

## On Viperid (Serpentes: Sauria) Specimens Collected from Northeastern Anatolia

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**Abstract:** Specimens of *Vipera eriwanensis* and *Vipera kaznakovi* collected from northeastern Anatolia were examined in terms of morphological characters and compared with the relevant references. The distribution ranges of *Vipera eriwanensis* and *Vipera kaznakovi* were extended in Turkey by collecting specimens from new localities.

**Key Words:** *Vipera eriwanensis*, *Vipera kaznakovi*, morphology, distribution.

### Kuzeydoğu Anadolu'dan Toplanan Viperid (Serpentes:Sauria) Örnekleri Hakkında

**Özet:** Kuzeydoğu Anadolu'dan toplanan *Vipera eriwanensis* ve *Vipera kaznakovi* örnekleri morfolojik karakterleri bakımından incelenmiş ve ilgili literatürle karşılaştırılmıştır. Yeni lokalitelerden örnek toplanması ile *Vipera eriwanensis* ve *Vipera kaznakovi*'nin Türkiye'deki yayılış sahaları genişletilmiştir.

**Anahtar Sözcükler:** *Vipera eriwanensis*, *Vipera kaznakovi*, morfoloji, dağılış.

### Introduction

In studies carried out on the *Vipera* species in Turkey so far (Başoğlu, 1947; Mertens, 1952, 1953; Kramer, 1961; Eiselt and Baran, 1970; Kretz, 1972; Baran, 1976; Eiselt, 1976; Başoğlu and Baran, 1980; Joger, 1984; Teynie, 1987; Nilson and Andren, 1988; Baran and Atatür, 1998) very few specimens of *Vipera eriwanensis* and *Vipera kaznakovi* have been collected from specific localities. Therefore, the distribution range of both species only covers specific regions.

In this paper, data related to new localities where the first specimens of these species were collected as well as to the material collected in these localities are presented. Thus, it is shown that *Vipera eriwanensis* and *Vipera*

*kaznakovi*, which were thought to be distributed in a rather limited region until recently, have in fact wider areas of distribution in Turkey.

### Materials and Methods

The specimens used in this study were collected during 2 excursions. The localities where the specimens were collected are shown in the Figure. The ventral plate count was conducted according to Dowling (1951). Specimens belonging to *Vipera eriwanensis* and *Vipera kaznakovi* were registered in the ZDEU (Zoology Department Ege University) collection and are kept in the biology laboratories of Buca Faculty of Education, Dokuz Eylül University. Material lists of the specimens are

presented separately since the materials belong to 2 different species.

## Results and Conclusion

### *Vipera eriwanensis* (REUSS, 1933)

**Material:** 11 (6♂♂, 4♀♀, 1♂ juv.)

ZDEU 145/2001. 1♂, 2-3♀♀, 4-5♂♂, 6-7♀♀, between Ardahan and Şavşat 20 km, 14.05.2001, K. Olgun, Y. Kumlutaş, Ç. Ilgaz, F. İret, A. Avcı; ZDEU 57/2003. ♂, Çilhoroz Village, Kelkit, Gümüşhane, 04.06.2003, A. Hasbenli; ZDEU 58/2003. ♂, Çilhoroz Village, Kelkit, Gümüşhane, 05.07.2003, A. Hasbenli; ZDEU 59/2003. 1♂, 2♀ juv., 05.06.2003, Çilhoroz Village, Kelkit, Gümüşhane, 05.06.2003, C.V.Tok.

As is evident from the material list, the locality where 7 specimens were collected is the northeasternmost point of the range of the species in Turkey. The second locality, on the other hand, forms the easternmost boundary of *Vipera eriwanensis* in Turkey. The discovery of the 2 new localities has shown that the range of this viper species, which was previously collected from only 8 localities in

Turkey, is in fact wider than was thought. Formerly, the northernmost boundary of the range of *Vipera eriwanensis* known in Turkey was Mount Kishir, located between Kars and Ardahan, about 30 km from Ardahan (Nilson et al., 1988). This new locality, about 20 km between Ardahan and Şavşat, is situated about 60 km northwest of Mount Kishir, meaning that this species is distributed on the southeastern slopes of the Yalnızçam Mountains as well. The discovery of *Vipera eriwanensis* on the northwestern slopes of these mountains is very interesting as the ecological conditions of this region differ greatly from those in the Ardahan and Kars areas.

The Palandöken Mountains form the westernmost boundary of the range of *Vipera eriwanensis* in Turkey (Eiselt, 1976). Çilhoroz Village in the Kelkit district of Gümüşhane, where 3 ♂♂ and 1♀ juv. specimen were collected, is located approximately 155 km from the Palandöken Mountains. Thus, it has been shown that this small viper occurs in suitable biotopes between the areas around Kars and Kelkit located south of the mountain range separating the Black Sea region from Central Anatolia (Figure).

