

Comparing alien plant invasions among regions with similar climates: Where to from here?

Pauchard, Aníbal

Cavieres, Lohengrin A.

Bustamante, Ramiro O.

Comparisons between regions with similar climates have traditionally helped to tackle big questions in evolutionary ecology and historical biogeography. We claim that plant invasion ecology can benefit greatly from further and better comparisons at regional and global scales. In this note we discuss the potentials and limitations of comparing climatically analogous regions to provide novel insights into the mechanisms of alien plant invasions. Comparisons among areas with similar climates have the advantage that some features of the abiotic environment are within a narrower range of variation, enabling the researcher to focus on the effects of propagule pressure, microenvironmental differences and, more importantly, the biotic environment in the invasion process. However, there are two major issues that limit the strengths of such comparisons: (1) non-standardized databases of alien species, especially in less developed countries; and (2) deficient sampling designs. We argue that we sh