Poppies fade from Flanders fields as Europe's plant life changes

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One hundred years after the outbreak of the First World War, the flower that has come to symbolise the lives lost in conflict – the poppy – is disappearing from former battle fields of northern France and Belgian Flanders. Ecologists who have been studying the dramatic changes that have occurred in Europe's plant biodiversity will present their findings at this week's joint BES/SFE conference in Lille.

The research found that overall plant biodiversity in northern France and Belgian Flanders has increased during the past 100 years. But the rise in the number of plant species is not good news. Instead, the findings highlight increasing globalisation and homogenisation of local environments as invasive species arrive and more diverse, specialised species become extinct.

According to Dr Nina Hautekèete of the University of Lille, who lead the study: "Plant species richness and composition has changed drastically since the beginning of the twentieth century. Within that time about one in every five to six species we studied were either lost in particular regions or newly introduced."

Many of the species that have been lost are those which once grew within agricultural fields, the study found. Among these are species such as the beautiful field-larkspur (Consolida regalis) and the summer pheasant's-eye (Adonis aestivalis), which have disappeared as intensive farming has destroyed their habitats.

Habitat destruction and urban development have also caused species to be lost from fragile bogs and wetlands. These include the delicate bog cotton (Eriophorum latifolium) and the spoonleaf sundew (Drosera intermedia), an insectivorous plant which used to grow in bogs and fens in the region.

Most of the new species the researchers discovered were in urban environments of the study area. Many are garden plants that have now escaped into the wild, including creeping water primrose (Ludwigia peploides), an aquatic species which can clog waterways and giant hogweed (Heracleum mantegazzianum), a relative of the parsnip whose toxic sap can cause skin irritation and blisters.

"This study highlights the homogenisation of the natural and semi-natural habitats around the world. Species loss occurs mainly in rare habitats, while immigrating species are mainly cosmopolitan species that do not necessarily replace the complex ecological interactions of species that were lost," says Dr Hautekèete.

She continues: "We studied the dynamics of changes over one century. We do not know the consequences of introducing new species to these ecosystems. A short term increase in biodiversity might could be followed by a long term decrease which may cause ecosystems to stop working properly."

"An increase in regional species richness hides a worldwide homogenisation of habitats and we must take this into account when we are assessing the health of our ecosystems."

Biodiversity is about more than simply counting the total number of species in a given habitat. Ecologists are also concerned about functional diversity and the ecological role of species, so the next phase of the study is to discover where the non-native plant species come from and

whether climate change is contributing to the process.

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