

New locality records for the adder (*Vipera berus*) in the Carpathian Corner, Romania

Alexandru Strugariu¹, Tibor Sos², Alexandru Sotek¹, Iulian Gherghel¹ and
Zsolt Hegyeli²

¹ „Faculty of Biology, “Alexandru Ioan Cuza” University, Iași, Romania, EU;

² “Milvus Group” Association for the Protection of Birds and Nature, Târgu Mureș,
Romania, EU; Corresponding author: A. Strugariu, alex.strugariu@gmail.com

Abstract. The Carpathian Corner region (Buzău and Vrancea Counties) is one of the Romanian areas in which data on the herpetofauna is most scarce. The adder (*Vipera berus*), a widespread but threatened Romanian snake species, has been previously recorded in the Carpathian Corner area around 50 years ago but its presence in the area has not been recently reconfirmed. Here we give the first locality record for the adder in Vrancea County and two new records for the species in Buzău County, by means of personal observations made during the last decade.

Key Words: reptiles, common viper, distribution, Vrancea County, Buzău County.

Rezumat. Regiunea Carpaților de Curbură (județele Buzău și Vrancea) este una dintre zonele din România despre care există datele cele mai precare cu privire la fauna herpetologică. *Vipera* comună (*Vipera berus*), o specie de șarpe larg răspândită dar amenințată în România, a fost semnată în zona Carpaților de Curbură în urmă cu circa 50 de ani însă prezența ei în zonă nu a fost reconfirmată recent. În prezenta lucrare, redăm prima semnalare a viperei comune în județul Vrancea și două noi localități pentru această specie în județul Buzău, bazându-ne pe observații personale realizate în ultimul deceniu.

Cuvinte cheie: reptile, vipera comună, distribuție, județul Vrancea, județul Buzău.

Introduction. The adder (*Vipera berus* (Linnaeus, 1758)) is probably the most widespread snake species in the world, its range spanning from Northern Sweden in the North to the Balkan Peninsula in the South and from the British Isles in the West to the Sakhalin Island in the East (e.g. Mallow et al 2003). The adder is also the northermost snake species in the world, inhabiting areas North of the Arctic Circle (e.g. Andersson 2003). In Romania, *V. berus* is present almost throughout the country, reaching its southern national range limit in the Southern Carpathians (e.g. Fuhn & Vancea 1961; Iftime 2005; Strugariu et al 2009). It is considered an endangered species (EN) at a national level (Iftime 2005) and a species of community interest that requires strict protection in Romania (Romanian Government 2007). Data on the distribution of this species in Romania has been, until recently, available mostly from the 1960's monograph on Romanian reptiles published by Fuhn & Vancea (1961). In more recent years, numerous herpetological surveys carried out almost throughout the country have contributed greatly to the current knowledge of the distribution of this species (e.g. Ghira et al 2002; Covaciu-Marcov et al 2004, 2006, 2008; Strugariu et al 2006, 2008, 2009; Gherghel et al 2008). However, the Carpathian Corner remains one of the least studied areas from Romania from a herpetological view point, and all the records of the adder from the region date back to the publication of Fuhn & Vancea (1961). The scarcity of the data with regard to the herpetofauna from the Carpathian Corner was recently pointed out, when a very rare and critically endangered snake species (*Elaphe sauromates*) was recorded in the area for the first time (Țibu & Strugariu 2007). In this paper we present three new locality records for the adder in Vrancea and Buzău counties, representing the first data on the presence and distribution of *V. berus* in the Carpathian Corner presented after the publication of Fuhn & Vancea's (1961) work.

Material and Method. The data presented herein was collected by the authors during field surveys in the Carpathian Corner region in the years 2001 (by the first author, in Vrancea County) and 2009 (by all the authors, in Buzău County). Extensive transects were conducted in the study areas. All live animals were captured, measured, photographed and subsequently released into their habitats. Animals found dead were collected and preserved in alcohol.

