C. U. Fen Fakültesi
Fen Bilimleri Dergisi, Cilt 32, No.2 (2011)

New locality records of blunt-nosed viper, *Macrovipera lebetina obtusa* in central Anatolia, Turkey (Serpentes: Viperidae)

Yüksel COŞKUN[1], Mahmut COŞKUN[2], Mario SCHWEIGER [3]

[1]*Dicle University Science Faculty Biology Department,*

21280 Diyarbakır, Turkey

[2]*Çanakkale Onsekiz Mart University, Medicine Faculty, Medical Biology Department,*

17100 Çanakkale, Turkey

[3]*Katzelsberg 4, 5162 Obertrum, Austria*

Received:24.09.2011, Accepted: 07.02.2012

Abstract. A blunt-nosed viper specimen, *Macrovipera lebetina obtusa* is recorded from Hıdırlık village, Divriği, Sivas province in Central Anatolia. Previously Erzincan- Kemaliye was the westernmost locality known for this species in central Anatolia. Information on new locality and morphological features of this endangered subspecies is given.
Keywords. Reptilia, Viperidae, *Macrovipera lebetina obtusa*, Turkey, distribution.

INTRODUCTION

The genus *Macrovipera* has been mentioned first by REUSS (1927). These vipers inhabit the semideserts and steppes of Asia, North Africa, the Near and Middle East, and some islands in the eastern Mediterranean region (SCHMIDT 1936; KHAN 2004; ANANJEVA et al. 2006; STÜMPEL and JOGER 2009).

The blunt-nosed viper, *Macrovipera lebetina* (Linnaeus, 1758) is one of the most widespread vipers of Asia (Pakistan, KHAN 2004; Iran, LATIFI et al. 1966; Afganistan, LEVITON and ANDERSON 1970) and the Middle East (Iraq, SCHMIDT 1939; Lebanon, SOUAD HRAOUI et al. 2002; Jordan, EL-ORAN et al. 1998). Its range extends from Central Asia to North Africa (Aegean Islands; WERNER 1930). *Vipera lebetina* are endangered. The species is listed as strictly protected under the Bern Convention (Appendix II). Convention on the Conservation of European Wildlife and Natural Habitats, Appendix II at Council of Europe (http: www. conventions. coe. Int / treaty / FR / Teraties/html/104-2.htm).

*Corresponding author. *Email address:* yukselc@dicle.edu.tr

According to some of the relevant literature (CHIKIN and SZCZERBAK 1992; BAŞOĞLU and BARAN 1980) six subspecies have been described so far: *M. l. lebetina* LINNAEUS 1758; *turanica* CERNOV 1940; *chernovi* CHIKIN AND SZCZERBAK 1992; *euphratica* MARTIN 1838; *peilei* MURRAY 1892; and *obtusa* DWIGUBSKIJ 1832. *M. l. obtusa* is sometimes treated as a full species (BODENHEIMER 1944; SINDACO et al. 2000) However, the taxonomic status of some subspecies (*euphratica* and *turanica*) remains unclear (JOGER 1984; STÜMPEL and JOGER 2009). According to STÜMPEL and JOGER **(**2009), *M. lebetina* segregate into four major lineages which support the validity of the allopatric subspecies *lebetina*, *obtusa*, *turanica* and *cernovi*.

Macrovipera lebetina obtusa was first described from Transcaucasia by DWIGUBSKIJ, in 1832. This subspecies has a wide, but disjunct distribution range extending from Jordan, the Lebanon, Syria and Anatolia into the Caucasian region (BIRD 1936; CLARK and CLARK 1973; JOGER 1984; MULDER 1995; STÜMPEL and JOGER 2009).

