

The river Topla

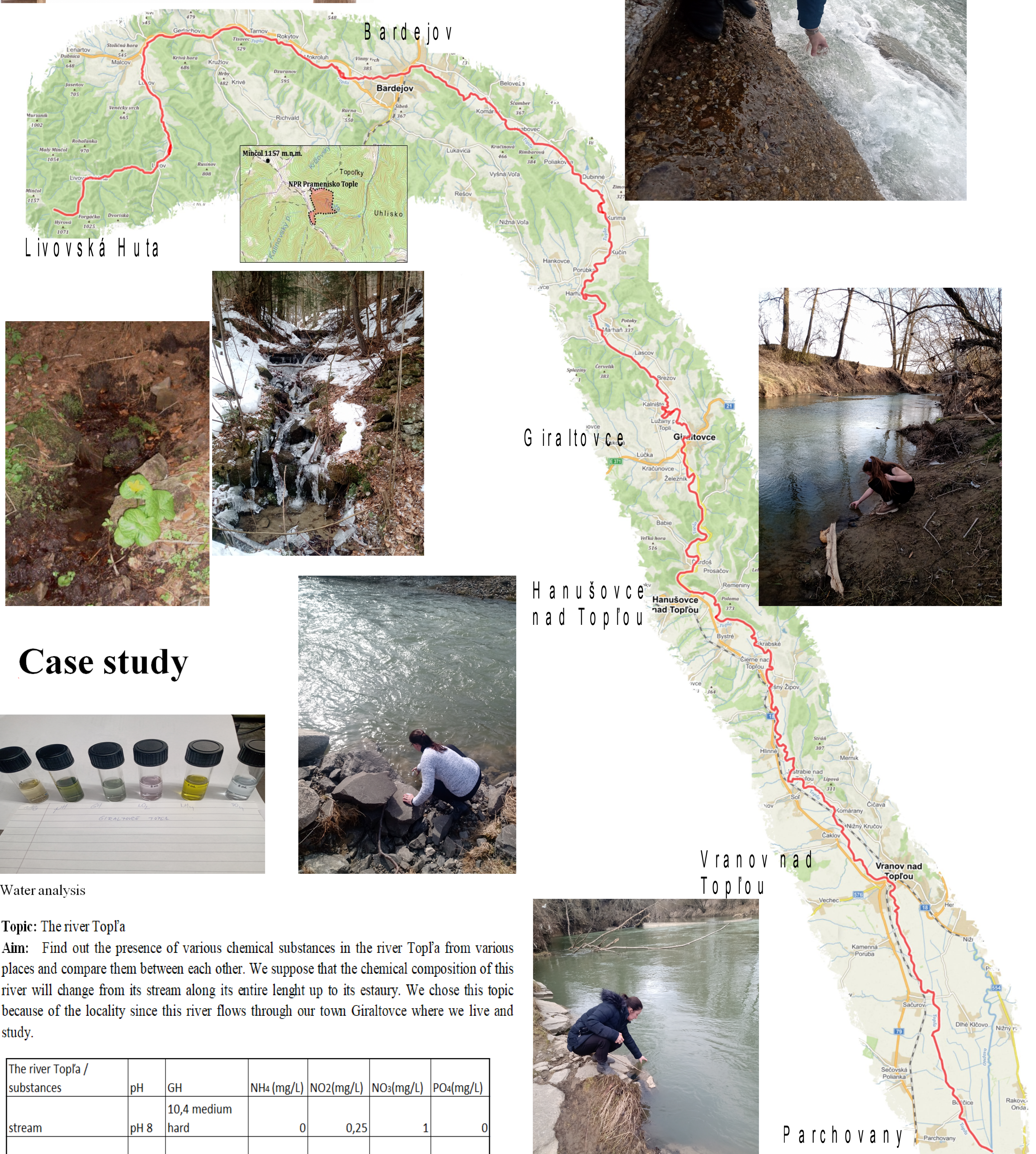
Sukromma stredna odborná Giraltovce

The river Topľa



Obtaining information and understanding the case:

The source of the river Topľa is National preserve with natural stands of hemlock (fir and beech trees) and mountain meadows and it is located in the Čergov Mountains in the cadastral territory of the village Livovská Huta in the district of Bardejov in the region of Prešov. The river Topľa drains a basin of 1,506 km² and it is 129,8 km long. It originates below the top of the Minčol Hill at an altitude of 976 - 1000 m above sea level. It flows through 4 major towns where we took water samples for our research – Bardejov, Giraltovce, Hanušovce n/T and Vranov n/T. The river Topľa pours into the river Ondava in the village Parchovany, the district of Trebišov.



