Northwesternmost locality record of *Montivipera xanthina* (Gray, 1849) in Turkey

The Ottoman Viper, *Montivipera xanthina* (Gray, 1849) is distributed in Turkey and eastern Greece. Its Turkish distribution includes a large area in the Mediterranean, Aegean, Marmara and Central Anatolia regions (Bodenheimer 1944; Baran 1976; Başoğlu & Baran 1980; Nilson et al. 1988; Baran et al. 2013). The species is generally treated as monotypic (but see Nilson & Andrén 1986; Cattaneo 2014; Stümpel et al. 2016). The IUCN Red List of Threatened Species classifies this viper at the LC (Least Concern) category since 2006 (Böhme et al. 2016).

Gray (1849) originally described *M. xanthina* as *Daboia xanthina* from the ruins of Xanthos (Kınık) in Muğla, southwestern Turkey. Many studies were carried out on the taxonomy and distribution of the species (Bodenheimer 1944; Mertens 1952; Baran 1976; Başoğlu & Baran 1980; Nilson & Andrén 1985, 1986; Schätti et al. 1991; Bettex 1993; Mulder 1995; Nilson et al. 1999; Sindaco et al. 2000), which is mostly distributed in the west Anatolian part of Turkey. The present note reports a new record of *M. xanthina*, which constitutes the species' northwesternmost known Turkish locality.

A subadult female roadkill specimen (Fig. 1; sex identified by the absence of palpable hemipenes pockets) was found at Enez (Province of Edirne) on the Enez-İpsala highway at night time on June 22, 2016 (40°44'757", 26°08'589", 5 m a.s.l.). The new locality is shown in Fig. 2 along with the known species' distribution. After taking tissue samples for genetic analyses, the specimen was preserved in a mixture of 99 parts of 70 % ethanol and one part of 10 % formaldehyde solution and deposited in the Zoology Laboratory of the Department of Biology at the Faculty of Science, Karadeniz Technical University (Trabzon, TR) under KZL-234/2016, 1♀, Enez, Edirne,

Fig. 1: The subadult female *Montivipera xanthina* (GRAY, 1849), KZL-234/2016, from Enez (Province of Edirne, TR).

leg. U. BÜLBÜL, M. KURNAZ and A. İ. EROĞLU. Morphological counts and measurements (Table 1) were done according to NILSON & ANDRÉN (1986).

The specimen measured 468 mm in total length, 424 in snout-vent length and 44 mm in tail length. For the dorsal color-pattern see Fig. 1. Ventral coloration grayish and blackish, in the subcaudal area turning from gray into yellow.

The Thracian distribution of the species outlines its northwesternmost range area extending from the coasts of the Bosphorus Strait, Marmara Sea and Dardanelles Strait in the east, westwards as far as Xilagani (Rodopi) in Greece (CATTANEO 2015) and Yıldız Dağlari in Turkey (summarized in JOGER & NILSSON 2005) including records from Ispartakule (WERNER 1914), Tekirdağ (STÜMPEL et al. 2016) and the Gelibolu Peninsula (TOK & ÇIÇEK 2014) in Turkey (Fig 1.The new locality at Enez bridges the westernmost record of the species in Greece (~60 km linear distance) and the Turkish localities on the Gelibolu Peninsula (~60 km linear distance), at Tekirdağ (~110 km linear distance) and Ispartakule at İstanbul (~240 km linear distance).

NILSON & ANDRÉN (1986) morphologically distinguished two groups of *M. xanthina*, a southern (southwestern Turkey and neighboring Greek Islands) and a northern (remaining localities in Turkey and Greece) group of populations. More recently, CATTANEO (2014) described two subspecies of *M. xanthina* from Greek islands, *M. x. nilsoni* from Chios and *M. x. dianae* from Leros, based on their external morphology, whereas STÜMPEL et al. (2016) studied phylogenetic relationships of northern and southern specimens of and identified four lineages, among which the Aegean and Greece lineages corresponded with the northern specimens of NILSON & ANDRÉN (1986), the Taurus and Lycia lineages with their southern specimens, animals from Chios and Leros islands were not included in the phylogenetic analysis.

The specimen from Enez is similar to northern specimens in the study of NILSON & ANDRÉN (1986), a few characteristics (Sl, Sul and Sc) being slightly different (Table 1).