Anatolian specimens were treated as *Vipera lebetina* var. *xanthina* by WERNER (1902), and as *Vipera lebetina xanthina* by BIRD (1936). However, MERTENS (1952, Adana ve Tuzluca,); included them in the subspecies *obtusa*, which was subsequently accepted by EISELT and BARAN (1970), BARAN (1976). BAŞOĞLU and BARAN (1980, Kuyuluk Köyü (12 km S of Kozan) Adana); and TOK et al. (2002, from Mardin-Nusaybin) have reported that the subspecies *obtusa* inhabits Anatolia, but MULDER (1995; Iğdır S, NW Slope of Büyük Ağrı Dağı), and BILLING and SCHÄTTI (1984) have stated that the nominate subspecies lives in southern parts of Anatolia.

This paper aims to contribute to and update the knowledge of the distruibution of *Macrovipera lebetina obtusa* for which a specimen found outside previously-known localities were examined morphologically.

MATERIAL

An adult male, approximately 300 m E of Hıdırlık village, 39°23'N, 34°54'E, 1480 m elevation, 24.07.2010 (25 km W of Divriği, Sivas province), collected by M. Coşkun, M. Schweiger leg.

RESULT and DISCUSSION

The partly damaged viper specimen was found in the late afternoon under stone piles during the road excavation. The area was characterized mainly by oak (*Quercus sp.*) forested mountain, north-facing slope, at an air temperature of over 18 °C . The area is covered dominantly by small patches of sparse grasses, rocks and boulders (Figure 1A). Previous year at the same point, a shepherd dog was bitten by a snake and died within half an hour.

The specimen is an adult male with 122,9 and 12,3 cm body total length and tail length, respectively. The head is broad, triangular and distinct from the neck. The snout is rounded and blunt when viewed from above. Upper surface of head covered with irregular small scales, which are all more or less distinctly keeled. The dorsal scales are strongly keeled, except for those bordering the ventrals. The anal scale is single. The head is uniformly beige colored. Dorsally, the ground color for the body is beige. The patterns are darker brown in color, and consist of middorsal alternating large spots. For general aspect, the color-pattern and head scalation of the new specimen are shown in Fig. 1B.

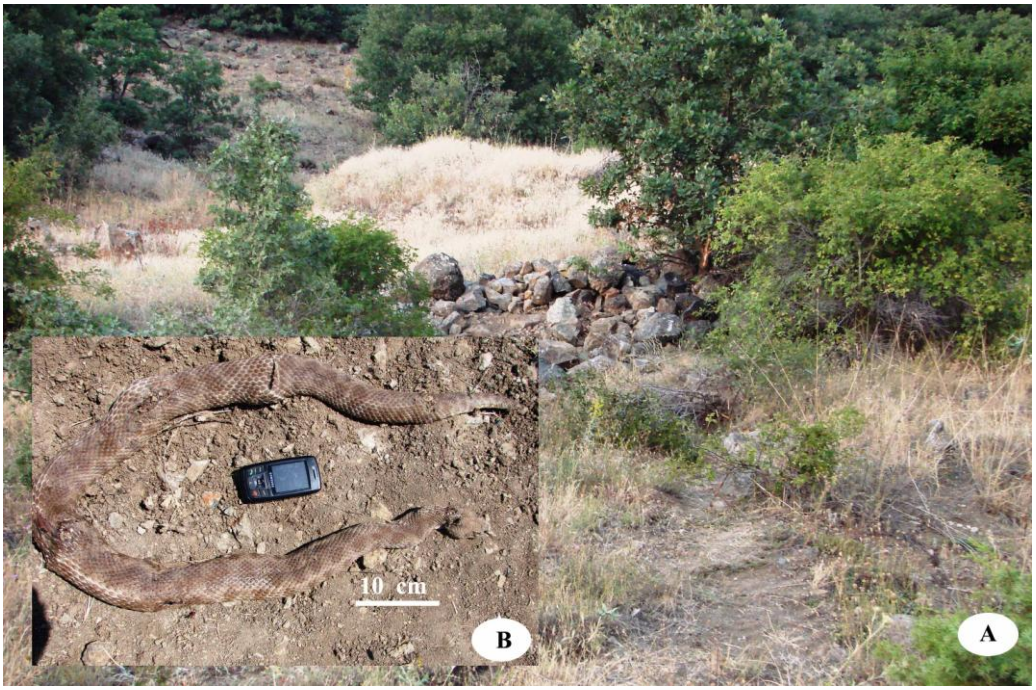

Figure 1. An adult male, *Macrovipera lebetina obtusa* (A) and its habitat (B) from Hıdırlık village, Divriği-Sivas province (Photo: Y. Coşkun).

