyübiye, Şanlıurfa, 5- Hamzababa, Eyyübiye (Baran, 1982); Viranşehir (Baran et al., 2006), 6- Viranşehir (İlgaz, et al., 2008), 7- Tigem, Ceylanpınar, (Yıldız, 2011), 8- Kızıltepe, Mardin.

Some pholidosis features of the Mardin specimen are as follows: supralabials on both sides, 8; sublabials on both sides, 10; temporals, 2+3; dorsal scale rows between the 90th and the 100th ventral plates, 19; ventrals, 184; supracaudals, paired, 84 (Table 1).

However, the Mardin specimen was smaller than other Anatolian specimens in terms of the following three characters: ventrals, supraocular and subcaudals. Üçeş and Yıldız (2020) reported that ventrals and subcaudals range 193–203 and 87–93, respectively. Baran (1982) reported 192 ventrals and 80 subcaudals from the Hamzababa specimen. The Mardin specimen has 184 ventrals and 84 subcaudals. The ventral count is relatively compatible with published specimens, but the subcaudal count is on the lower end (Baran, 1982; Yıldız, 2011; Üçeş and Yıldız, 2020).

According to past taxonomic notes on the color of *P. ventromaculatus*, it has a vertebral dark stripe on the neck (Khan, 1997); that the Mardin specimen similarly displays. Moreover, the dorsal ground color of the specimen is yellowish-brown and there

are 72 dark blotches on its trunk. Both of these characteristics are exhibited by the previous Anatolian specimens (Baran, 1982; Yıldız, 2011; Üçeş and Yıldız, 2020).

The present specimen was found in a karstic area with steppe vegetation and rocky substrates. Sympatric reptile species in the same area include the Snake-eyed lizard *Ophisops elegans* Ménétries and the Bridled Mabuya *Heremites vittatus* (Olivier).

Although *P. ventromaculatus* is a wide-ranging species complex across Southern Asia (Schätti and Schmitz, 2006; Whitaker and Captain, 2004), its distribution in the Anatolian Peninsula has only really been evaluated in the last decade (Yıldız, 2011; Üçeş and Yıldız, 2020). Up to now, the distribution range of *P. ventromaculatus* from Southeastern Anatolia had locality records in Şanlıurfa, Viranşehir, Suruç, Harran, Ceylanpınar and Akçakale (Baran, 1982; Baran et al., 2006, İlgaz et al., 2008; Yıldız, 2011; Üçeş and Yıldız, 2020).

Table 1: Comparison of some metric (mm) and meristic characters of the present specimen of *Platyceps ventromaculatus* from Mardin with the previous Anatolian specimens of this species (SD: Standard deviation, Min: Minimum, Max: Maximum).

Character	Yıldız (2011)		Üçeş and Yıldız (2020)		Sınırgören Village (Akçakale Şanhurfa) Üçeş and Yıldız (2020)	Present study	Summary statistics of 6 specimens
	n	Mean±SD Min-Max	n	Mean±SD Min-Max	n= 1	n= 1	Mean±SD Min-Max
Snout-vent length	4	346.7±160.0 235–580	5	321.4±149.77 220–580	220	243	308.3±137.7 220–580
Tail length	4	105.5±50.02 72–179	5	96.4±47.86 60–179	60	64	91±44.80 60–179
Supralabial (L)	4	9±0.5 8–9	5	8.4±0.55 8–9	8	8	8.33±0.51 8–9
Supralabial (R)	4	8.75±0.5 8–9	5	8.6±0.55 8–9	8	8	8.5±0.5 8–9
Dorsals	4	19±0 19–19	5	19±0 19–19	19	19	19±0 19–19
Dorsals at anterior of the vent	4	15±1.29 13–16	5	14.6±1.14 13–16	15	15	14.66±1.03 13–16
Gulars	4	5±1 3–5	5	4.6±0.89 3–5	5	5	4.66±0.81 3–5
Ventrals	4	197±4.35 193–203	5	197.2±3.77 193–203	197	184	195±6.35 184–203
Subcaudals	4	90±3.46 87–93	5	89.6±3.13 87–93	88	84	88.66±3.61 84–93
Blotches on trunk	4	69±7.04 63–79	5	73.8±12.83 63–94	68	72	69.16±5.63 63–79



Figure 2: General view of *Platyceps ventromaculatus* from Kızıltepe, Mardin, Turkey.

While assessing the distribution range, this locality in Mardin is the southeastern-most record (70 km away from the previous one) for *P. ventromaculatus* in Anatolia; therefore, suggesting a range in this region larger than previously known.

The Mardin specimen's pholidosis and morphological traits display a similar pattern with the previous specimens from the Southeastern Anatolia, and these Anatolian specimen characteristics are summarized within this study.

Lastly, it is strongly suggested that the Anatolian populations of this snake be extensively examined via molecular biomarkers to compare them with continent-wide populations. An ecological niche modeling approach can also be applied to understand its distribution not only in the Anatolian Peninsula but also in a global perspective.

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Conflict of interest

The authors declare that there are no conflicting issues related to this short communication.

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