Case study

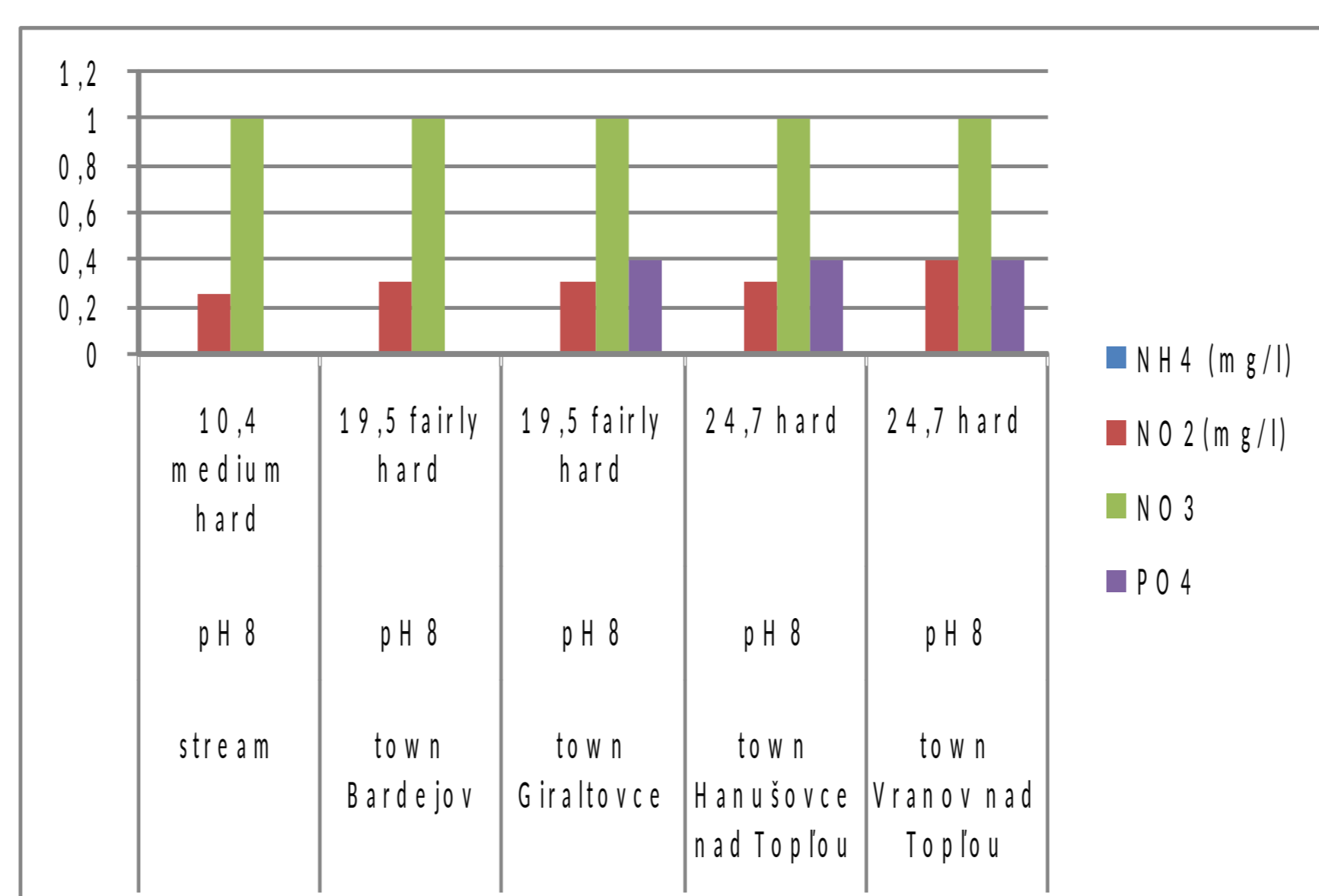
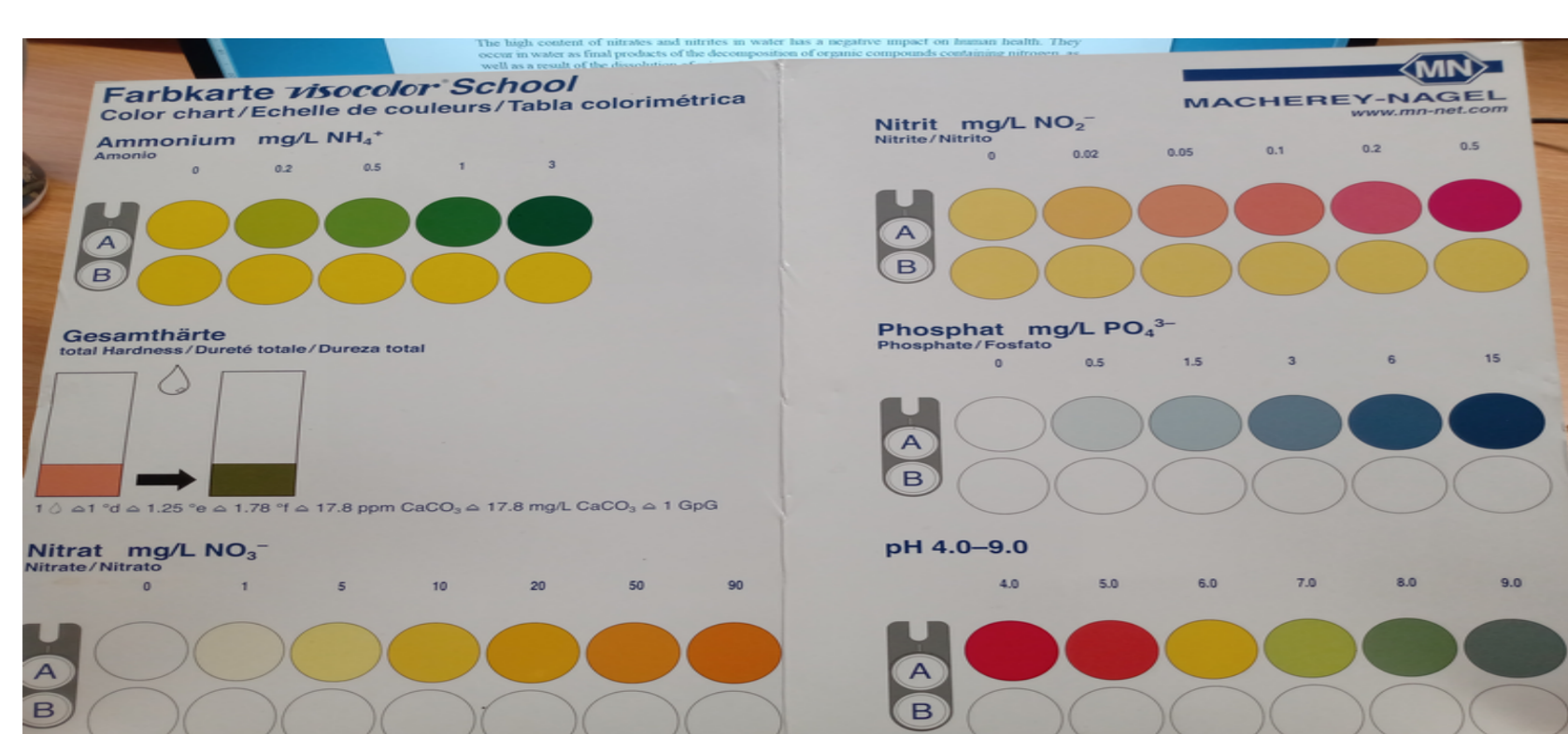