Results. The adder was recorded in three sites from the Carpathian Corner region, one in Vrancea County and two in Buzău County (Figure 1). The names of the nearest populated localities to the sites in which the adder was observed and the geographical coordinates for these localities are presented in Table 1. Only one adder was found in each of the recorded localities. In the site from Vrancea County, one adult male adder was found dead on a forest road, close to a mixed (deciduous-coniferous) forest skirt in July 2001. *Mesotriton alpestris*, *Lacerta agilis*, *Zootoca vivipara*, *Natrix natrix* and *Coronella austriaca* were also found in the habitat or in the vicinal areas. The specimen from Săsenii pe Vale (Buzău County) was found on April 4, 2009, in a forest-steppe ecotone, also located in the vicinity of a vineyard (Figure 2). This viper was a melanistic adult female specimen (Figure 3). The only syntopic reptile species observed was *Lacerta viridis*. A later survey of the region, conducted during July 10-11, 2009, failed in finding further viper specimens but managed to identify *Salamandra salamandra*, *Triturus cristatus*, *Bombina variegata*, *Rana dalmatina* and *Hyla arborea*. The specimen from Varlaamu (Buzău County) was a neonate female, found dead on a forest track on August 28, 2009. The specimen is currently preserved, in the personal collection of the first author. The latter viper was found in a mixed forest clearing where sparse rocks and shrubs were present. No other reptile or amphibian species were found in this habitat.

Table 1

Geographical position of the newly recorded adder habitats from
Vrancea and Buzău Counties

Site	Locality	County	Latitude	Longitude	Altitude
1	Tulnici	Vrancea	45°55'30.92" N	26°39'3.81" E	687 m
2	Săsenii pe Vale	Buzău	45°19'16.5" N	25°66'74.7" E	310 m
3	Varlaamu	Buzău	45°32'0.3" N	28°24'05" E	593 m

Discussions. There is no previously published report on the presence of the adder in Vrancea County. Thus, to our knowledge, we now present the first known locality record for this species in the County. In Buzău County, only one relatively precise locality was previously given by Fuhn & Vancea (1961) for *V. berus*: Valea Bâsca Mare (Bâsca Mare Valley). None of the records presented herein are located in that valley, nor in the vicinity of it.

The habitats in which the specimens from Vrancea County and from Varlaamu (Buzău County) were found are similar to those described from other regions where *V. berus* occurs in the highlands of Eastern Romania (e.g. Strugariu et al 2006; Gherghel et al 2008). Furthermore, the list of sympatric species observed in Vrancea County is also very similar to the ones from most parts of the adder's highland range in Romania (e.g. Ghira et al 2002; Strugariu et al 2006; Gherghel et al 2008). The viper from Săsenii pe Vale, was found in a relatively low area, in a habitat resembling the ones from Iași County and shares the same list of sympatric reptile and amphibian species as in that region (Strugariu et al 2008). Apparently suitable habitats for the adder, such as the ones previously described, are present throughout the Carpathian Corner. Therefore, it is highly probable that further, more extensive and intensive surveys will identify numerous other adder populations, thus contributing greatly to the conservation of this threatened and strictly protected species. Special attention should be paid to the lowland habitats,

such as Săsenii pe Vale, as snake populations living in lowland habitats have been proven to be particularly vulnerable in Eastern Romania due to the extension of agriculture and human localities (e.g. Krecsak et al 2003; Strugariu et al 2008; Zamfirescu et al 2009).