The sample agrees with the literary data in most characters (in scalation, head shape, and color pattern) (Table 1) although some are diffucult to evaluate as the specimen is partly damaged. The color pattern resembles, in particular, that of the subspecies *Macrovipera lebetina obtusa*.

Table 1. Some pholidosis features and morphometrics obtained from the *M. l. obtusa.*

Characters	Schmidt 1939	Latifi et al. 1966	Our sample
Ventral plates	174,177	126-278 in male	147
Subcaudal plates	44, 47	35-53 “ “	16
Head + body length (mm)	---	1600 mm	122,9 cm
Tail length (mm)	-------	200 mm	12, 3 cm

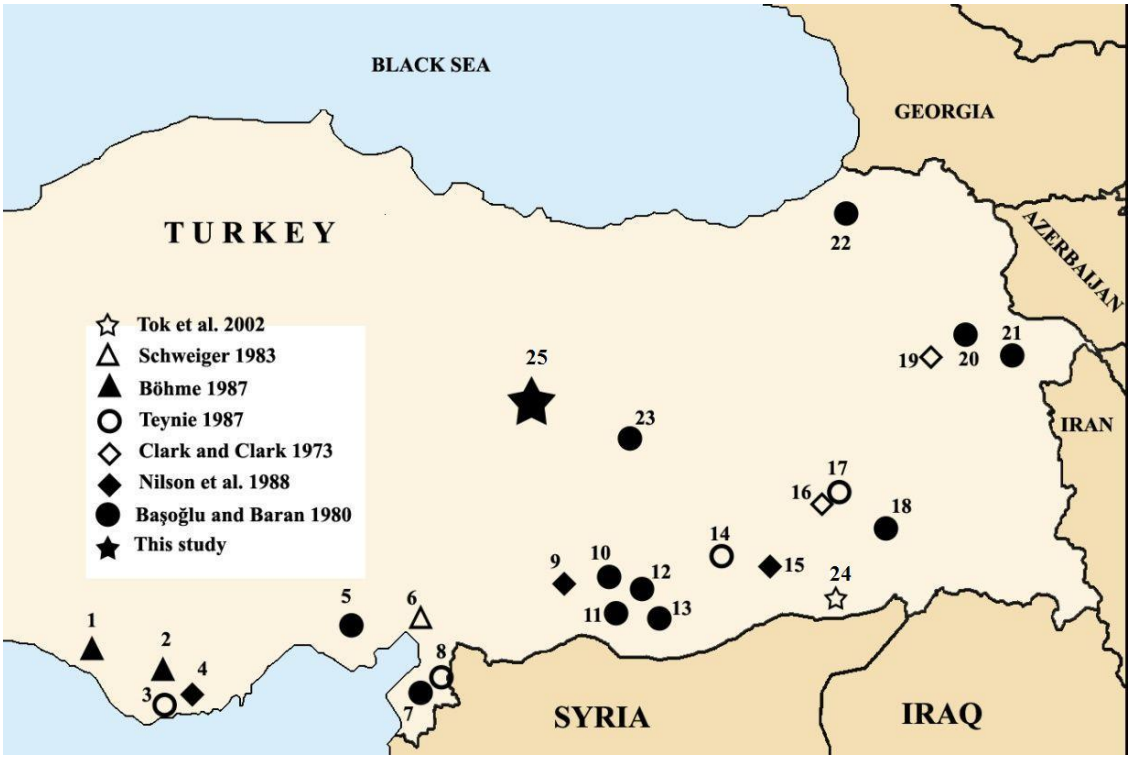

Figure 2. Distribution of *Macrovipera lebetina obtusa* in Turkey, showing the known distribution according to literature, with a star for the new locality. . 1. Anamur, 2-4.Silifke, 5. Adana, 6. İskenderun, 7-8. Hatay, 9. Gaziantep, 10-13. Şanlıurfa, 14. Çermik-Diyarbakır, 15. Maden- Elazığ, 16-17. Baykan, 18. Siirt, 19. Kağızman, 20. Tuzluca, 21- Iğdır, 22. Ardanuç, 23. Kemaliye, 24. Nusaybin, 25. Divriği-Sivas.

Sivas-Divriği specimen was diagnosed as the subspecies *Macrovipera lebetina obtusa* on the basis of pholidotic features and morphological characters. This paper represents the first record of this species from west of the Erzincan-Kemaliye (Fig.2) and the new locality record extends the known range of the species some 60 km to the west, as measured from Kemaliye (distance of Erzincan-Kemaliye and Sivas-Divriği localities). In these biotope, sympatric species, the nose-horned viper (*Vipera ammodytes*, L. 1758) were observed. Also, Mulder (1994) reported *Vipera albizona* from the province of Sivas. The single male specimen available agrees best with Başoğlu and Baran (1998)'s description of *M. l. obtusa*; Our specimen has 147 ventrals, 16 subcaudals..

