

First documented record of *Pseudocerastes persicus* (Duméril, Bibron & Duméril, 1854) (Squamata, Viperidae) from Iraq

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Abstract. *Pseudocerastes persicus* (Duméril, Bibron & Duméril, 1854), Persian Horned Viper, is a venomous species found in western Iran, Pakistan, and possibly Afghanistan, with isolated populations in the UAE and Oman. Despite reports from Iraq and Türkiye, no confirmed evidence from these countries existed until now. In August 2024, a local hunter captured a live specimen in the Zurbatia Foothills in eastern Iraq, on the border with Iran. Although the specimen was not preserved, video and photographic documentation confirm its identification. This record extends the geographic range of *P. persicus* into eastern Iraq and emphasizes the need for further field research on this species' distribution and conservation in the country.

Key words. Mesopotamia, Middle East, occurrence, sympatry, venomous snake

Al-Sheikhly OF, Ahmed SH, Ararat K, Abdulzahra HK, Böhme W, Jablonski D (2025) First documented record of *Pseudocerastes persicus* (Duméril, Bibron & Duméril, 1854) (Squamata, Viperidae) from Iraq. Check List 21 (3): 635–639. <https://doi.org/10.15560/21.3.635>

INTRODUCTION

Pseudocerastes persicus (Duméril, Bibron & Duméril, 1854), Persian Horned Viper (Squamata, Viperidae), is a venomous viperid snake distributed from western Iran to Pakistan and possibly Afghanistan, with isolated populations in the UAE and Oman (Leviton et al. 1992; Sindaco et al. 2013; Bok et al. 2017; Fathinia et al. 2018; Kamali 2020). Because of its extensive range and the low likelihood of rapid population decline, *P. persicus* has been listed as Least Concern by the IUCN Red List (Crochet et al. 2021).

The occurrence of *P. persicus* in Iraq is questionable. Although several sources have mentioned its presence in northern Iraq or even south-eastern Türkiye (Joger 1984; Bostanchi et al. 2006; Russell and Campbell 2015; Habeeb and Rastegar-Pouyani 2016; Habeeb et al. 2016; Martínez del Marmol et al. 2016; Egan 2022), these records were unsubstantiated by any clear, confirmed, or verified evidence. The recent distribution map of the species by Sindaco et al. (2013) shows no records in either Iraq or Türkiye (see also Crochet et al. 2021).

However, in Iraq, two other members of the genus *Pseudocerastes* Boulenger, 1896 have been confirmed. *Pseudocerastes fieldi* Schmidt, 1930, Field's Horned Viper, has been reported from central and western regions of the country (e.g. Rhadi et al. 2017; Al-Sheikhly 2021), while *P. urarachnoides* Bostanchi, Anderson, Kami & Papenfuss, 2006, Spider-tailed Horned Viper, is known from a narrow stretch (ca. 500 km²) of foothill habitat between Iraq and Iran (Al-Sheikhly et al. 2019, 2020). Thus, the presence of these morphologically similar sympatric species and lack of voucher specimens complicates efforts to clarify the identification and possible distribution of *P. persicus* in Iraq, particularly in the older literature.

Due to morphological similarities, overlapping distributions, and uncertainty regarding species identification, *P. persicus* has often been confused with other species. For example, Gholamifard and Esmaeili (2010) reported the presence of *P. fieldi* in southern Iran, whereas phylogeographic data presented by Fathinia et al. (2018) suggest the presence of *P. persicus*. This situation has led to confusion in the distribution ranges of the two species, particularly in western Iran and eastern Iraq (Egan 2022). Notably, both taxa were once considered subspecies of *P. persicus*. Because their distribution patterns, supported by genetic and morphological data, are not yet well explored, future findings may bring new insights. However, based on the work of Lev-



Academic editor: Ross MacCulloch

Received: 26 March 2025

Accepted: 3 June 2025

Published: 11 June 2025

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iton et al. (1992), we can expect that the range of *P. fieldi* does not extend east of the Tigris River, and therefore that all *Pseudocerastes* records in eastern Iraq and western Iran belong to *P. persicus* or *P. urarachnoides*.

To the best of our knowledge, the only record potentially representing *P. persicus* in Iraq came from the Dohuk area in northern Iraq (Kurdistan Region), as reported by Corkill (1933). According to this account, local people described a snake that bit a villager as being “about four hand spans long, having horns, a thick body, and a broad head” (Corkill 1933: 569). The victim died after 24 hours. Corkill (1933) referred to the snake as *Cerastes cornutus* Linnaeus, 1758, a synonym of *Cerastes cerastes* (Linnaeus, 1758), Desert Horned Viper, but since the genus *Cerastes* Laurenti, 1768 is restricted to sandy habitats and does not exist in montane areas of northern Iraq, the snake in question was likely of the genus *Pseudocerastes*. The Dohuk region is part of the Zagros Mountain range, which further excludes the potential presence of *P. fieldi*. Given the mountainous, rocky landscape of the area, and the vague description, the record may indeed represent *P. persicus* (see also Marx and Rabb 1965).

