Faunistical research on Odonata in Flanders as a base for conservation and management

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The Belgian Dragonfly Working Group Gomphus, a volunteer organisation, was founded in 1983. One major activity from the start was the organisation of an atlas project of Odonata distribution in Belgium. The project is now in its last phase. A special effort has been made to achieve a good coverage of the territory during the last five years. Since 1990, all 10 km x 10 km UTM grids of Flanders have been visited at least once. For the whole of Flanders, more than 25,000 records are available, half of them collected in 1990-1995.

The Gomphus database has been used for the composition of the Red list of Dragonflies in Flanders (De Knijf & Anselin, 1996), a project of the Institute of Nature Conservation. In the Red list is shown that 35 species (60%) are more or less threatened: 9 species are “Extinct in Flanders”, 6 species are “Critically endangered”, 9 are “Endangered”, 5 are “Vulnerable”, 6 are “Rare or Susceptible” and 2 “Data deficient”. 21 species are categorized “Safe/Low risk”. Especially the species of rivers and brooks, oligotrophic waters (including bogs) and mesotrophic waters are threatened.

The database of the Belgian Dragonfly Working Group Gomphus can also be used for advice for dragonfly-friendly management of wetlands. One example of application is the promotion of nature-friendly management of private garden ponds. A pond with a classical non-nature friendly design can be characterized by steep banks, none or very few floating and bank vegetation, absence of structure and microhabitats. The same pond can also be fit up with variation in shore vegetation (reedmashesses, Carex and Juncus vegetation patterns and some trees), alternation between shallow and deep banks and with the presence of floating vegetation. This gives good opportunities for colonisation and reproduction to a wide range of dragonfly species. Measures can also be taken for the ammelioration of intensive used angling waters by small-scaled zonal management.
Population genetic studies on zooplankton: patterns of genetic variation in organisms inhabiting insular habitats as a means of comparing the merits of different nature conservation strategies

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Zooplankton organisms are rarely the target of nature conservation efforts, probably because they are small and not well known to the public. Yet, information on zooplankton organisms may be very useful for nature conservation. First, some rare species have very specific habitat requirements. Secondly, the species composition and size distribution of the zooplankton community may reveal a wealth of information on habitat characteristics, including on biotic factors such as fish predation pressure which is often difficult to assess directly. In addition, zooplankton organisms play a key role in the trophic cascade, and knowledge on their ecology is therefore essential to the restoration of water quality in lakes through biomanipulation (Carpenter & Kitchell 1993). Another important factor is that many zooplankton species, and especially members of the genus Daphnia, are well-suited for population genetic studies, because they typically occur in large numbers and have a short generation time.