

Abstract

Climate change in recent decades affects the distribution and phenology of dragonflies. The main factor causing these changes is the increase in the average global temperature, but other factors, such as loss of habitats or changes in precipitation regime, also play a role. As a result of climate change, phenological processes are accelerating. We can therefore observe a faster egg development rates, an earlier emergence of adults, a longer flight period and also a shift in voltinism towards a greater number of generations per year. Good dispersal abilities allow dragonflies to respond to changing environmental conditions also by shifting their distribution. The ranges of most species are currently expanding towards the poles. Generalists and species capable of using temporary waters expand their ranges the most, while specialized species with a narrow niche are the most threatened by climate change. Shifts are also visible in the altitudinal distribution, increasing temperatures allow warm-adapted species to expand their ranges to higher altitudes.

Keywords: climate change, dragonflies, distribution, phenology, temperature, altitudinal shift