A national survey of rare arable plants in France

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The French Department of Ecology has set up national programs to preserve the most threatened fauna and flora species, in application of the French commitments for biodiversity preservation. The arable weeds were identified as a priority, because of the dramatic changes in the wild communities of arable lands due to cropping practices and use of agrochemicals since the 20th century. Some species seem to be already extinct and a few are on the brink of extinction in France.

102 taxa were listed in 2000 as strictly associated with arable lands in France

In 2009 and 2010 more than 190 000 data were collected. Each data is related to a district, a municipality, an observation date and/or a publication date and an author. Two periods were considered to assess the decrease of plants related to arable lands, before 1970 and after 1990.

Bringing to light the decline of the species

9 taxa are thought to be extinct in France ; 25 taxa were recorded in less than half the districts they were previously known ; 9 taxa are thought to be extinct in France ; Even the most common species before 1970 were found to have dramatically decreased in terms of occurrence and abundance.

The richest areas for rare segetal plants are located in the South-East, where soils are light and chalky and agriculture is still extensive. Elsewhere, segetal communities are confined to strips along field edges or scattered in other habitats (abandoned lands, disturbed sites, sandy lands).

A species action plan (Plan national d’action en faveur des plantes messicoles) was initiated and a data collection was carried out through the network of the National Botanical Conservatories (CBN), scientific structures in charge of the survey and preservation of the wild flora and habitats.

The action plan aims at :
- Valorizing the functional role of arable flowers as they contribute to maintain farmland biodiversity and the ecological services associated ;
- Developing agri-environmental schemes with measures adapted to encourage farmers to manage fields or field margins as refuges for biodiversity ;
- Connecting the actions with other programs involved in preservation of biodiversity in agricultural landscapes ;
- Taking into consideration cereal field margins as habitats to preserve through national and local policies (wildlife corridors) ;

- Improving the knowledge of arable plant distributions and identifying local hot spots ;
- Producing seeds to restore floristic diversity while protecting the local origins.

Some species to illustrate the decrease in distribution

Once widespread throughout France, species such as Galium tricornutum is now scattered in about 10 districts, often in other habitats. Some communities on sandy loams were dramatically affected by chalky improvements and nitrogen fertilizers.

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