We believe that further surveys in detail on the appropriate habitats in the region may yield the discovery of more occurrences and still viable populations of this subspecies at its westhernmost distribution range.

REFERENCE

[1] Ananjeva, N. B., Orlov, N. L., Khalikov, R. G., Darevsky, I. S., Ryabov, S. A.& Barabanov, A. V. (2006): The Reptiles of Northern Eurasia. Taxonomic Diversity, Distribution, Conservation Status. Pensoft Publishers, Bulgaria.

[2] Baran, İ. (1976): Türkiye Yılanlarının Taksonomik Revizyonu ve Coğrafik Dağılışları [Taxonomic revision of Turkish Snakes and their geographic distributions]. TÜBİTAK Yayınları, No: 309, T.B.A.G. Seri No: 9, S. 1-177. Ankara.

[3] Başoğlu, M. & Baran, İ. (1980): Türkiye Sürüngenleri. Kısım II: Yılanlar [The Reptiles of Turkey. Part II: Snakes]. Ege Üniv. Fen Fak. Kitaplar Serisi, No: 81, 1-218. Ege Üniversitesi Matbaası, Bornova-İzmir.

[4] Billing, H. & Schatti, B.(1984): Vorläufige Mitteilung zum Subspezies-Problem bei *Vipera lebetina* (Linnaeus 1758). Salamandra 20: 65-69.

[5] Bird, C. G. (1936): The distribution of reptiles and amphibians in Asiatic Turkey, with notes on a collection from vilayetes of Adana, Gaziantep and Malatya. Annals and Magazine of Natural History, London, (10) 18: 257-281.

[6] Bodenheimer, F. S. (1944): Introduction into the knowledge of the Amphibia and Reptilia of Turkey. Revue de la Faculte des Sciences de L'Universite d'İstanbul, Serie B, Sciences Naturelles, 9 (1):1-78.

[7] Böhme, W. (1987): Nachweis von *Vipera lebetina* (Linnaeus, 1758) (Serpentes, Viperidae) an der zentralen Südküste der Türkei. Salamandra 23 (2/3): 173 - 175.

[8] Chikin, Y. & Szczerbak, N. N. (1992): New subspecies of blunt-nosed viper, *Vipera lebetina chernovi* ssp. nov. (Reptilia, Viperidae) from Middle Asia. Vestnik Zoologii 6**:** 45-49.

