Naturalised species may hold key to managing invasive aliens

**Alien species**, introduced outside their natural range, can become invasive with the potential to cause damage to the ecosystem of the invaded area. Researchers have suggested that more intercontinental collaboration and funding could provide needed research on understudied countries and ‘naturalised’ species across the world.

**Invasion biologists** are particularly concerned with understanding the common principles that determine how introduced species turn into invasive species. Such information could be used to develop more effective policies to control invasions. However, researchers suggest that there are important knowledge gaps, as not all invasive species have been thoroughly studied and some geographic areas have received little research attention.

The study¹ found a clear bias towards research on North American and European species. Almost half of all invasive species studied were in North America. Fewer studies have been conducted in Australasia and on oceanic islands, although these areas contain high numbers of naturalised species. An alien species may become naturalised if it forms populations that can survive without human-help. However, it may not yet be ‘invasive’. To be classified as invasive, a species must adapt to overcome barriers in the new environment, such as, for example, a lack of its natural food source or dispersal agents. Naturalisation is therefore an important intermediary stage in the invasion process.

Except in South Africa, relatively few detailed studies have been conducted in Asia and Africa, although these regions have many naturalised species. The researchers suggest that thorough studies from a wide variety of habitats around the world are important, because different processes may determine whether species become naturalised in different regions.

Besides identifying a geographical bias in the study of naturalised species, the research also suggests that the number of studies conducted on individual species was weighted towards species that have already become highly invasive. The researchers suggest that further investigations should be carried out on naturalised species, as these can potentially reveal the mechanisms required for the transition from introduced species to naturalisation to invasive status, even though the impact of naturalised species is less than that of invasive species.

Important developments are taking place, however. The DAISIE² project delivered an inventory on invasive species found across Europe. The international partners in the ALARM³ project assess large scale risks for biodiversity, including those from biological invaders.

As a direct consequence of globalisation, the spread of invasive species is set to rise. Developed nations probably have the highest proportion of invasive species, because they have a long history of international trade which facilitates the spread of alien organisms. Further research is needed, particularly in many developing nations as they become part of the international trading network.

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1. This study is supported by the European Commission’s Sixth Framework Programme, under the projects Delivering Alien Invasive Species Inventories for Europe (DAISIE) and Assessing LArge-scale Risks for biodiversity with tested Methods (ALARM).
2. For more information on the DAISIE project see: [www.europe-aliens.org](http://www.europe-aliens.org)
3. For more information on the ALARM project see: [www.alarmproject.net](http://www.alarmproject.net)


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