Invertebrate Water Animals of the Dunajec River

The literature dealing with the invertebrate water fauna of the Dunajec is very sparse. The tributaries of the river in the Tatra Mountains are relatively the best studied, together with the Rożnów dam reservoir.

There are some earlier works dealing mainly with aquatic insects from the river basin, among others those of Schille, Mikulski and Fedakowski. Recently Fiedor, Krzanowski and Kuflikowski investigated the bottom fauna of the mouth sections of the White Dunajec, Rogoźnik and Lepietnica streams. There is an almost complete lack of data from the middle and lower reaches of the Dunajec, including also the fine section of the Pieniny Gap between Czorsztyn and Krościenko. The dam reservoir at Czchów is also uninvestigated.

A hydrobiological characterization of the Dunajec and its principal tributaries is being worked out at present, as a result of team research work of the Chair of Hydrobiology of the Jagiellonian University and of the Laboratory of Water Biology of the Polish Academy of Sciences in Cracow. Some of the data obtained are utilized in this paper.

The Black and the White Dunajec, as well as the Biała Tatrańska, which drain the northern slopes of the Tatra, are typical mountain streams with a swift run, clear and cold water, and a rocky bed composed of round stones and boulders of various sizes, mostly granitic. Judging from the investigations made so far the bottom fauna of these streams has a similar character. In the current on the stony substratum live the water mites Sperchon squamosus Kram. and Torrenticola elliptica Maglio, as well as rheobiotic species of mayflies, among others Baetis siceicus Bog. known from Rumania and the northern slope of the Carpathians, and also B. carpathicus Mort. and Epeorus assimilis Etn. The numerous stoneflies appearing here represent spring snow species, such as Taeniopteryx auberti Kis and Sowa and Brachyptera monilicornis Hauer, as well as Protonemura montana Kimm. Of the tendipedids, the stony bottom in the current is inhabited, among others, by Diamesa thienemanni Kieff.) and Eukiefferiella longicalcar (Kieff.). Among the caddisflies there appear frequently in this habitat Rhyacophila nubila (Zett.), Rh. obliterata McLachl. and Glossosoma boltoni (Curt.).

The bank and still water reaches of these streams, with a mostly stone and gravel substratum, are inhabited by water mites mainly of
the species *Sperchon glandulosus* (KoEn.) and the mayflies: *Ecdyonurus torrentis* Kimm., *Ephemera kriehoffi* (Ulm.), and *E. ignita* (Poda). Among the stoneflies living here the following are common: *Amphineuria borealis* (Mort.), *Leuctra inermis* Kemp. and *Isoperla oxylepis* (Desp.) and among the caddisflies *Drusus bifidatus* (Pict.), *D. trifidus* (McLachl.), *Metanoea flavipennis* Pict. and others.

In its middle course, below the confluence of the Black and White Dunajec up to the neighbourhood of Nowy Sącz, the Dunajec is already a large mountain river with a stony bottom of various components, gradually decreasing in size along the river course. The river bed shows frequently swift current sections under a hundred metres in length and a steeper incline, alternating with lenitic parts usually with a greater
width of water. Near the river sides small areas of sandy and muddy bottom can sometimes be seen. This is more frequent in the side water reaches of the river.

In the current on a stony bottom there gather the water mite Sperchon plumifer Thor, S. clupeifer (Piers.) and Atractides spinipes Koch.; mayflies such as the common Oligoneuriella rhenana (IMH.), Baetis venustulus Etn. and the Rhithrogena grisoculata Bog. known only from the Carpathians, also live here in considerable numbers. Stoneflies are represented by the Dinocras cephalotes (Curt.) and Perlā bipunctata Pict. and flies, among others, by Simulium reptans (L.), Synorthocladius semivirens (Kieff.), and Trichocladius ex gr. bicinctus (Meig.) commonly found along the whole course of the Dunajec. In places with a slower current this group is represented also by Thiene-manniiella flaviforceps Kieff. and Polypedilum ex gr. pedestre (Meig.). Hydropsyche pellucidula (Curt.), H. lepida Pict. and Rhyacophila nubila Zett. are the most frequently found caddisflies.

In the lenitic parts of the stony bed and riverside there live water mites of the species Hygrobares fluviatilis (Ström.), mayflies such as Potamanthus luteus (L.) and Ephemerella lineata Etn. characteristic for greater rivers, but also the stoneflies Leuctra mortoni Kemp., Isoperla grammatica (Scop.) and Chloroperla tripunctata (Scop.). Typical for muddy parts of the river are the mayflies Siphlonurus aestivalis Etn., often with considerable density of population and Cryptochironomus ex gr. defectus (Kieff.) as well as Polypedilum breviantennatum Tshern. from the tendipedids.

Below the Czchów dam, the Dunajec gradually becomes an submontane river, partially regulated, with a stony and gravel bottom is sandy near the river mouth. On the stony substratum in the current there live commonly the tendipedids: Tanytarsus ex gr. gregarius Kieff., Polypedilum sp. (Tendipedidae „genuinae Nr 3“) Lip. and buffalo gnats, among others Simulium reptans (L.). The mayflies are represented by the species Baetis venustulus Etn. and Ecdyonurus fluminum (Pict.) and the caddisflies by Hydropsyche pellucidula (Curt.) and Psychomyia pusilla Fabr. In the lenitic parts of the river, among the mayflies Baetis scambus Etn., Heptagenia sulphurea (Müll.) and Ephemerella notata Etn. are more numerous. Along the riversides the amphipod Gammarus balcanicus tatrensis Karam. appears in fair numbers.

In its lowest reaches the Dunajec is markedly polluted by industrial wastes and sewage from Tarnów. A fairly considerable growth of Sphaerotilus natans may be observed on its bottom, the river animals become quantitatively and also, in most groups qualitatively poorer. The mayflies living here in greater numbers are Heptagenia flava Rost., Potamanthus luteus (L.) and Centroptilum luteolum (L.). Caddisflies are represented by Hydropsyche pellucidula (Curt.) and the tendipedids
by *Microtendipes bicolor* (Zett.), *Limnochironomus* ex gr. *nervosus* (Staeg.) and *Tanytarsus* ex gr. *exiguus* Joh. Along the riversides the leech *Erpobdella octoculata* (L.) is abundant.

**Literature**


