Project Title: Could introduced plants be evolving in to new species??

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Synopsis:
When plants are introduced to a new country, they are exposed to different selective pressures to those with which they evolved in their home range. For example, there might be differences in climate, soil fertility, pollinators or herbivores. These different selective pressures can cause introduced plants to undergo rapid evolution.

We have been using a common garden experiment to quantify rapid evolution in *Arctotheca populifolia*, a species of beach daisy introduced to Australia from South Africa. We have found that this species has undergone massive evolutionary changes in response to the novel conditions they experience in Australia (pictured below). The *Arctotheca* has changed its leaf shape, growth form, seed size, flower size, photosynthetic rate, and flowering time. We are now testing whether the Australian form of *Arctotheca* has changed so much that it is becoming reproductively isolated from its native form.

In your summer scholarship project, you will measure the germination success and early seedling survival of F2 crosses between South African and Australian *Arctotheca populifolia*. Determining whether there is a difference in fitness between hybrid vs pure lines of *Arctotheca* is a critical step in determining whether this introduced species is becoming a unique new Australian species.

We look forward to meeting you!

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