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Invasion ecology is filled with language that has different meanings in broader society than when it applies in ecology. As someone who researches invasive species, it is definitely something I have thought about before, especially in my own writing when I have to make certain word choices. Problematic terms include “native”, “alien”, “indigenous”, “exotic”, and “foreign” species. These phrases are often used in social and political spheres to describe people coming to the United States from other countries, especially people of color. They elicit negative feelings to many people when they are used in any context. The parallel is easy to make, and I feel these words' continued use in invasion ecology contributes to the normalization of their use and the harm they can cause. It is time to update this outdated language to make invasion ecology more equitable and accessible to all.

Subramaniam (2014) introduces the history of invasion ecology, specifically the motivation behind many of the terms we use in our field today. Before this reading, I had not had exposure to this history. Subramaniam outlines how invasion ecology stems from an obsession with “nativeness”. People believed, and still believe, that Americans’ love of nature prompts them to be the “protectors” of  a pristine environment that invasive species would soil. Did such a pristine environment ever even exist? I agree with Subramaniam that such a mindset only leads to bias against invasive species, and contributes to the rampant xenophobia in our country. This is seen directly in immigration policy, where people have the belief that immigrants will not care about the environment, and therefore are a problem. Keeping environmental “purity” also contributes to ideas of eugenics, and not allowing “bad stock” to enter the country. White nationalism also comes into play as “purity” is often used to describe an all-white America that is tainted by people of color. Also, by removing the use of these kinds of terms we can do and communicate better science because there is less emotion involved. My view is that invasion ecology is a process to combat the negative effects of their presence on other previously established species that we depend on, and not to try to return to some fantastical “pure” native state.

A change in the perspective of invasive species is argued by ecologist Mark Davis in his Nature comment article titled “Don’t judge species on their origins”. To decrease the bias against “non-native” species, and the connotations such phrases carry, Davis argues that instead of being based on belonging, we should reframe our thinking to investigate species based on their environmental impact. Not all invasive species have negative effects where they establish, and some even benefit the environment they end up in. Furthermore, management priorities are too often based on emotional reasoning, like a specific sense of belonging and assumption the invasive will cause harm, instead of by factual impacts based on science. I agree with Davis, and this is something I have not had the chance to think about a lot before. Just like many things in our society, the idea of “nativeness” is artificial, and we can easily reframe our thinking to be more inclusive, and more effective.

Several solutions have been proposed to replace these phrases. Colautti and MacIsaac (2004) suggest a stage based approach, where stage 1 corresponds to species introduction and stage 5 is a fully established species. Not only would such a standardization eliminate the problematic terms, but also help to resolve the redundancy often emphasized as an issue in invasion ecology today. I like this approach, but I do think it might be a bit too confusing and hard to implement widely. In my opinion, we should continue to use some of the phrases we already have that do not have negative connotations in a societal context, like “invasive”/ ”introduced”/ ”established” species instead of “non-native”/ “non-indigenous”/ ”alien” species, for example. An entire reframing of the terms used to describe invasion might just end up adding more terms to the mix as some people continue with the old and avoid implementing the new, creating even more confusion.

Another part of invasive ecology that uses some problematic terms is in management. This is introduced in Davis et al. (2011). We use a lot of militarized language like “eliminate”, “exterminate”, “battle”, and “destroy” when referring to the removal of invasive species. These phrases sometimes exaggerate the negative effects of invasives, leading to a broader aggressive response to invasive species instead of a more focused one based on environmental impact. This wastes both time and resources. Also, in my opinion, using militarized language when describing things that are not actual war contributes to the diminishment of war. Normalizing war should never be commonplace, as I believe this will lead society to see it as a less dire circumstance when dealing with international policy. Perhaps language like this plays into why and how the United States wages war and destruction in so many places around the globe. I can see how this kind of language could change the focus of invasive species management and diminish the meaning of war, and would therefore support a change in this kind of language.

In conclusion, invasive ecology is filled with outdated terminology that has problematic contexts in broader society. In my opinion, it is time to replace our use of some of these terms with ones that are more equitable and inclusive. By exploring this concept I was introduced to several different ways other ecologists have thought about solving this problem. These span from new classification systems for “non-native” species, to entirely new frameworks on how we think about invasive species. I was also able to grasp a better understanding of the history of terminology in invasion ecology, and how they have been weaponized against immigrants in the United States. It will be exciting to see how invasion ecology changes in the coming years as these issues become more commonly discussed, and I hope to ride the wave of change in my own writing as I progress as an ecologist.

Literature Cited

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