[9] Clark, R. J. & Clark, E. D (1973): Report on a collection of Amphibians and Reptiles from Turkey. Occasional Papers of the California Academy of Sciences 104: 1 – 62.

[10] Eielt, J. & Baran, İ. (1970): Ergebnisse zoologischer sammelreisen in der Türkei: Viperidae. Annalen des Naturhitorischen Museums, Vienna, 74: 357-369.

[11] Joger & Amr, Z. (1998). First record of the Levantine Viper, *Macrovipera lebetina*, from Jordan. Zoology in the Middle East. 16: 65-70.

[12] Joger, U. (1984): The venomous snakes of the Near and Middle East. pp. 1-112. In: Reichert, L. (ed.) Beihefte zum Tübinger Atlas des Vorderen Orients, Vol. 12, A. Naturwissenschaften, Weisbaden.

[13] Khan, M. S. (2004): Annotated Checklist of Amphibians and Reptiles of Pakistan. Asiatic Herpetological Research Vol. 10: 191-201.

[14] Latifi, M., Hoge, A. R. and Eliazan, M. (1966): The poisonous snakes of Iran. Memorias Instituto Butantan 33 (3): 735 – 743.

[15] Leviton, A.E. & Anderson, S.C. (1970): The amphibians and reptiles of Afghanistan, a checklist and key to the herpetofauna. Proc. Cal. Acad.Sci. 38 (10): 163 - 206.

[16] Mertens, R. (1952): Amphibien und reptilien aus der Türkei. Revue de la Faculte des Sciences de L'Universite d'İstanbul, Serie B, Sciences Naturelles, İstanbul, 17 (1): 41-75.

[17] Mulder, J. (1995): Herpetological observations in Turkey (1987-1995). Deinsa 2: 51-66.

[18] Nilson, G., Andrén C. & Flärdh, B. (1988): Die vipern der Türkei. Salamandra 24:215-247.

[19] Nilson, G. & Andrén, C. (1988): *Vipera lebetina transmediterranea*, a new subspecies of viper from North Africa, with remarks on the taxonomy of *Vipera lebetina* and *Vipera mauritanica*. Bonner Zoologische Beitrage 39: 371-379.

[20] Schmidt, K. P. (1939): Reptiles and amphibians from southwestern Asia. Zoological Series of Field Museum of Natural History 24 (7): 49 – 91.

[21] Schweiger, M. (1983): Die Folgen eines schweren Bisses von *Vipera lebetina obtusa* seine medizinische Behandlung und Spätfolgen.- Herpetofauna (Weinstadt), 26: 14 – 16.

[22] Sindaco, R., A. Venchi, G., Carpaneto, M. & Bologna, M.A. (2000): The reptiles of Anatolia: a checklist and zoogeographical analysis. Biogeographia, 21**:** 441-554.

[23] Souad Hraoui, B., Riyad, A.S., Sindaco, R. & Venchi A. (2002): The herpetofauna of Lebanon:new data on Distribution. Zoology in the Middle East 27: 35–46.

[24] Stümpel N. & Joger, U. (2009). Recent advances in phylogeny and taxonomy of Near and Middle Eastern Vipers – an update. ZooKeys 31: 179–191.

[25] Teynie, A. (1987): Observations herpetologique en Turquie. 1. Partie. – Bulletin de la Société Herpétologique de France, 43: 9-18.

[26] Tok, C.V., Cihan, D. & Ayaz, D. (2002): A new record of *Macrovipera lebetina obtusa* (Viperidae) from South-Eastern Anatolia. Zoology in the Middle East 25: 23-26.

[27]Werner, F. (1902): Die Reptilien - und Amphibienfauna von Kleinasien. Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften in Wien, mathemat.-naturwiss. Kl., Abt. I, 111:1057-1121.

[28] Werner, F. (1930): Contribution to the knowledge of the Reptiles and Amphibians of Greece, especially the Aegean Islands. Occasional Papers of the Museum of Zoology, Michigan 211: 48 Pp.