Buchbesprechung

Christoph Muster & Marc Meyer 2014 Verbreitungsatlas der Weberknechte des Großherzogtums Luxemburg.

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For faunistic research on a certain animal group, knowledge of the situation in surrounding countries is a necessity. The presence of certain species in neighbouring regions, together with notes on their distribution and trends, offers valuable information for the interpretation of the status of these species in one's own study area. Changes in the national fauna – e.g. the discovery of a new species – can often better be explained when integrating information on the status of species in nearby countries. Distribution atlases are therefore not only valuable publications for the country of concern, but also for other countries in the same region.

In the north-western part of Europe, data on the occurrence of harvestmen is thankfully not as scarce as for the other groups within Arachnida; with the exception of certain spider families. The main reason for this is the limited number of species that occur in this region. For Belgium a distribution atlas has been published (Vanhercke 2010). In the United Kingdom a fairly old atlas is available (Sankey 1988) and (recent) records have been published on the website of the 'Spider and Harvestman Recording Scheme' (British Arachnological Society 2014). For Germany the website 'Nachweiskarten der Spinnentiere Deutschlands' (Staudt 2014) provides maps with up-to-date records of harvestmen, while of course the work by Professor Martens (1978) is still an important reference for Germany and Central-Europe. For other countries in this region, the fauna has also been described, although not in atlases: e.g. France (Delfosse 2014), the Netherlands (Wijnhoven 2009), Denmark (Stol 2003, 2007, Enghoff et al. 2014) and the Fennoscandian countries (Stol 2003, 2007). In Luxembourg, Müller (1962) and Schneider (1986) listed the species present, and reached a species count of (only) eighteen. Since then, harvestmen were identified during faunistic researches by the Musée national d'histoire naturelle Luxembourg, leading to the discovery of a number of new species. Now Christoph Muster (a freelance arachnologist from Germany) and Marc Meyer (Musée national d'histoire naturelle Luxembourg) have compiled all the present knowledge of the 31 currently known species of harvestmen into a distribution atlas!

The authors present a publication with many details and with an impressive amount of information. Data is offered for 226 localities and comprises 3091 records, deriving from only fifteen defined projects. The sampling locations are well spread over the country, although locations in the valleys of streams and rivers are somewhat overrepresented. Details of locations, including the number of sampled individuals per species, are given in two appendices.

For each species, information is presented on the total distribution area, localities in Luxembourg, habitat, distribution over the different sampling techniques, the sex ratio of the specimens and phenology. The description ends with remarks on status and trend. A photo of a live individual (not all species), a map with localities, a phenology diagram (representing the catches of adult individuals) and a bar graph giving the distribution over sixteen habitats types are

Fig 1. *Nelima sempronii* is a species that has recently reached the northwestern part of Europe; it was found in 2004 in the Netherlands and in 2009 in Luxemburg (photo: Jinze Noordijk)

given for all 31 species. Occasionally, a habitat photo is added. All this information is presented in two or three pages per species. The short discussion section that follows after the species descriptions elaborates on the fauna in comparison to Belgium and the Netherlands, zoogeography in European perspective, and the trends that can be observed in the harvestmen community.

For this atlas, most material (57 %) was gathered using pitfall traps. The presented data for each species on the origin of the material in relation to the separate sampling techniques, is therefore not very informative; it would have been better to present the relative contribution of each sampling technique to the obtained data. Sampling 'by hand' (searching or beating vegetation) is very much underrepresented (10%), resulting in quite meagrely filled maps for species that mainly dwell in the vegetation, such as *Paroligolophus agrestis*, *Dicranopalpus ramosus* and *Leiobunum blackwalli*. On the other hand, species of the family Trogulidae are extremely difficult to find and are only adequately sampled with pitfall traps. Records are therefore often quite scarce. Hence, the maps with localities for the four representatives of this family in Luxembourg are noteworthy.

The harvestmen fauna of Luxembourg 'has it all'. Among the 31 species, there are very common species (e.g., *Oligolophus tridens*, *Phalangium opilio*), outspoken generalists (e.g. *Paroligolophus agrestis*, *Rilaena triangularis*), stenotopic species (e.g. *Trogulus nepaeformis*, *Amilenus aurantiacus*), very rare species (e.g. *Lacinius horridus*, *Nelima silvatica*), a declining species (*Opilio parietinus*), an exotic species (*Leiobunum* sp. A), and 'new', range expanding species (*Nemastoma dentigerum*, *Nelima sempronii*, Fig. 1). This, and the manageable number of species, makes Opiliones a perfect subject for faunistic studies. Christoph Muster and Marc Meyer have produced a good publication that properly describes these patterns and processes. This atlas is a valuable piece of work, not only for Luxembourg, but also for the surrounding countries.

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