

## BOOK REVIEW

WILDERMUTH H., GONSETH Y. & MAIBACH A.: ODONATA. DIE LIBELLEN DER SCHWEIZ. FAUNA HELVETICA 12, Centre Suisse de Cartographie de la Faune and Schweizerische Entomologische Gesellschaft, Neuchâtel, 2005, 400 pp., ISBN 2-88414-024-7/ISSN 1422-6367, Price CHF 60.00.

Generally, it is important to have a document that gives an objective assessment of the current knowledge of a group and will serve as a starting point for future analyses of changes in its distribution due to human activities. This volume contains a detailed distributional atlas of the order Odonata in Switzerland. Such atlases indicating the spatio-temporal spread of populations within a certain area depend on sound taxonomy that is well understood within Europe in general.

The introduction of this volume contains, besides a very interesting paragraph on the significance of dragonflies for artists and painters, three substantial paragraphs devoted to Odonata biology (systematic position of the order, morphology of eggs, larvae and adults, developmental cycles and relationships between dragonflies and the environment), Odonata and their habitats (detailed characteristics of taxocenes of springs and spring brooks, brooks, streams and rivers, lakes and their effluents, ponds, pools and peat bogs.), and one on the development of a databank of Odonata of Switzerland. The latter describes in detail the history of odonatology in this country from the very beginning up till the present, when this databank contains an unbelievable 138,865 items! The introduction also deals with the geography and hydrology of Switzerland from aquatic insect's point of view. The area lies in the centre of Europe and all the major climatic regions of the continent – Atlantic, Mediterranean, Continental and Boreal, influence its fauna. Its relief was shaped by alpine orogenesis and glaciation (glaciers cover about 4% of the total area of Switzerland). There are five catchment areas, two of which, namely those of the great European rivers Rhine (50% of the total area) and Rhône (about 20%) are very important. Naturally, nearly all Swiss species of dragonflies are found in the Rhine catchment area. Although a relatively small country (total area of 41,293 km<sup>2</sup>) these features resulted in a relatively diverse fauna.

Eighty-five species and subspecies of the order Odonata found in Switzerland are included in this atlas. The authors invited altogether 27 contributors to treat individual species. For each species, the following data are presented: general distribution within the whole area, distribution in Switzerland, state of present knowledge, emergence and flight period, habitats of imagines, larval habitats, status from a species protection point of view.

The distribution maps depict the occurrence of individual species in 5 × 5 km quadrates of the uniform grid system that is used for mapping Switzerland's biota. In order to emphasize long-term changes in distribution the data is presented for the period up to 1986, from 1987–1998 and from 1999–2004; the latter is based mostly on an excellent and well-organized national project "Odonata 2000" started in 1999. Maps are accompanied by graphs of the vertical distribution and flight periods of individual species. The former is based on 18 altitudinal zones defined by climate, average annual temperatures, vegetation period, total area and average elevation according to Schreiber (1997). Naturally, the highest number of species (round 80 species) is found at elevations of 400–600 m a.s.l., with 42 species at 1,400–1,600 m and only 5 species above 2,500 m.

To be very critical, some minute details are missing: Italian/English common names of species (if they exist) are not presented, summary table of the protection status of individual species (e.g., CR, EN, VU etc. in the form of modified "Redlist" last published by Gonseth and Monnerat 2002) would be informative. A brief key to families/genera (or to species in "not problematic" genera and species groups) is not included. However, this is excellently supplied by illustrations of genitalia, e.g. in Lestidae and *Coenagrion* or Cordulegasteridae and Corduliidae on p. 195), but the common species of *Sympetrum* are not treated in the same way.

In general, one aspect should be emphasized, as it is very important. The atlas is definitively not a mere collection of distribution maps but deals with other, very important ecological aspects of dragonflies such as their altitudinal distribution, distribution within the catchments areas, larval habitats, developmental cycles with special reference to emergence and flight periods of adults.

The book is concise and selective, and the carefully reviewed papers present a bibliography of the Swiss Odonata fauna. The list of references contains more than 500 items. In our opinion this list includes all the important literature published since Linnaean times, with a special emphasis on the distribution of dragonflies in Switzerland and adjacent countries. The presentation of the highly professional figures and graphs is technically perfect. Quick orientation is facilitated by a concise index, which includes the names of taxa.

There is little need to emphasize how useful such an "atlas" is for aquatic entomologists and hydrobiologists. It is a very good example of how to treat a group of aquatic insects in terms of biodiversity conservation and the general aquatic biotope/specific species protection point of view.

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