

Data on the North Hungarian records of the Large Whip Snake *Coluber caspius* GMELIN, 1789 (Squamata: Serpentes: Colubridae)

Angaben zu den nordungarischen Vorkommen der Kaspischen Pfeilnatter,
Coluber caspius GMELIN, 1789
(Squamata: Serpentes: Colubridae)

TAMÁS TÓTH

KURZFASSUNG

Die ehemalige und derzeitige Verbreitung der Kaspischen Pfeilnatter, *Coluber caspius* GMELIN, 1789, in Budapest und in der Umgebung von Budaörs wird dargestellt. Es werden Gründe für den Populationsrückgang genannt und Informationen über die Freilassung bulgarischer Exemplare gegeben.

ABSTRACT

The former and present habitats of the Large Whip Snake *Coluber caspius* GMELIN, 1789, in Budapest and in the Budaörs area are described. The causes of population decline are discussed and informations on the release of Bulgarian specimens are given.

KEY WORDS

Squamata: Serpentes: Colubridae: *Coluber caspius*, distribution, Budapest, Budaörs, Hungary

INTRODUCTION

The Large Whip Snake *Coluber caspius* GMELIN, 1789, is one of Hungary's rarest and most endangered snake species (DELY 1997). Its populations are isolated and restricted to small patches in which dolomite rock grasslands provide the optimal conditions for its existence and these facts initiated its protection in 1974. The total range of the species extends from the Carpathian Basin to West Asia, covering most of the Balkan Peninsula and the adjoining territories of the Black Sea (ŠĀERBAK & BÖHME 1993).

Although the first report of *C. caspius* occurring around Budapest appeared in FRI-VALDSZKY's work "Monographia Serpentum

Hungariae" in 1823, the precise mapping of the species started only in the 20th century. Soon after the compilation of the first data sets we had to face the decreasing of this species' populations.

In Hungary, there are two distinct areas from where *C. caspius* has been described. One is Szársomlyó Hill in the southern part of the country while the other is the vicinity of Budapest far north from the first site. The gap between these two areas is approximately 170 km and the data that can be found in the herpetological bibliography "filling up" the gap (Mecsek Hills, Paks, Zselic) are rather suspicions and have not been proved yet (DELY 1997).

RESULTS

Habitats in Budapest (fig. 1)

The western part of the Hungarian capital called Buda, is built on low ranges of dolomite rocks. The scrubby, grassy slopes

of the hillsides facing southward were providing an excellent foraging territory for *C. caspius*. These slopes once were extremely rich in *C. caspius* but the accelerated expansion of the city slowly ousted the snake from



Fig. 1: Former and recent habitats of *Coluber caspius* GMELIN, 1789 in Budapest.

Abb. 1: Ehemalige und derzeitige Fundorte von *Coluber caspius* GMELIN, 1789 in Budapest.

this habitat. The extinction process advanced, so that any specimen encounter is considered as an extraordinary event nowadays.

The herpetological bibliography (KÁROLI 1879; FEJÉRVÁRY-LÁNGH 1934, 1943; SZABÓ 1961; SCHMIDT 1983; DELY 1983, 1997) has mentioned the Gellért Hill, János Hill, Sas Hill, Mátyás Hill, Újlak brick factory, Budatétény, Csíki Hills, Huszonnegyökrös Hill and the Törökugrató Hill in this region, as former or recent *C. caspius* habitats.

Most of the sites mentioned above suffer from heavy changes originating from

urbanization. Gellért Hill on the Danube bank, apart of the perpendicular cliffs facing the Danube, has been built up almost completely in the last decades and the free plots left were converted into parks. Still in 1956, JANISCH collected three adult specimens at the wall of the Citadella Fortress and the Freedom Statue (DELY 1997). Mátyás Hill and János Hill are just partly built up, but the sites that still remained free are visited by tourists for sightseeing and residents for walking their dogs. The human disturbance is high especially in the low part of Mátyás Hill, but recently the tourists begin to visit the top of the hill too. On the summit of

Mátyás Hill the spreading of shrubs had exceeded the critical level long ago and by now all the potential basking areas have been totally shadowed. Fifty years ago, *Ablepharus kitaibelii fitzingeri* MERTENS, 1952 was also common on the hill slopes, but by now its population has decreased dramatically. In 1993, L. WÁGNER and L. BERKES (both from Budapest) managed to capture an adult specimen and took some photos of it before the release. The last record of an adult specimen dates from 1997 (CZUCOR pers. com.).

Sas Hill became a natural reserve, fenced in, several years ago. Due to the central position of the hill in the city the fences are often torn open, so illegal visitors can enter easily. Besides the people stray dogs and cats are regular hunters on the summit foraging all kinds of small animals. In the 1970s all the formerly known habitats were visited and the snake was found only on Sas Hill both as juveniles and mature specimens (FEHÉR pers. com.). DELY (1997) mentions the last observation of a specimen in 1990, based on PÉCHY's verbal communication.

According to the last information, in 2000 the dead body of an adult *C. caspius*, probably killed by a dog, was found here, and in 2001 three exuvias were found and an adult specimen was observed (HERCEG, KRECSÁK, MARSÍ pers. com.). Based on my information some specimens from South Bulgaria were released here in the 1980s and most probably have interbred with the local strain.

