

## Our common goal: to preserve Hungarian meadow viper!

The joining of Hungary enriched the European Union with several natural values. Among these values those are the most important that occur only in our country, like the Hungarian meadow viper. This small venomous snake disappeared from most of its known range during the last decades. Recently it is the most endangered member of the Hungarian vertebrate fauna, as estimations put its numbers under 500 individuals. In 2004 the systematic and conceptual conservation program, running since 1993, has opened a new chapter in the story of Hungarian meadow viper. The common proposal under the name of „Establishing the background of saving the Hungarian meadow viper [*Vipera ursinii rakosensis*] from extinction” by Hungarian Ornithological and Nature Conservation Society (MME BirdLife Hungary), Directorate of Kiskunság National Park (KNP) and Directorate of Duna-Tisza National Park (DINP) was granted funding by the European Union LIFE-Nature Fund, providing 50% of the four year program's budget (2004-2007).

**Parts of the project are:** creation and operation of Hungarian meadow viper Conservation Centre; grassland reconstruction on formerly seized habitats; monitoring and related studies; public awareness activity.

## Hungarian meadow viper

Hungarian meadow viper [*Vipera ursinii rakosensis* Méhely, 1893] is an inhabitant of steppe remnants. Recent populations occur on grasslands formed by a mosaic of drying marsh-meadows and sandy pastures, where the relatively diverse features of terrain and grass cover provides high prey-abundance and several different microclimatic options. Vipers spend winter hibernated in rodent burrows of local elevations. During spring as mating season starts males moves significantly more, this time is the most likely to see one of them.

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Young vipers are born late summer, early September, depending on the number of sunny days. On average 6-14 viper is born, with 12-16 cm length and weighing only 2 g. They become fertile at their third-fourth year. According to our measurements the biggest male was 471 cm in length, while the biggest female was 598 cm. Young individuals feed mainly on Orthoptera (locusts, grasshoppers, crickets), while adults consume lizards, young birds and rodents. The venom of Hungarian meadow viper is not lethal for humans, its bite – although due to the species' cautiousness and rareness nowadays it is very infrequent – causes quickly disappearing, bee-sting-like symptoms. (Despite this, in case of being bitten we suggest to visit a doctor!) The cautiousness of this small snake is not accidental as, especially newborns are on the menu of several other species. The so called predators are storks, herons, harriers, roller, pheasant or even the strictly protected great bustard. Wild boar badger or red fox can even dig them from their burrow.

## Causes of decline

The severe decline was mainly caused by cultivation of habitats. Previously unpredictable water movements were diminished by building of canals, making these places suitable for agricultural cultivation, meaning ploughing of most of the grasslands. Remaining grasslands were mowed intensively, which was intolerable for the species. Collection for trade purposes and intentional killings further reduced its numbers. Remaining small and isolated populations became vulnerable and small, local catastrophes can fully destroy them.



## Conservation status

Hungarian meadow viper is protected in Hungary since 1978, strictly protected since 1988, and was raised to the highest conservation category since 1992, with a conservation value of 1000000 Ft (roughly 4000 €). Its critical situation was recognized internationally as well, as it had been included in Bern Convention Appendix II., IUCN categorized as 'threatened', it is listed in CITES Annex I. and B&HD II list. The Bern Convention has two recommendations to Hungary regarding the Hungarian Meadow Viper. The species is listed in Natura 2000 II. list and all occurrences were included into Natura 2000 Network. On these sites management must be subordinated under the habitat needs of the vipers.

## Hungarian meadow viper Conservation Centre



The need for the creation of a Hungarian meadow viper Conservation Centre had been raised for years, as the severe decline of natural populations projected the grim picture of extinction of this unique species. The main goal of the Centre's operation is to breed vipers collected from threatened populations. In the seminatural outside enclosures vipers from different populations will have a chance to breed, eliminating problems such as inbreeding arising from small isolated populations. Young vipers born at the Centre – thanks to prey-abundance and lack of predators – will probably reach adulthood in higher percentage than those in natural populations. The Centre's facilities create the chance to answer several questions, still unanswered due to the species' hiding behaviour, providing valuable information to nature conservation in the future. The Conservation Centre is operated by MME BirdLife Hungary, cooperating with KNP supervised by Hungarian meadow viper Conservation Council, formed of experts on the subject. Genetic studies are carried out by experts of Hungarian Natural History Museum, Laboratory of Molecular Taxonomy, while veterinary support is provided by Budapest Zoo.



### Habitat reconstruction

Grassland reconstruction will take place on a forest patch that divides two recent viper habitats in the Pészádacs area. These false acacia and pine forests were planted on local heights during the early '80s. The plantations not only occupied parts of viper habitats, but stolen the species of important wintering places that were safe from high water-table. Habitat reconstruction will be carried out by experts of KNP following guidelines of the Management Plan, developed by the project. We hope that vipers will use the reconstructed dry meadows, creating the chance to unite the two [sub]populations.

### Monitoring and other related studies

The existence of the Conservation Centre does not mean the elimination of 'in situ' conservation, therefore the monitoring of natural populations is an important part of the project. On viper habitats in the area of KNP and DINP vipers and other keerp species will be monitored as well as other studies on vegetation, important prey-species like Orthopterans, and Rodents that are more important of building potential hiding places. Studies will be carried out by experts of MME and researchers from various universities. The aim of monitoring is to describe different viper habitats with objective parameters in order of comparison. The comparison of recent and former habitats can give some cues to the severe decline of the species, and help in developing guidelines for the 'viper-friendly' management of those sites.

### Public awareness activity

Active conservation of a reptile, especially a venomous snake, always divides public. Our main priority is to increase the acceptance of the conservation program and the species, as well as to inform broad public. The program will inform interested people through brochures and leaflets, frequent press-releases, on the project web-page ([www.mme.hu/rakosivipera](http://www.mme.hu/rakosivipera)) and by public forums. Public forums will be held on settlements close to recent viper populations, where information boards will be erected as well. We will organize a two-day training for local professional and volunteer conservation rangers, where participants of the program and other invited experts will review the most important features of the project and the species.



## Further information:

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