New atlas reveals trends in British dragonfly species

May 28 2014

White faced Darter. Credit: John Curd

A new atlas of the dragonflies of Britain and Ireland is published today. The atlas is the result of a five year research project by the British Dragonfly Society (BDS) which builds on data collected over the last two centuries.

Dragonflies are regarded as good indicators of wetland health and climate change. The new atlas shows how some species have expanded their ranges – northwards in particular – and apparently consolidated their previous ranges. In contrast, a few species have declined and/or retreated northwards, perhaps also resulting from warmer temperatures.

Sir David Attenborough, the British Dragonfly Society Patron who contributed the foreword to the new atlas, commented that the publication is "An invaluable distillation of the wisdom and experience of those who have spent many long hours watching these most wonderful of insects."

The new atlas covers the distribution of all 57 species of dragonfly recorded since records began, including all of the resident and regular migrant species, as well as all known vagrants - individual insects appearing well outside their normal range - up to 2012.

The Atlas completes a mapping project that lasted from 2008 to 2012 resulting in the gathering of nearly half a million records from over six and a half thousand people. The new dataset has been combined with over half a million previous records collected by dragonfly recorders since the 19th century.

The Atlas is more than just maps and distribution. It also contains an analysis of the trends in status of dragonflies in Britain and Ireland since 1980, and sections on habitats, environmental factors, phenology, recording and data collection.

The data in the atlas show:

- Fourteen (31%) of the 42 established breeding species have expanded their ranges, including the Scarce Chaser and the Red-eyed Damselfly, and appear to have benefited from a warming

climate, together with a general increase in the number and quality of wetlands.

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Blue tailed Damselfly. Credit: Steve Cham

Eight species (19%) have declined including the Scarce Blue-tailed Damselfly and the White-faced Darter. The reasons for this change are not fully understood, but may include climate change and/or habitat loss or deterioration.

- Three species were lost from Britain in the 20th century, but one of these has recently recolonised (the Dainty Damselfly in Kent).
- Five new species have colonised or attempted to colonise Britain since a previous atlas was published in 1996 including the Small Red-eyed Damselfly. Two new species have also colonised Ireland since 1990.

- No less than seven species have appeared in Britain and five species in Ireland for the first time since 1990, including the Willow Emerald Damselfly.
- The most commonly recorded species, with 115,375 records, is the Blue-tailed Damselfly, closely followed by the Common Darter with 103,251 records.
- The most widespread species was the Large Red Damselfly, which was found in 80% of the hectads - 10 km x 10 km Ordnance Survey grid squares - from which dragonflies were recorded during 1991-2012.

Steve Cham of the British Dragonfly Society said, "On behalf of the British Dragonfly Society, I would like to pay tribute to the huge effort made by thousands of recorders and volunteer data collators in gathering data for the atlas. Dragonflies have captured the imagination of people for centuries, but we never envisaged that so many people would contribute records. This staggering response has enabled us to assess changes to the distribution of dragonflies over time. We hope that this publication will inspire people to continue to contribute to this long-term study."

Dr Helen Roy from the Centre for Ecology & Hydrology leads zoological recording for the Biological Records Centre, the UK's national focus for terrestrial and freshwater species recording. She said, "This atlas represents inspiring contributions from many, many volunteers across Britain and Ireland. Dragonflies are charismatic and popular insects but they also provide an important insight into the ways in which our environment is changing. So not only is the atlas another wonderful example of citizen science but it is also providing valuable scientific evidence."

The atlas was edited by Steve Cham, Brian Nelson, Adrian Parr, Steve Prentice, Dave Smallshire and Pam Taylor, all from the BDS. The

Biological Records Centre, which is part of the Centre for Ecology & Hydrology, collaborated with the BDS in the production of this atlas both through the analysis of trends and editorial support.

The atlas can be ordered via all good bookshops or purchased from the Field Studies Council.

Project partners include: Biological Records Centre at the Centre for Ecology & Hydrology; British Dragonfly Society and its Dragonfly Recording Network; DragonflyIreland; National Biodiversity Data Centre, Ireland; CEDaR, Belfast, Northern Ireland; and the Manx Biological Recording Partnership.

Atlas production was funded and supported by: the Environment Agency; Natural Resources Wales; Scottish Natural Heritage; Natural England; the Esmée Fairbairn Foundation; the Scottish Environment Protection Agency; and the Biological Records Centre (co-funded by the Natural Environment Research Council (through the Centre for Ecology & Hydrology) and the Joint Nature Conservation Committee).

Provided by Centre for Ecology and Hydrology