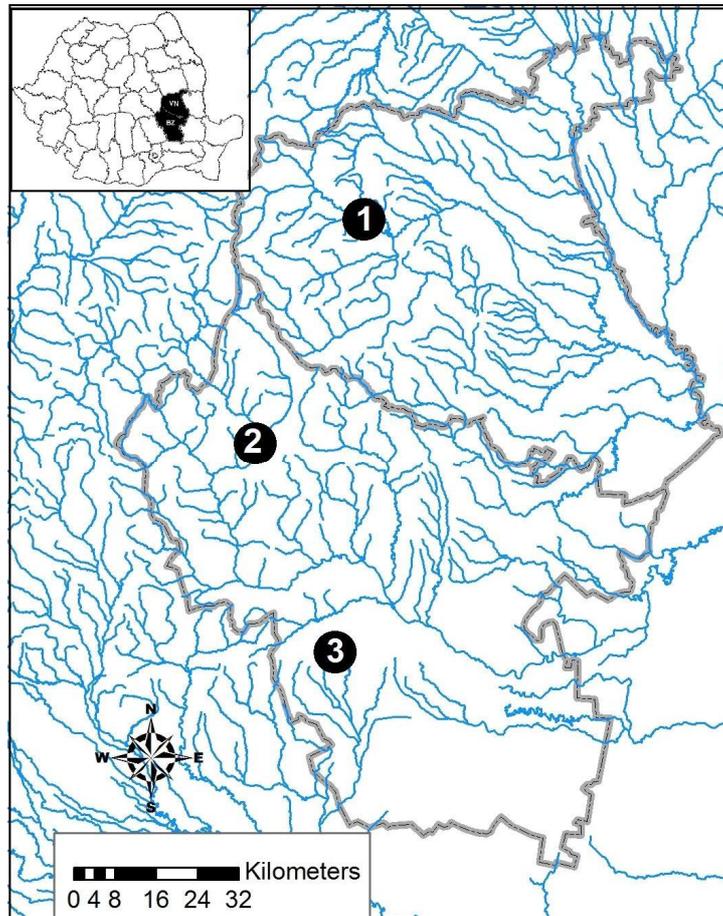


Figure 1. The location of the Carpathian Corner region and of the habitats in which *V. berus* was recorded in the area in the present study.



Figure 2. The habitat in which the adder was found, near Săsenii pe Vale, Buzău County (photo by T. Sos).



Figure 3. Adult live melanistic female adder (*V. berus*) from Săsenii pe Vale, Buzău County (photo by T. Sos).

Acknowledgements. Here we wish to thank Andrei Mizeruș, Teodor Bugeac and Alexandru Ștefănescu for their help during the second survey of the forest-steppe area from Buzău County. We also thank Dr. Ștefan R. Zamfirescu and two anonymous reviewers for their constructive comments on a previous draft of this manuscript.

References

- Andersson S., 2003 Hibernation, habitat and seasonal activity in the adder, *Vipera berus*, north of the Arctic Circle in Sweden. *Amphibia-Reptilia* **24**:449-457.
- Covaciu-Marcov S. D., Ghira I., Sas I., 2004 [Contributions to the study of herpetofauna of Oas area (SM County, Romania)]. *Environment & Progress, Cluj-Napoca* **2**:107-112. [In Romanian]
- Covaciu-Marcov S. D., Sas I., Kiss A., Bogdan H., Cicort-Lucaciu A. Ș., 2006 The herpetofauna from the Teuz River hydrographic basin (Arad County, Romania). *North-Western Journal of Zoology* **2**(1):27-38.
- Covaciu-Marcov S. D., Cicort-Lucaciu A. Ș., Sas I., Strugariu A., Cacuci P., Gherghel I., 2008 Contributions to the knowledge regarding the composition and geographical distribution of the herpetofauna from Northern Moldavia (Suceava and Botoșani Counties, Romania). *North-Western Journal of Zoology* **4**(Supplement 1):S25-S47.
- Fuhn I., Vancea Ș., 1961 [Reptilia (Turtles, Lizards, Snakes)]. In: *Fauna R.P.R., Vol. XIV, Fasc. 2*. Editura Academiei R.P.R., Bucharest. [In Romanian]
- Gherghel I., Strugariu A., Ghiurcă D., Cicort-Lucaciu A. Ș., 2008 The herpetofauna from the Bistrița river basin (Romania): geographical distribution. *North-Western Journal of Zoology* **4**(Supplement 1):S71-S103.
- Ghira I., Venczel M., Covaciu-Marcov S., Mara G., Ghile P., Hartel T., Torok Z., Farkas L., Racz T., Farkas Z., Brad T., 2002 Mapping of Transylvanian Herpetofauna. *Nymphaea* **29**:145-201.

