The European ladybird App: a new tool for Citizen Science

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Ladybirds are well known beneficial predators, which are very often used as biological control agents. On the other hand, among ladybirds, we observed one textbook case with „invasive" species, *Harmonia axyridis* (Pallas). Seminal national citizen science projects were successful tools to follow the dispersal of the invader. However, the establishment of a trans-national project for Europe would be essential to coordinate efforts for the study ladybird diversity as well as for the early detection of new invaders.

They are very popular and charismatic insects, which can be relatively easily recognised via photos. In this case, they are the perfect target group for citizen science projects. On the strengths of the citizen science survey on ladybirds in the UK, we have developed a smartphone Application for European ladybird recording and identification.

We prepared a detailed database of appropriate ladybird species from UK, Czech Republic, Slovakia, Italy, Belgium and Portugal. Then we chose some specific morphological features (e.g. main colour, size, pronotum pattern) and country-based ranking of the probability of occurrence were provided as app filters to enable the users to reduce the number of likely species in the process of recording.

This project is the first collaborative approach involving the recording of ladybirds through citizen science across Europe. The success of the app will depend on the engagement of the general public though we anticipate excellent participation because of both the popularity of ladybirds and the usability of the app.