

Monitoring sites

-The Danube main stream (eupotamal)

(since 1992 the old main stream)

profile at Dunajské kriviny (rkm 1840,5)

profile at Gabčíkovo (rkm 1819,5)

-Parapotamal type arms

(since the damming partly discharging at Čunovo)

the Bodické rameno arm (rkm 1830)

the Istragovské rameno arm (rkm 1815,5)

- Pleisopotamal type arms

the arm in Kráľovská lúka at Trstená na Ostrove (rkm 1825)

the arm in Sporná sihoť at Klúčovec (rkm 1804)

the arm at Čičov (rkm 1800) – monitored since 1999

Eupotamal

Based on the species composition of cladocerans, we can postulate that the character of the former main stream (eupotamal) has only partially approximated the parapotamal, because the so-called stagnant period, occurring in the past during periods of low water levels, is now absent.

Abandoning the concept of the canalised old main stream Danube and restoring an anastomosing river pattern (stream, branching and rejoining irregularly to produce a net-like pattern) would surely be better also for the planktonic crustaceans than the present straight-line like and continuously discharging Old Danube stream.

The connection of the main arms of individual arm systems would ensure the preservation of different water bodies, making development of planktonic crustacean taxocoenoses possible.

Parapotamal

The concept of a new eupotamal, i.e. the creation of a new stream by interconnecting the main arms of individual arm systems, would be optimal for both these arms. This would ensure the preservation of various water bodies in the original within-dike zone, as suggested for example by Lisický and Šporka

Plesiopotamal

It is necessary to ensure regular communication of these water bodies with other water bodies in the within-dike zone, at least during the flood water levels, in order to enrich them by nutrients, to wash out sediments and to slow down process of overgrowing, shallowing and terrestrialisation.

V.2.4. Benthic fauna in monitoring of biota in the area of the Gabčíkovo hydraulic structures

Ferdinand Šporka

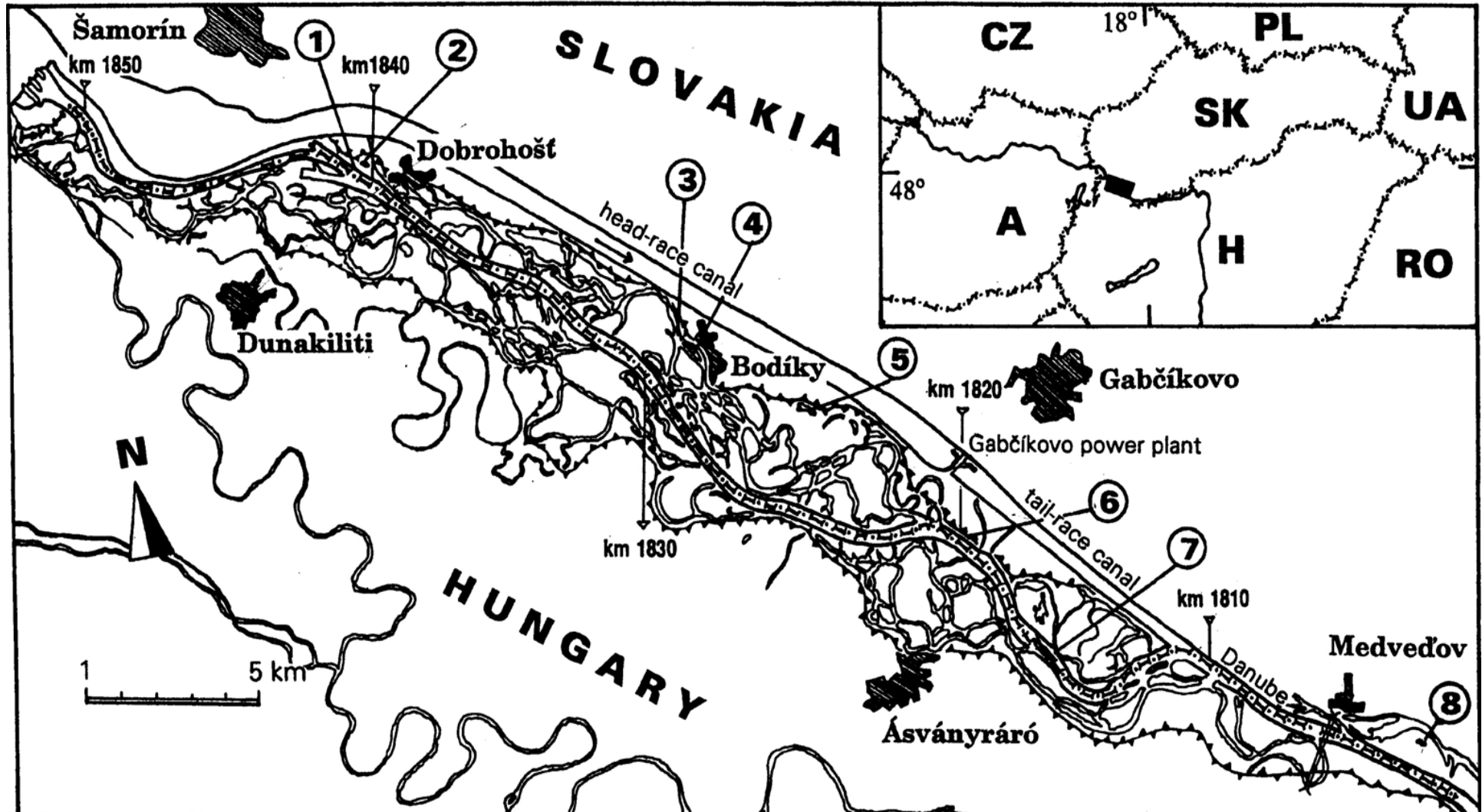
V.2.6. Mollusc fauna (Mollusca) of the Old Danube riverbed (1997-2005) and its perspectives

