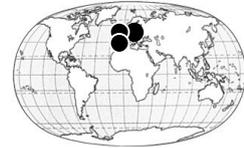


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## FACTORS AFFECTING NATURALIZATION SUCCESS: A GLOBAL PATTERN

Comparative studies evaluating naturalization of alien plants and animals mostly focus on species biological and ecological traits as determinants of naturalization success. Apart from species traits determining the invasiveness, geographical factors play eminent role; this contribution explores their importance on a global scale. Moreover, most studies are based on numbers of naturalized species in different regions and little has been known about the rate at which species naturalize, i.e. about the transition from casual to naturalization phase of the invasion process. The effect of explanatory variables (latitude, longitude, temperature, precipitation, human population density, islandness) on naturalization rate was studied by using over 300 globally distributed data sets covering both temperate and tropical/subtropical zones. Number of naturalized species and their proportion among all aliens was analysed for plants and compared with results obtained for mammals, birds, fish, herptiles and molluscs. Statistical analysis using maximum adequate models allowed to identify net effects of explanatory variables unbiased by their mutual correlation, and reveal patterns valid regardless of taxa. Naturalization is easier in warmer regions and on islands compared to mainland. On mainland, it increases with available area while on islands, temperature appears to be the most important driver of naturalization. Compared with other taxonomic groups, plants do not differ from birds and fishes in naturalization rate but are less successful than mammals.

keywords: naturalization, global pattern, transition rate, geography, climate