Water analysis

Topic: The river Topľa

Aim: Find out the presence of various chemical substances in the river Topľa from various places and compare them between each other. We suppose that the chemical composition of this river will change from its stream along its entire length up to its estuary. We chose this topic because of the locality since this river flows through our town Giraltovce where we live and study.

The river Topľa / substances	pH	GH	NH ₄ (mg/L)	NO ₂ (mg/L)	NO ₃ (mg/L)	PO ₄ (mg/L)
stream	pH 8	10,4 medium hard	0	0,25	1	0
town Bardejov	pH 8	19,5 fairly hard	0	0,3	1	0
town Giraltovce	pH 8	19,5 fairly hard	0	0,3	1	0,4
town Hanušovce nad Topľou	pH 8	24,7 hard	0	0,3	1	0,4
town Vranov nad Topľou	pH 8	24,7 hard	0	0,4	1	0,4



Conclusion and recommendation:

The high content of nitrates and nitrites in water has a negative impact on human health. They occur in water as final products of the decomposition of organic compounds containing nitrogen, as well as a result of the dissolution of mineral substances (it means harder and harder water) found in the geological subsoil. They are also part of atmospheric precipitation.

Nitrates and phosphates can enter surface waters together with municipal and industrial sewage, and also as a result of runoff from agricultural lands that have been fertilized with artificial nitrogen fertilizers. And there we can see the major proof of presence of nitrates and nitrites, also phosphates in our samples of the river Topľa, because there are lots of lands used for agricultural purposes along the both banks of this river.

BASIC INFORMATION

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