Vladimír Košel

The mollusc fauna in both sites near Dobrohošť, in 1997-2002 and 2003, respectively, was qualitatively and quantitatively relatively stabilised. The year on year differences in abundance could be explained by dynamics in the development of populations of individual species due to a changing climate, food offer and hydrological regime. Changes observed near Gabčíkovo after 2003 were unambiguously caused by the spread of the allochthonous species, *Theodoxus fluviatilis* (quickly spreading and reaching high abundance to outbreak in the invaded territory). Its original area, from which it invaded into the Danube, is The Rhine basin, primarily the Main River, which is connected with the Danube by a shipping canal.

V.2.7. Monitoring Danube fish fauna and the influence of the Gabčíkovo project

Jaroslav Černý



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Monitoring sites

Eupotamal type, the Danube main stream (since 1992)

Dunajské kriviny near Dobrohošť (rkm 1840,5)

Istragov main channel (rkm 1817,5)

Parapotamal type arms

Bodícka brána (rkm 1830)

Istragov Foki Dam upstream (rkm 1815,5)

Istragov Foki Dam downstream (rkm 1815,5)

Pleisopotamal type arms

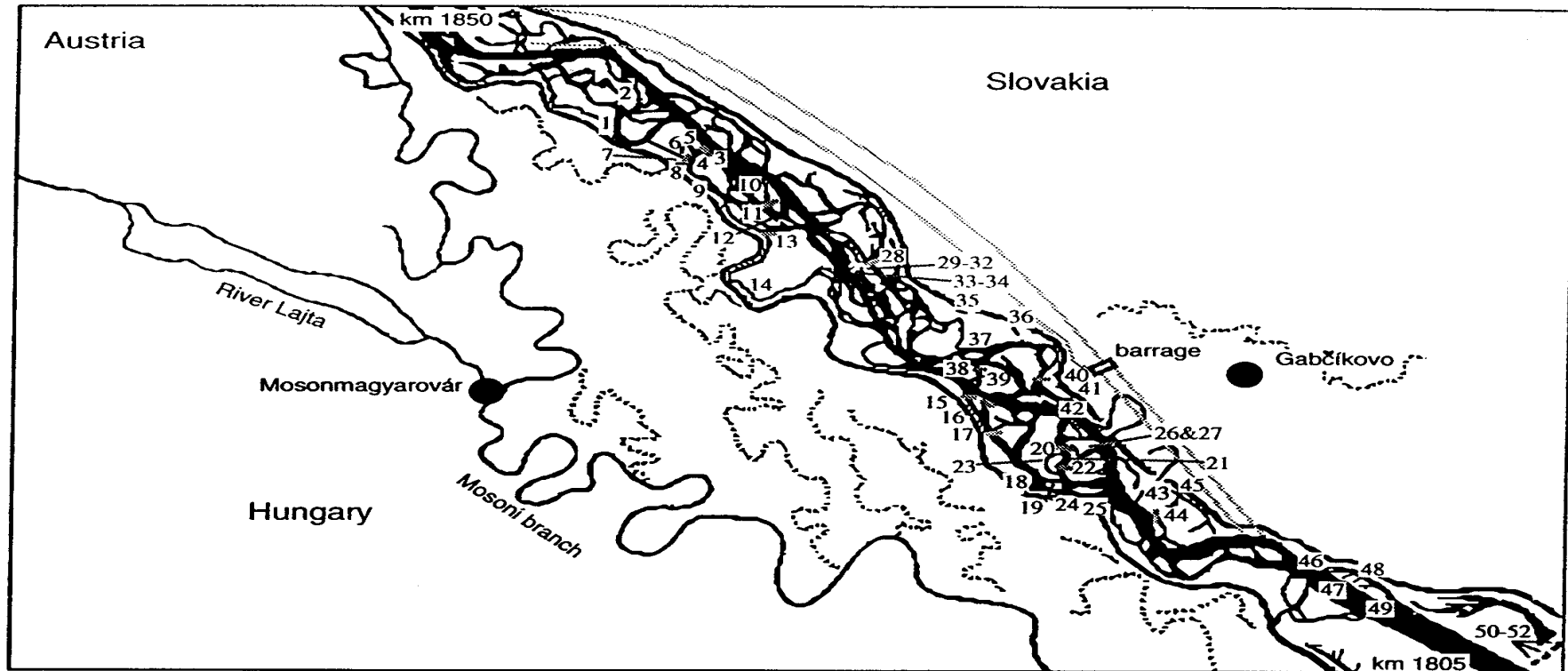
Kráľovská lúka near Trstená na Ostrove (rkm 1825)

Sporná sihot' near Klúčovec (rkm 1804) reference site

Starý les near Čičov (rkm 1799,5) ref. Site, monitored since 1999

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1	Szigeti arm	14	Burjános	27	Szilfási channel	40	Baka weir
2	Véri channel	15	Gombócosi weir	28	Bodická brána	41	Baka arm
3	Vörösfüzesi weir	16	Újszigeti weir	29	Bodíky 1	42	Baka lower mouth
4	Csákányi upper mouth	17	Halrekesztő weir	30	Bodíky 2	43	Istragov
