

New European initiatives on wild bees taxonomy and monitoring

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In the last two decades, high-profile reports have highlighted declines in wild bee abundance and species diversity, most clearly in Europe and North America. In response, the European Commission mandated a group of experts to develop a proposal for monitoring pollinators, to analyse the capacity for its implementation and to mitigate negative population trends. A report evaluating the possibility of an EU Pollinator Monitoring Scheme (EUPoMS) pointed out gaps for its implementation, including insufficient taxonomic resources for bees. A series of projects were therefore implemented (i) to strengthen taxonomic capacity in EU Member States regarding wild bees; (ii) to develop capacities to allow their effective monitoring and conservation; (iii) to better understand the causes of decline of wild bees on the continent. The first element is developed through ORBIT, a three-year project commissioned by the General Directorate for Environment (DG Env) of the European Commission aiming to develop taxonomic resources for facilitating bee inventory and monitoring. The second gap is tackled by the SPRING project, which is developing training of researchers on pollinator identification, refine sampling protocols to start a European-wide monitoring of pollinators in EU Member States, and support preparation for the implementation of the EUPoMS, by organizing training sessions for different level of expertise. The third point is covered by the PULSE project providing technical and scientific support in measuring the pulse of European biodiversity using the Red List Index, aiming to develop the new, updated IUCN Red List the European Red and the creation of the new checklist of European Bees, in collaboration with all the taxonomist members working in Orbit. Finally, SAFEGUARD is a Horizon 2020 project aiming to expand current assessments of the status and trends of European wild pollinators to safeguarding European wild pollinators. The first results of these activities at European scale are (i) the production of a new checklist of the European species, now recording 2,134 species in 77 genera; (ii) diagnoses for half of these European species and over 20,000 images for their identification; (iii) the updated key to genera to be translated in all European languages; (iv) the new re-assessment of European species; (v) national records for 3,000 European bee and hoverfly species, including their distributional status at the national level, achieved by incorporating both published and unpublished data, as well as expert knowledge. These projects represent an important step forward for future assessments of population trends and development of national and regional conservation actions.