Gritty until proven irritant—What makes a species invasive? Comment on Cassinello (2018)

In a recent contribution to “Conservation Letters,” Cassinello (2018) presents the case for rethinking the “invasive” status of the aoudad (Ammotragus lervia). Cassinello raises a timely and extremely important issue—our definitions of invasive species have immense consequences for species conservation, as well as far-reaching ethical implications. We applaud Cassinello for raising this important issue and agree with his observation that a consensus definition must be adopted. In that respect, Cassinello (2018) mentions the IUCN/CBD’s definition of invasive species which states “An alien species whose introduction and/or spread threaten biological diversity” (https://www.cbd.int/invasive/terms.shtml) and acknowledges its prominence for both policy guidelines and conservation management. We therefore found it surprising and disconcerting that in his case for rescinding the invasive status from aoudad, Cassinello moves away from this widely accepted definition.

According to the IUCN/CBD’s definition, there are two separate components for an invasive species: it has to be both alien to the region and to threaten biodiversity. However, Cassinello follows by claiming that invasive species can also be native species; that is, animals and plants that while local have increased in numbers due to anthropogenic changes and are now “harmful to their environment.” This interpretation of invasives is surely not commonplace, but more importantly irrelevant for the case in point as aoudads are surely alien in Spain. Thus if they are indeed threatening would fall under the IUCN/CBD definition, and should be discussed from this perspective.

Second Cassinello (2018) equates the term “threaten” from the above definition with empirical evidence of effects on native flora and fauna, which is but one interpretation of this term. We acknowledge that Prof. Cassinello has much expertise on this species and its effects or lack thereof in Spanish ecosystems. However, he himself states that aoudads do have negative impacts on local fauna and flora in La Palma (an insular part of Spain). Furthermore, he states that this species is primarily a grazer whereas in the Iberian Peninsula “wild herbivores are basically browsers.” He goes on to state that “The presence of wild grazers may be crucial to the preservation of mosaic landscapes in Mediterranean habitats.” In our viewpoint these facts put together bring about great potential for effects and threats to local ecosystems. So while it has yet to be shown to display “particularly higher negative effects on threatened plants” [than native ungulates] and it “does not seem to affect ibex range expansion” the fact that it could occupy a vacated niche in the ecosystem should in itself be cause for major concern.

Aoudads are indeed threatened in their native range and introduced populations may provide reservoirs of individuals for translocations back to original habitats. Furthermore, aoudads may indeed occupy an ecological role in their introduced range that was once filled by extinct species. However, we find the practice of tailoring the definition of invasive species in retrospect to specific cases, troubling, and not a basis for sound conservation policy. This promotes actions that rely on fleeting anthropocentric agendas and not consistent conservation guidelines.

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