- Iftime A., 2005 [Reptile]. In: Tatole V., Botnariuc M. (eds.): Cartea Roșie a Vertebratelor din România. Editura Academiei, Bucharest. [In Romanian]
- Krecask L., Zamfirescu Ș. R., Korsos Z., 2003 An updated overview of the distribution of the moldavian steppe viper (*Vipera ursinii moldavica* Nilson, Andren and Jogerm 1993). Russian Journal of Herpetology **10**(3):199-206.
- Mallow D., Ludwig D., Nilson G., 2003 True vipers. Natural History and Toxinology of Old World Vipers. Krieger Publishing Co., Malabar, Florida.
- Romanian Government, 2007 [Governmental Order no. 57/20.06.2007 concerning the rules of natural protected areas, conservation of natural habitats, flora and fauna. Official Monitor of Romania **442**: 29.06.2007, Bucharest]. [In Romanian]
- Strugariu A., Sahlean T.C., Volosciuc-Huțuleac M.V., Pușcașu C., 2006. Preliminary data regarding the distribution of reptilian fauna in Suceava County (Romania). North-Western Journal of Zoology **2**(1):39-43.
- Strugariu A., Zamfirescu Ș.R., Nicoară A., Gherghel I., Sas I., Pușcașu M.C., Bugeac T., 2008. Preliminary data regarding the distribution and status of the herpetofauna in Iași County (Romania). North-Western Journal of Zoology **4**(Supplement 1):S1-S23.
- Strugariu A., Zamfirescu Ș. R., Gherghel I., 2009 First record of the adder (*Vipera berus*) in Argeș County (Southern Romania). Bihorean Biologist **3**(2):163-166.
- Țibu P. L., Strugariu A., 2007 A new record for the Blotched Snake *Elaphe sauromates* (Reptilia: Colubridae) in Romania. North-Western Journal of Zoology **3**(1):62-65.
- Zamfirescu Ș. R., Zamfirescu O., Strugariu A., Gherghel I., 2009 Herpetofauna of the meadows from the site of community interest "The Forest and the Meadows from Mârzești" (Iași, Romania) and notes on habitats. Analele Științifice ale Universității "Al. I. Cuza" Iași, s. Biologie animală **55**:155-163.

Received: 25 November 2009. Accepted: 29 December 2009. Published online: 31 December 2009.

Authors:

Alexandru Strugariu, Faculty of Biology, "Alexandru Ioan Cuza" University, Carol I Blvd. No. 20A, 700506, Iași, Romania, EU, alex.strugariu@gmail.com ;

Tibor Sos, "Milvus Group" Association for the Protection of Birds and Nature, Crinului Street, No. 22, 540343, Târgu Mureș, Romania, EU;

Alexandru Sotek, Faculty of Biology, "Alexandru Ioan Cuza" University, Carol I Blvd. No. 20A, 700506, Iași, Romania, EU;

Iulian Gherghel, Faculty of Biology, "Alexandru Ioan Cuza" University, Carol I Blvd. No. 20A, 700506, Iași, Romania, EU;

Zsolt Hegyeli, "Milvus Group" Association for the Protection of Birds and Nature, Crinului Street, No. 22, 540343, Târgu Mureș, Romania, EU.

How to cite this article:

Strugariu A., Sos T., Sotek A., Gherghel I., Hegyeli Z., 2009 New locality records for the adder (*Vipera berus*) in the Carpathian Corner, Romania. AES Bioflux **1**(2):99-103.