Despite the above, the occurrence of *P. persicus* was expected in eastern Iraq. Al-Sheikhly (2021) mentioned that the species is confined to wooded mountains, rocky cliffs, and forests of northern Iraq and possibly occurs in the foothills of eastern Iraq, without providing verified records and/or voucher specimens. Populations of *P. persicus* from the Iranian part of the Iraq–Iran border areas have been recorded in Ilam and Kermanshah provinces of Iran (Fathinia and Rastegar-Pouyani 2010; Sindaco et al. 2013), where it occurs in sympatry with *P. urarachnoides* (Bok et al. 2017). Therefore, the greatest probability of the species’ presence in Iraq would be in suitable habitats near the border with Iran.

METHODS

We received a video recording of *Pseudocerastes persicus* from Wasit Province, Badra District, Zurbatia Foothills, Kani Sakht area, Iraq. The video was made by a hunter who captured the snake. The video was examined, and data on the species identification and locality were recorded. The snake was identified as *P. persicus* by comparison with Egan (2022) (Figure 2A, B). The video has been deposited in the University of Sulaimani, Department of Biology, zoological collection of the Biodiversity Lab, catalogue number BDZC10H. The video is also available online supplementary file Video S1.

The datum used for recording geographic coordinates is WGS84. To visualize the distribution of *P. persicus*, an updated distribution map was created using ArcGIS Desktop (ESRI, Environmental Systems Research Institute 2020) based on the literature and citizen-science data from iNaturalist (2025), as well as the works of Marx and Rabb (1965), Mertens (1969), Gholamifard and Esmaili (2010), Fathinia et al. (2014), Hosseini Yousefkhani et al. (2014), Thomas (2019), Khormizi et al. (2021), Masroor et al. (2020), Rautsaw et al. (2022), and Moradi et al. (2024) (Figure 1).

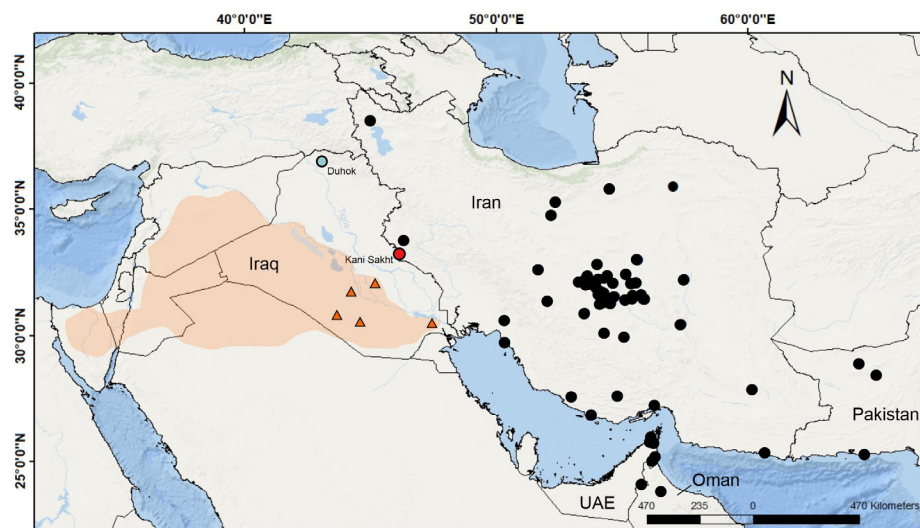
RESULTS

Order Squamata

Family Viperidae

Genus *Pseudocerastes* Boulenger, 1896

Figure 1. Distribution of *Pseudocerastes persicus* according to literature data (black dots), with the first record from Kani Sakht, Iraq (red dot) and dubious record from Dohuk area (blue dot; Corkill 1933). For comparative purposes, records of *P. fieldi* in Iraq from Rhadi (2016) and Rhadi et al. (2017) (depicted as orange triangles) are presented within the context of the species’ broader distribution in the Middle East (orange polygon; Sindaco et al. 2013).



