Model Groups Workshop

The main aim of the workshop will be to discuss the advantages and disadvantages of focusing on functional or taxonomic groups when studying biological invasions from (1) a theoretical and (2) a practical point of view.

Theoretical. Progressing in invasion science by studying "model groups".

A "model group" is a taxonomic or functional group of species that (a) is amenable to study and to use for experiments and (b) is suitable for addressing many types of research questions; for which (c) many species have been introduced, some of which have become naturalized or invasive while others have not and (d) there is a lot of available knowledge; and that (e) is attractive to funders and collaborators. Some examples of well-studied model groups are Pinus (111 species), Australian acacias (1012 species), or Cactaceae (1919 species). We believe that studies on such model groups can improve our understanding on the full suite of interacting actors that influence invasions. The goals of the workshop are to identify: (1) which factors influencing invasiveness have been found or tested by studying model groups (e.g. the importance of seed size for Pinus, or native range size for Cactaceae); (2) consistencies and differences across model groups in terms of traits, etc.; (3) future model groups suitable for identifying and testing new factors (e.g. Senecio, Bromus, Melastomataceae, Rubus, succulent plants or amphibians, as well potential mammal, fish, insect or bird model groups); and (4) potential model groups where research is needed (e.g. grasses or eucalypts). Moreover, we would like to (5) discuss the advantages and disadvantages of studying model groups, (6) and how deep-diving into a few model groups has already advanced invasion science and could drive further advances.

Practical. Developing management actions for certain taxonomic or functional groups (instead of developing management actions at the species level).

Certain taxonomic or functional groups of species present a particular combination of interacting factors that influence their invasion and that are relevant for their management. Such factors may differ among groups, for example for plants:

Prosopis, Cactaceae, Araceae, Bamboos, Australian acacias and Casuarina Pinus

In this respect, the aims of the workshop will be to discuss (5) when can we make generalisations in invasion science, and at what taxonomic or functional level; (6) when is beneficial to focus on taxonomic or functional groups; (7) how to identify target functional or taxonomic groups for management (e.g. similar pathways, stakeholders, traits, etc.); (8) barriers to the implementation of this approach (e.g. shortage of information for many groups, taxonomic issues, etc.), (9) the advantages of the approach; and (10) applications (e.g. group-focused risk assessments, management, stakeholder engagement, etc.).

We expect to produce at least two main important papers during the workshop, one per approach (theoretical and practical). However, if we have enough publishable contributions we will organize a special issue/section of the journal Biological Invasions. We could also aim for an Elton Review or Flashpoints article in Biological Invasions.

Date: 6-8 November 2017
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