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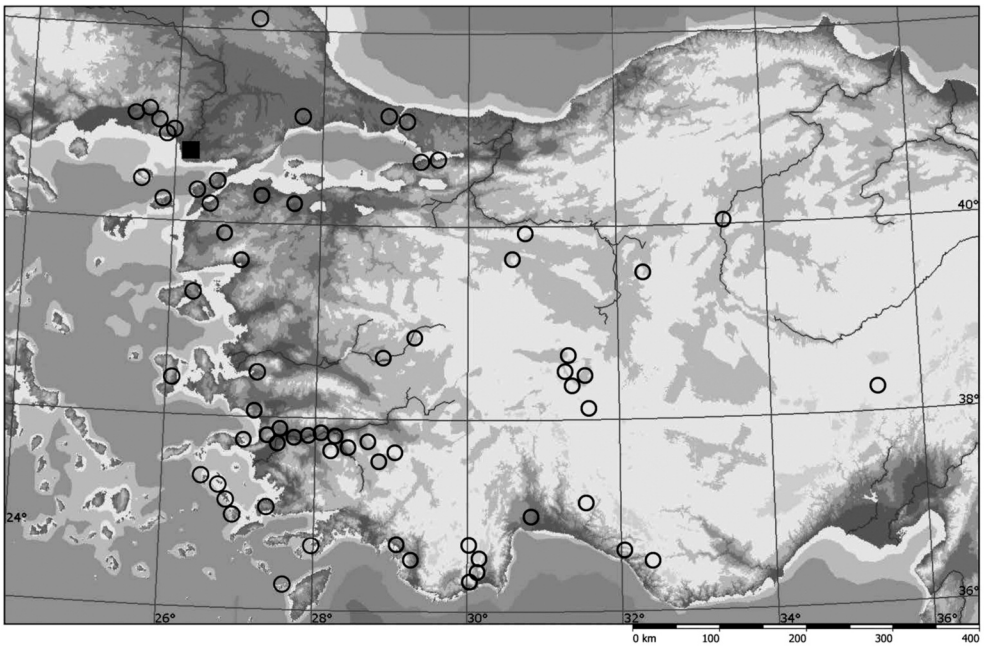

Fig. 2: Map showing the record localities of *Montivipera xanthina* (Gray, 1849) in Turkey and Greece. Dots represent the known localities according to the literature (Gray 1849; Boulenger 1896; Venzmer 1922; Werner 1914; Bird 1936; Schwartz 1936; Bodenheimer 1944; Mertens 1952; Klemmer 1963; Eiselt & Baran 1970; Andrén & Nilson 1976; Baran 1976; Başoğlu & Baran 1980; Nilson & Andrén 1986; Tiedemann & Grillitsch 1986; Sigg 1987; Radspieler & Schweiger 1990; Bettex 1993; Mulder 1995; Arikan et al. 2004; Kumlutaş et al. 2004; Joger & Nilsson 2005; Hür et al. 2008; Afsar & Tok 2011; Ünal 2012; Özcan & Üzüm 2014; Tok & Çiçek 2014; Cihan & Tok 2014; Cattaneo 2015; Ceylan 2015; Stümpel et al. 2016), and the square in the upper left indicates the new locality.

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Table 1: Pholidosis counts of the Enez specimen of *Montivipera xanthina* (GRAY, 1849), and comparative data by NILSON & ANDRÉN (1986) for their northern and southern population groups.

N − Number of specimens, An − Anal plate, Ap − Apicals, C − Canthals (left/right), Co − Circumoculars without supraocular (left/right), Db − Dorsal blotches, Ds − Longitudinal rows of dorsal scales (anterior, mid-body and posterior), Sor − Subocular rows (left/right); Ic − Intercanthals (scales between apicals, canthals and intersupraoculars), Io − Interoculars (in a row between supraoculars), Iso − Intersupraoculars, Sl − Sublabials (left/right); Sul − Supralabials (left/right); Pv − Preventrals; V − Ventrals, Sc − Subcaudals (left/right), F − Females, M − Males, *) − left plus right side.

	This study	NILSON & ANDRÉN (1986) Northern populations	Southern populations
N	1	31	19
An	1	1	1
Ap	2	2.13	2
C	2	2.0	2.1
Co	11/13	24.5 *)	24.2 *)
Db	32	31.4	26.2
Ds	25/23/17	23/23/17.4	23.7/23/17
Sor	2/2	3.96 *)	4.0 *)
Ic	10	10.7	11.4
Io	6	6.6	6.9
Iso	31	30.8	30.9
Sl	12/12	25.1 *)	25.0 *)
Sul	9/9	19.9 *)	19.7 *)
Pv	2	2	2
Sc (F)	35	31.2	29.8
Sc (M)	-	34.3	32.1
V (F)	162	161.2	153.5
V (M)	-	163.5	155.5

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