5	Csákányi backwater	18	Halrekesztő backwater	31	Bodíky 3	44	Istragov weir
6	Muki oxbow	19	Morva arm	32	Bodíky 4	45	Ispanský oxbow
7	man-made channel	20	Szürke weir	33	Bodíky 17	46	Palkovičovo 22
8	Siszler oxbow	21	Szürke arm	34	Bodíky 18	47	Palkovičovo 21
9	Csákányi arm	22	Pókmacsági weir	35	Královská lúka	48	Palkovičovo 19
10	Disznós	23	Pókmacsági oxbow	36	Baka oxbow 13	49	Palkovičovo 20
11	Kerekesciglés	24	Asványi arm	37	Baka channel 16	50	Klučovec 23
12	Fejőmadár	25	Béka-ér	38	Baka Orliak 14	51	Klučovec 24
13	Kőhíd weir	26	Szilfási channel	39	Baka 15	52	Klučovec 25

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Most important results of monitoring the impact of the Gabčíkovo hydraulic structures on fish fauna

Changes:

Reduction of habitats for spawning

Illegal fishing by any available means

The absence of floods

Inhibition of migrations or spawning

Results:

The total abundance and species diversity of fish community declined

Changes in the structure of fish communities

Decline of fish community productivity

Decline of population reproduction

V.2.7. Monitoring Danube fish fauna and the influence of the Gabčíkovo project

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Most important results of monitoring the impact of the Gabčíkovo hydraulic structures on fish composition

Changes of habitat:

Whitefin gudgeon (*Gobio albipinnatus*) disappeared from the area monitored

Other impact:

Alpine bullhead (*Cottus gobio*) disappeared from the area monitored (expansion of allochthonous species, **Bighead goby (*Neogobius kessleri*)** and **Round goby (*N. melanostomus*)**, eliminated the **gudgeon** from its habitat.