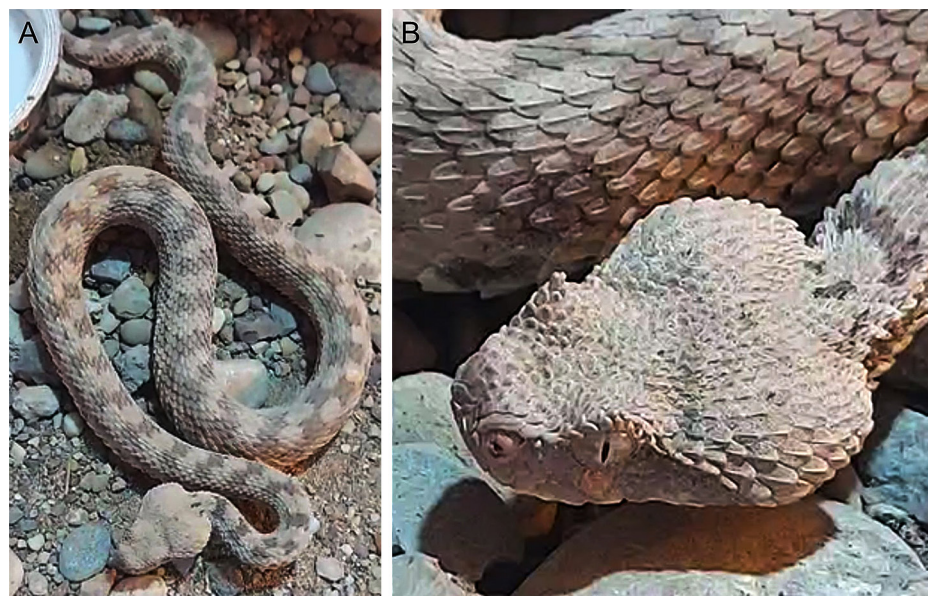


Figure 2. *Pseudocerastes persicus*. **A.** Dorsal view of individual from Kani Sakht, Zurbatia Foothills, Wasit Province, eastern Iraq showing typical colour pattern, keeled outer dorsal scales, and distinct dark long tail. **B.** Spade-shaped head with supraocular horns consisting of many small scales. Photos extracted from video clip by Basheer M. Al-Taei.

Pseudocerastes persicus (Duméril, Bibron & Duméril, 1854)

Figure 2A, B

New record. IRAQ — WASIT PROVINCE • Badra District, Zurbatia Foothills, Kani Sakht area, ca. 4–6 km from the Iraq–Iran border; 33°15'N, 046°05'E; elev. 252 m; 20.VIII. 2024; Basheer M. Al-Taei obs.

Identification. The observed species cannot be confused with any other native snakes of the region, except for *P. fieldi* Schmidt, 1930. This species is, however, not present in western Iran and eastern Iraq according to the genetic data of Fathinia et al. (2018), and we expect that range of *P. fieldi* does not extend east of the Tigris River (Figure 1). The video clips of the described case (BDZC10H) clearly confirm that the individual matches the morphological characters of *P. persicus*, as described by Egan (2022) (Figure 2A, B). The observed specimen died after approximately 10 days in captivity and was discarded by the hunter; unfortunately, no detailed morphometric and other information were obtained.

DISCUSSION

We provide the first documented confirmation of *Pseudocerastes persicus* in Iraq. Moreover, based on the distribution map by Sindaco et al. (2013), the new record reported here represents an extension of the known range of *P. persicus* toward the edge of the Mesopotamian arid areas of Iraq. Our correspondence with local hunters revealed that residents of the Badra District were aware of this viper species' presence at numerous sites within the Zurbatia Foothills, which belong to a vast rocky plateau in the Zagros Mountains Forest Steppe Ecoregion (PA0446). This transboundary, monotonous landscape of mixed rocky and steppe habitats spans eastern Iraq and western Iran (Al-Sheikhly et al. 2020). Locally, the species is referred to as “Haiyah Farissiyah Um Groon”, meaning “the Persian viper with horns” in Arabic, and is typically killed when encountered. Similarly, other sympatric venomous species, such as *P. urarachnoides* and the Levantine viper *Macrovipera lebetinus* (Linnaeus, 1758), are also observed in the region by locals. This suggests that *P. persicus* may inhabit a broad geographic range across suitable habitats in the Zagros Mountains of eastern Iraq, potentially occurring in sympatry with *P. urarachnoides* (Bok et al. 2017) and possibly extending into the Kurdistan Region of northeastern Iraq (Jablonski et al. 2025), a possibility that warrants further investigation.

ACKNOWLEDGEMENTS

We would like to thank the Iraqi Green Climate Organization (IGCO) for its continued support to herpetological expeditions in Iraq. We are grateful to Basheer M. Al-Taei, a local hunter and conservationist who supplied valuable information and video footage of *Pseudocerastes persicus* from the Zurbatia Foothills. We are also grateful to the three reviewers for their constructive comments and valuable suggestions during the review of the manuscript.

ADDITIONAL INFORMATION

Conflict of interest

The authors declare that no competing interests exist.

Ethical statement

No ethical statement is reported.

Funding


Daniel Jablonski was funded by the EU NextGenerationEU through the Recovery and Resilience Plan for Slovakia under the project No. 09I03-03-V04-00306.

Author contributions


Conceptualization: OFAS, DJ. Data curation: OFAS, SHA, KA, DJ. Investigation: all authors Methodology: OFAS, SHA, KA, DJ. Visualization: OFAS, SHA, KA, DJ. Writing – original draft: OFAS, DJ. Writing – review and editing: all authors.


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Data availability

Data that support the findings of this study are available in the main text and in the Supplementary video file.

Video S1. First confirmed record of the Persian horned viper (*Pseudocerastes persicus*) in Iraq. Wasit Province • Badra District, Zurbatia Foothills, Kani Sakht area, ca. 4–6 km from the Iraq–Iran border; 33°15'N, 046°05'E; elev. 252 m; 20.VIII. 2024; Basheer M. Al-Taei obs.

YouTube link: <https://youtube.com/shorts/wCoMVZMIGbM?si=nAX4Vy712n5lvnrw>.

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