

## Chapter (non-refereed)

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which the national scheme has extensive data, with associated habitat information.

## ANALYSES USED

**Classification:** for example, the classification of assemblages of Carabidae in north-east England (Luff, Eyre & Rushton 1989), into ten habitat groups associated with soil moisture, altitude and vegetation cover.

**Ordination:** as used for woodlice from the 100 km grid squares 42 (SP) and 52 (TL), showing three distinct species groups, dependent on wet soil, grass/woodland, and association with man (Harding *et al.* 1991).

**Constrained ordination:** for example, the ordination of fenland water beetle assemblages and how these relate to environmental parameters such as vegetation, water chemistry, depth and land management (Eyre, Foster & Foster 1990).

## EXAMPLES OF TYPES OF APPLICATION

**Quantifying conservation criteria such as rarity and typicality** Sites were assessed for rarity by scoring species lists according to local or national rarity, using BRC data. An example of ranking of fenland water beetle sites was given by Foster *et al.* (1990). Typicality is based on the distance of any site in ordination space from the mid-point of its habitat space (Eyre & Rushton 1989). Using ground beetles from 71 woodland sites in north-east England, the 99% level of typicality excluded only two aberrant sites.

**Autecological studies** The example was given of the response curves of carabid beetles to environmental parameters such as altitude, soils and management. *Pterostichus diligens*, an upland damp-grassland carabid, showed positive sigmoid responses to soil moisture and altitude, but a negative response to soil density (Rushton, Luff & Eyre 1991). A single axis can be constructed to represent grassland management; examples of species showing either positive, negative or optimal responses to this axis were given by Rushton, Eyre and Luff (1990).

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## BSBI monitoring scheme (1987–88)

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The Botanical Society of the British Isles (BSBI), in collaboration with the Nature Conservancy Council, the Department of the Environment for Northern Ireland, and the Institute of Terrestrial Ecology, set up the BSBI monitoring scheme in 1986. The project had two main objectives:

- to provide information on the current status of the vascular plant flora of Britain and Ireland by means of a sample survey, and to compare the current status with that recorded for species up to 1960 in the *Atlas of the British flora*;
- to provide a baseline for future monitoring of the flora.

The sample basis of the scheme was to collect records from one ninth of the 10 km squares in Britain and Ireland, with detailed surveys being made of three selected tetrads (2×2 km squares) in each of the 10 km squares sampled.

The project had two field seasons, in 1987 and 1988, in which members of BSBI and other botanists collected nearly one million records. These data were computerised at the Biological Records Centre, where the scheme was based throughout.

A report on the scheme has been prepared and submitted to the main funding body, the Nature Conservancy Council. The data from the scheme are incorporated in the Biological Records Centre's ORACLE database. The poster illustrated some of the results and problems of the scheme.