V.2.7. Monitoring Danube fish fauna and the influence of the Gabčíkovo project

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Proposals to mitigate the negative influence of the Gabčíkovo hydraulic structures on fish

Thorough care to ensure respect for legislation and prevention of poaching

Creation of new eupotamal (Lisický M. J., Mucha I., 2003)

Reconnecting the abandoned old river bed with arms

Providing all barriers in the Gabčíkovo hydraulic structures with boulder-passes.

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Proposals to mitigate the negative influence of the Gabčíkovo hydraulic structures on fish

Simulated flooding of floodplain at periods of fish spawning

Construction of artificial spawning places for phytophilous species in the arm system

Updating fish-stocking in collaboration with the Slovak Angler Union and monitoring fish survival

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Proposals to mitigate the negative influence of the Gabčíkovo hydraulic structures on fish

Reconsideration of protection status of cormorant in collaboration with Hungary

Modifying and expanding monitoring of fish communities in collaboration with Hungary

With joint monitoring we suggest **expanding the monitoring on the stretch between Sap and Štúrovo and to unify monitoring methods.**

V.2.7. Monitoring Danube fish fauna and the influence of the Gabčíkovo project

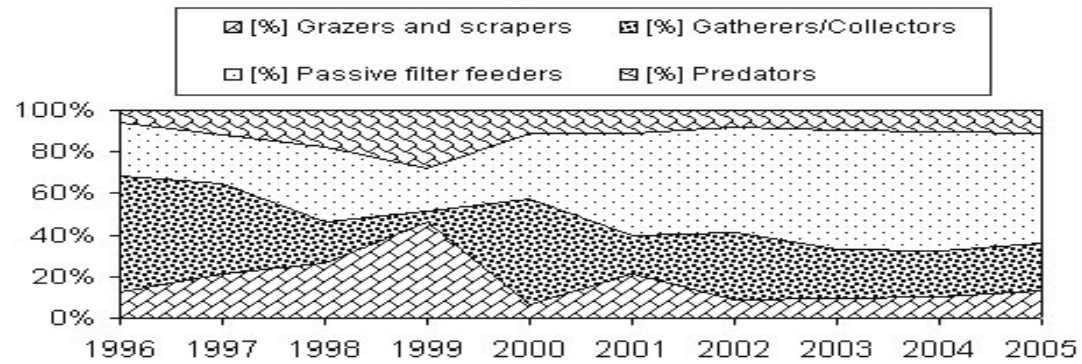
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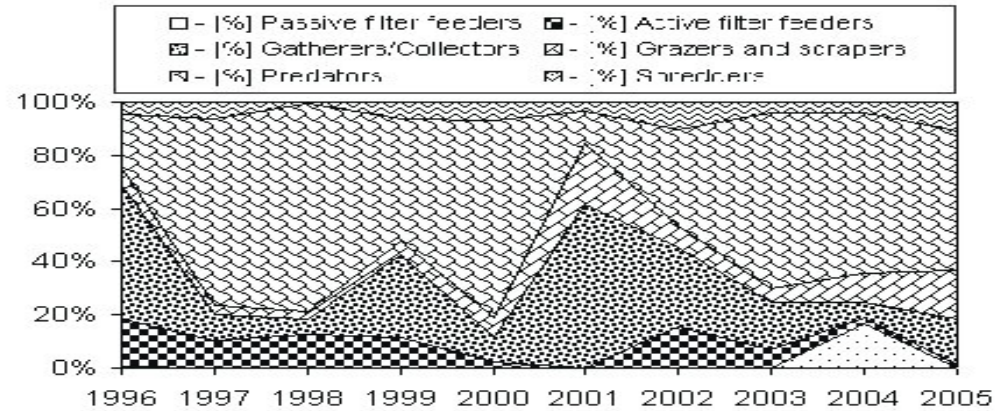
V.2.13. Monitoring of aquatic insects in the area of the Gabčíkovo hydraulic structures

Eva Bulánková, Il'ja Krno

Eupotamal



Parapotamal



Plesiopotamal