Újlak brick factory and Budatétény have become the integral part of the capital and totally urbanized with streets and houses, so we can definitely delete them from the list of potential habitats; the last record from Budatétény was dated 1932 (SZUNYOGHY 1932).

Habitats around Budapest (fig. 2)

In the vicinity of Budapest, on the hills next to Budaörs town *C. caspius* has certainly survived. The name of "Csíki Hills" appeared in many reports (SZABÓ 1961; DELY 1983, 1997) and actually means a series of hills and hillocks with different potentials of harbouring this species. Among these the closest ones to the town are Út

Hill, Odvas Hill, Schreiber-berg and Kő Hill. SCHMIDT pointed out in 1987 that he was not able to observe *C. caspius* on Kő Hill since at least 10 years. I lastly observed a snake on Odvas Hill in 1991. According to my information, foreign specimens were released here too. Út Hill and Schreiber-berg were also heavily urbanized. Parallel with the urbanization the shocking invasion of the non-native tree species *Ailanthus altissima* is the most threatening danger around Budaörs. On these well-exploited hills it is clearly visible that the Snake-eyed Skink *Ablepharus kitaibelii fitzingeri* and the Wall Lizard *Podarcis muralis muralis* (LAURENTI, 1768), which often coexist with *C. caspius*, are currently withdrawing too. The existence of the snake appears almost impossible in the spatially highly restricted habitat of the Út Hill now.

A little bit north of these locations (the first line of the Csíki Hills) lies the second line of the Csíki Hills built up of several distinct units: Csík Hill, Ló Hill, Szállás Hill, Szekrényes Hill, Farkas Hill and Alsó-Frank Hill. Among these, only the Szállás- and the Farkas Hills accommodate *C. caspius* (TÓTH unpublished; PLÓSZ pers. com.). These populations became extremely threatened in the last decade, as tourists, dogs, and motocross bikers are permanent disturbers of the habitat. SCHMIDT's (1987), PLÓSZ's (pers. com.) and my opinions are that the maximum number of the snake does not exceed two dozens and, moreover, these populations are also mingled with Bulgarian specimens, like on Sas Hill in Budapest.

The western members of this chain of hills are situated between Budaörs and Törökbálint. Törökugrató Hill and Huszonnégyökrös Hill were accounted as one unit (DELY 1997), however, they are separated by a one km wide saddle and a highway suffering from relatively high traffic. While Törökugrató Hill is overwhelmed by walking residents and their dogs, and so definitely is not suitable for *C. caspius*, Huszonnégyökrös Hill is still a bit far from the most popular trails. Its foot is used as a shooting-range by the Hungarian army and many times the military activity guaranteed most strictly the protection of wildlife. Despite the relative isolation, Huszonnégyökrös Hill probably has lost its last Whip Snakes. Due to the



Fig. 2: Former and recent habitats of *Coluber caspius* GMELIN, 1789 in the neighbourhood of Budaörs.

Abb. 2: Ehemalige und derzeitige Fundorte von *Coluber caspius* GMELIN, 1789 in der Umgebung von Budaörs.

misguided forestry system, *Pinus nigra* has been planted in massive number on the southern sides. The pine tree has slowly swallowed most of the open grasslands and by now it had destroyed the major part of the snake's habitats. In Budapest and the vicinal

habitats, the reptilian sympatric and syntopics of *C. caspius* are: *Podarcis muralis muralis*, *Lacerta viridis viridis* (LAURENTI, 1768), *Ablepharus kitaibelii fitzingeri*, *Coronella austriaca austriaca* LAURENTI, 1768 and *Natrix natrix natrix* (LINNAEUS, 1758).

DISCUSSION AND CONCLUSIONS

The above observations strongly suggest that the *C. caspius* populations around Budapest have become very weak, vulnerable and unable to survive unless severe and accurate conservation programs start. They must include precise survey of the remnants of the former populations, determination of the level of interbreeding with Bulgarian forms as well as habitat recovery actions. Comparative taxonomical and ecological investigations on supposed Bulgarian-Hungarian interbred specimens (if they really exist) might also reveal interesting and important results.

In conclusion we can say that the following factors are currently threatening the

undisturbed survival of the Large Whip Snake in the Budapest area: the urbanization, the human disturbance, the grassfires in spring, the presence of dogs, the invasion of the allochthone tree species *Pinus nigra*, *Syringa vulgaris* and *Ailanthus altissima* and of course the isolation of the *Coluber* populations. Fortunately, *C. caspius* is not too loved a terrarium species, as a result of its aggressiveness. We do not possess data about specimens collected by snake keepers, however, we cannot disconsider collecting of the snakes.

Finally, we must regretfully state that - without conservation measures - in a few years most probably only conserved speci-

mens will remind us of this beautiful snake. With its disappearance an interesting and

important member of Budapest's fauna would be lost.

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Corresponding editor: Heinz Grillitsch

AUTHOR: Tamás TÓTH, 1118 Budaörsi út 92/b, Budapest, Hungary. [e-mail: ruffoi@freemail.c3.hu]

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