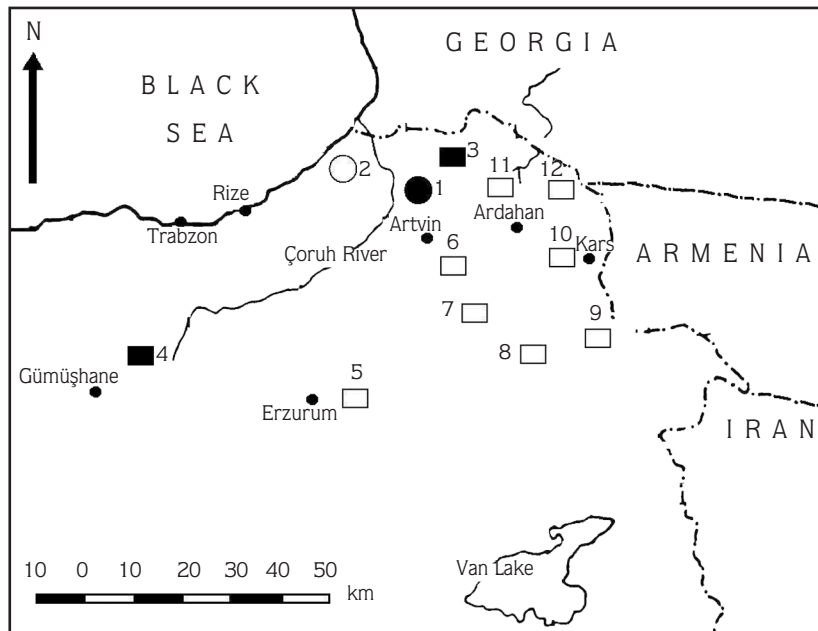


Figure. The distribution of *Vipera kaznakovi* and *Vipera eriwanensis* in Turkey (●: New locality of *Vipera kaznakovi* 1: Borçka, ○: Old locality of *Vipera kaznakovi* 2: Hopa, ■: New localities of *Vipera eriwanensis*, 3: between Ardahan and Şavşat 20 km, 4: Çilhoroz Village-Gümüşhane, □: Old localities of *Vipera eriwanensis*, 5: Palandöken-Erzurum, 6: Kümürlü-Kars, 7: Asbuğa Village-Kars, 8: Kağızman-Kars, 9: Kasikkoparan-Tuzluca-Iğdır, 10: Kars, 11: Kısır Mountain-Kars, 12: Arpaçay.

The pholidosis characteristics of the specimens that were examined can be briefly given as follows. The ventral plates numbered 132.0-(134.82)-138.0. It was found that the number of dorsal scales in a row between the 60<sup>th</sup> and 75<sup>th</sup> ventral plates was generally 21, but were 19 and 20 in 2 specimens. Pairs of subcaudal plates numbered 33-38 in 5♂ specimens with complete tails and 27-29 in 3♀♀ specimens. There were 2 apicals in 3 specimens (2♂♂, 1♀) and 1 in the others. All the specimens had 2 canthal plates, but the intercanthals displayed a great variation between 3 and 11. The scales composing the rings around the eyes were 9-11 on both sides of the head.

The color-pattern characteristics of our specimens did not differ from those of *Vipera eriwanensis*. The head + body length of the longest ♀ specimen was 417 mm, and the tail length was 51 mm.

One of our specimens collected between Ardahan and Şavşat was captured on 04.07.2001. It was found lying in the sun on grassy land on the slope of a valley at an altitude of 2200 m. It was around 10:00 a.m. and the temperature was 25 °C. The others were captured on 05.07.2001 in the same vicinity in the morning after a rainy night. They were spotted on grassy land either under stones or out in the open. Along with *Vipera eriwanensis*, species such as *Natrix natrix* and *Rana camerani* were also seen in this biotope.

The specimens in the vicinity of Çilhoroz Village were captured under *Astragalus* sp. plants or while lying in the sun near their hiding place. When the specimens were collected, the time was 9-11 a.m. and the temperature was 28-30 °C. The altitude of the area is 2383 m. Lizards seen in the same biotope include species such as *Parvilacerta parva*, *Darevskia rudis*, *Mabuya vittata* and *Ablepharus kitaibelii*.

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## *Vipera kaznakovi* NIKOLSKY, 1909

**Material:** 2 (1♂, 1♀)

ZDEU 227/1996. ♀, Hopa, 17.08.1996, İ. Baran;  
ZDEU 160/2002. ♂, Borçka, 05.05.2002, A. Sari

Of the specimens examined, the male was found from Borçka, meaning the distribution range of this species is extended to Borçka. The pholidosis, color and pattern of the specimens correspond to those given on previous studies (Baçoğlu, 1947; Mertens, 1952; Kramer, 1961; Kretz, 1972; Baran, 1976; Nilson et al., 1988). The pholidosis features of the specimens were as follows: ventrals 126♂ and 138♀, subcaudals 36♂, 24♀, the number of dorsal scales between the 60<sup>th</sup> and 70<sup>th</sup> ventral plates 22♂ and 21♀. Supralabials 9-9 and 7-7 in the ♂ and ♀ specimens respectively. The number of small scales around the eyes 9-9♂ and 9-10♀. A single row of scales is located between the rows of orbital and supralabial plates. Apical plate 2♂ and 1♀. The male has a total length of 414 mm (head + body 355 mm and tail 59 mm) and the female a total length of 489 mm (head + body 430 mm and tail 59 mm). The color and pattern characteristics of both specimens correspond to those given in previous studies, mentioned above.

This study extended the distribution range of *V. kaznakovi* to Borçka, 75 km southwest of Hopa.

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