

## AMPHIBIAN CONSERVATION EFFORTS IN HUNGARY

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### INTRODUCTION

In Hungary all the amphibians and reptiles are protected by a law which was issued by the head of the National Authority for Environmental Protection and Nature Conservation. (The Ministry of the Environment and Water Management was also formed in 1988 partly from this authority). In spite of this nobody has ever been sentenced for killing or torturing a native amphibian or reptile.

As Hungarian herpetofauna is declining there is an urgent need for research and conservation activities. The first organized "Hungarian toad rescue" occurred in 1987. In April twenty five people spent their spare time helping frogs and toads in the Börzsöny mountains in northern Hungary. Two sites were selected (Parassapuszta and Királyrét).

Parassapuszta is at the border between Czechoslovakia and Hungary, where an international road goes between the flood plain of the River Ipoly and the mountains. Unfortunately an increase in the number of cars (approximately 1,000 a day) crossing the border during the toad migration occurs because it coincides with the end of the skiing season in Hungary, but not that of Slovakia.

Three years ago efforts were made by the Ministry of Traffic to solve the problem in Parassapuszta by constructing fences and ditches. Unfortunately, however, in 1988 the fences, which directed the animals towards culverts, were neglected and the ditches along the road filled with rubbish, leaves and branches enabling amphibians to clamber up to the road.

The second site is at Királyrét, a popular tourist centre, where the main threat to the amphibian population is people. There are frequent sightings of people deliberately harming and killing amphibians (the author for example, found a common toad, *Bufo bufo*, female on a hook a metre above the ground this year on a sunny Saturday afternoon).

Our methods were the same at both sites. Frogs, and toads were collected, measured and sexed, placed in buckets and taken to the other side of the road or to the breeding pond. At Parassapuszta they were helped during the night, the most active period being between 9 pm and 11 pm, while at Királyrét they were helped during the day. At this site we not only rescued and counted the animals but we also advised the tourists on how best to keep the disturbance to a minimum. Most of the people approached were found to be cooperative.

As a result, a total of nearly 2,500 frogs and toads were transported to breeding sites in the area. The species, in descending order of abundance were:

- Common Toad (*Bufo bufo*)
- Spade-Foot Toad (*Pelobates fuscus*)
- Agile Frog (*Rana dalmatina*)
- European Tree Frog (*Hyla arborea*)
- Fire-Bellied Toad (*Bombina bombina*)
- Green Toad (*Bufo viridis*)
- Edible Frog (*Rana esculenta*)

In spite of its relative abundance at Parassapuszta the occurrence of *Pelobates fuscus* was first recorded there by our group.

Most of the participants came together regularly and as it seemed to be a permanent company, we formed the Toad Action Group (in Hungarian, Varangy Akciósoport) within the Nature Conservation Club of University Eötvös in autumn, 1987.

Its objectives were three-fold. It aimed to be involved in amphibian conservation, to do scientific work and to conduct environmental education.

The arrangements for the second "Help toads across the road" Campaign began in October, 1987 with a lecture in a leisure centre. Later we held numerous lectures in schools, clubs and universities. The most important of these was a scientific meeting at the Hungarian Biological Society, Section of Zoology, where a paper on the scientific results of the first action was also accepted. Besides this we published four other articles and were also on the television and radio. Our greatest task was the organization of an "Amphibian and Reptile Day" with live specimens, films and lectures. This involved the largest number of people in the history of our club, 800-1,000, spending their time meeting these unpopular animals and getting to know them.

The second action aimed to save more amphibians, investigate other roads in the Börzsöny mountains and elsewhere and get international participation. It appears that the second action was also successful although only one of the new sites visited, Ócsa, a swamp 30 kms south to Budapest, will be visited again in 1989. At this site we found a herpetofauna which was naturally different from that of the Börzsöny mountains. It is a lowland area without a Common Toad predominance. The most abundant amphibians were the Spade-Foot Toad (*Pelobates fuscus*) and the Moor Frog (*Rana arvalis*).

In total, we helped more than 8,600 amphibians in 1988. The number of the participants increased to more than 250, with some people coming from Poland. These are quite good numbers especially if we take into consideration the fact that we got no financial support from any organisation in either 1987 or 1988.

After the second action the Toad Action Group has not stopped working because in 1988, when it was less than a year old, the Ministry of the Environment and Water Management offered it a three-year contract. The work was to investigate the building area of a planned motorway around the capital, MO. It will be at least 85 kms long; some of the plans have not yet been fixed, and it will probably cross some sites with herpetological interest. Twenty four members of the group worked on the project and the report on the first year was accepted by the Ministry. Even the recorders were surprised that during the survey eight amphibian species were found within the territory of Budapest. Although eight sites were selected for long term studies we will survey the whole system again in the spring. The whole picture is not so sunny, as most of the sites were agricultural deserts.

From the results of the more detailed survey of the second campaign, a thesis (third prize winner) was written for a student competition at the university Eötvös, Budapest, showing that research is important for us. Considerable differences were found between two populations indicating that the hypothesis that roads with heavy traffic can have great effects on local herpetofauna was valid.

The Toad Action Group has now organized its campaign for 1989. Although we realize that the final solution can only be the construction of fences, tunnels etc., we know that because of financial constraints this can only happen in the future. The research we do is also necessary so that we know how to conserve and protect our amphibians.

*List of the species having been found so far in Hungary:*

Urodela	Salamandridae	<i>Salamandra salamandra</i>		
		<i>Triturus vulgaris</i>		
		<i>Triturus cristatus</i>		
		<i>Triturus alpestris</i>		
Anura	Discoglossidae	<i>Bombina bombina</i>	Hylidae	<i>Hyla arborea</i>
		<i>Bombina variegata</i>	Ranidae	<i>Rana temporaria</i>
	Pelobatidae	<i>Pelobates fuscus</i>		<i>Rana arvalis</i>
	Bufonidae	<i>Bufo bufo</i>		<i>Rana dalmatina</i>
		<i>Bufo viridis</i>		<i>Rana lessonae</i>
				<i>Rana ridibunda</i>
				<i>Rana esculenta</i>