Entogem:

(Haddaway *et al.*, 2020): (Protocol)

* This evidence review map will identify, catalogue, and describe evidence reviews that investigate actions and policies to conserve insect biodiversity.
* We will produce an interactive database of evidence reviews, acting as a bibliography for policy-makers, curate a list of insect conservation actions that have been reviewed, and identify synthesis gaps for conservation actions that have not been reviewed.
* Detailed insect conservation actions are described in the primary literature, however, policy-makers should ideally rely on evidence reviews, such as systematic reviews and meta-analyses, when making decisions

(Grames *et al.*, 2022):

* The relevant literature is, however, vast and challenging to aggregate. The Entomological Global Evidence Map (EntoGEM) project is a systematic effort to search for and catalogue studies with long-term data that can be used to understand changes in insect abundance and diversity.
* Here, we present the overall EntoGEM framework and results of the first completed subproject of the systematic map, which compiled sources of information about changes in dragonfly and damselfly (Odonata) occurrence, abundance, biomass, distribution, and diversity
* The methods developed to support the EntoGEM project, and its framework for synthesizing a vast literature, have the potential to be applied not only to other broad topics in ecology and conservation, but also to other areas of research where data are widely distributed.
* It is necessary to go beyond the results of individual studies and systematically synthesize available demographic evidence for insects without bias.
* In a systematic map, the goal is not to provide an overview, test hypotheses, or develop a deeper understanding of a topic, but rather to identify and catalogue studies and datasets on a particular topic in a searchable database; in other words, to “map” the relevant research literature.
* Systematic map databases can be used to identify where in the world studies on a topic have taken place, which systems have been studied the most, what research methods are most commonly employed to study a topic, which researchers are working on a topic and how they are connected.
* While the focus of this paper is to introduce EntoGEM and describe the first subproject, the methods and framework shared here are broadly applicable to any discipline where systematic synthesis is needed to address subjects with large or scattered data resources.

Chart

Description automatically generated

* To make the articles identified by the EntoGEM project widely accessible, we developed an interactive, web-based platform (https://entogem.shinyapps.io/livingmap/) where users can interrogate the database. The platform was designed for three primary functions: (1) visualizing what types of datasets exist, (2) identifying knowledge clusters and gaps, and (3) providing access to the EntoGEM database.
* The EntoGEM project is still in its infancy. Over the coming months and years, we will be compiling recovered studies documenting long-term insect population and biodiversity trends to facilitate future syntheses and comparisons across taxa.

Grames, E. M., Montgomery, G. A., Boyes, D. H., Dicks, L. V., Forister, M. L., Matson, T. A., Nakagawa, S., Prendergast, K. S., Taylor, N. G. and Tingley, M. W. (2022) A framework and case study to systematically identify long‐term insect abundance and diversity datasets. *Conservation Science and Practice.* e12687.

Haddaway, N. R., Grames, E. M., Boyes, D. H., Saunders, M. E. and Taylor, N. G. (2020) What evidence exists on conservation actions to conserve insects? A protocol for a systematic map of literature reviews. *Environmental Evidence.* 9 (1), 1-8.