

# **Biodiversity Evaluation of Protected Areas in Baltic Region Using Caddisflies and Water Beetles (Insecta: Trichoptera & Coleoptera)**

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The biocenosis naturality indices (Fischer 1996, Czachorowski & Buczyński 1999) seem to be a very good tool for planning the animal protection. The indices were calculated for various protected and non-protected areas, using some groups of aquatic insects. The new proposal is using indices based on red lists of animals (RED, RED<sub>Loc</sub>, REB, RES; Czachorowski et al. 2004). The naturality indices (Wns, Wni) were calculated based on caddisflies and dragonflies, and were used in evaluation of anthropogenic changes of some protected areas (national parks, landscape parks and reserves). For example, taking into consideration naturality indices, some springs in Kazimierski Landscape Park were classified into five types - different in anthropopressure (Buczyński et al. 2003). Fauna of all studied habitats of the Janowskie Forests Landscape Park certified a visible impoverishment as a result of anthropogenic transformations of water habitats. However, gradual recolonization and renaturalization in caddisfly fauna probably both take place (Czachorowski et al. 2000). The naturality indices were also used in evaluation of urban lakes. Lake Długie in Olsztyn has been restored for over ten years. The numbers of species, diversity and naturality indicators were high (Pietrzak & Czachorowski 2004). The naturality indices calculated for some lakes, rivers and small water bodies in Złocieniec and Olsztyn (northern Poland) are comparable to indices calculated for water bodies from "natural" areas (Czachorowski & Pietrzak 2004). With the view to valorisation of precious nature areas a new coefficient was proposed - in three variants (RED, REB, RES). The coefficients were calculated for some Polish landscape and national parks, used caddisfly fauna and water beetles fauna (Czachorowski et al. In prep.). Based on those coefficients, the most precious areas for protection of biodiversity were determined.