



ISSN 0970-3837

Journal of Insect Science **27** (2): 159-188 (2014)

IMPACT OF CLIMATE CHANGE ON AGRICULTURALLY IMPORTANT INSECTS

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ABSTRACT: Response of organisms to climate variation is species specific and might occur at different rates, altering community structure and the ecological roles of several species and ultimately affecting the maintenance of ecosystem processes. The aim of present paper is to provide an overview of the impact that current global warming is already having on different insect communities in the form of behavioural, biological adaptations. This paper comprises a review of literature regarding climate change impacts on different insects with the primary objectives to underline the effects associated with altered temperature, carbon dioxide, ozone and/or precipitation patterns individually or in combination to insect herbivores and the response by the insects. These multidisciplinary problems require multidisciplinary solutions, i.e. a focus on integrated rather than disciplinary science and a strengthening of the interface with decision makers and beneficiaries. The challenge yet remains to identify the most significant causal relationships and to isolate them from various other factors such as crop and pest management practices, which might also influence the observed changes in pest distribution. There are still gaps in some research areas that might emerge from future climate change.

KEY WORDS: Climate change, insect herbivores, pollinators, population dynamics