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The rate and extend of invasions is expected to grow as a consequence of global change effects in biological communities. While temperature is often considered as the main driver, other commonly recognized elements of global change are drought and land use change, which may facilitate drastic species range shifts and affect consumer-resource dynamics. Bioinvasions and global change must be then seen as interconnected challenges that pose a growing threat to ecosystem services, such as biodiversity and food security. Mites are particularly notorious invasive organisms both in terms of numbers of species, as well as for their ecological and economic impacts, and the number of destructive alien Acari species is increasing steadily. We outline here new tools and approaches (e.g. genetic markers, modeling) that contribute to understanding the main mechanisms by which species invade new habitats and also provide important insights into invasion risk. We emphasize the importance of scientific risk assessment and policy for the management of invasions under global change.

Neotropical phytophagous mites in Europe – current and potential invasions

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Invasive pests are among major impediments for agricultural productivity and can seriously affect biodiversity. Phytophagous mites are prone to become invasive pests due to their common cryptic habits and adaptability to new host plants and environments. However, whether a newly introduced species becomes invasive or not mostly depends on the biological and physical characteristics of the environment where it was introduced, which are greatly influenced by climate. Although similarity between Western Palaearctic and Neotropical climates is limited, some species of phytophagous mite species probably native from the Neotropics have become invasive in Europe. These species currently present limited or wide distribution, affecting crops both under unprotected or greenhouse conditions. Some examples are the Texas citrus mite, *Eutetranychus banksi* (McGregor) and the tomato russet mite, *Aculops lycopersici* (Tryon), to whose management still being challenging. Climate change is expected to potentiate the number as well as distribution of invasive species by allowing: the success establishment of new invasive species in localities where climate conditions were unfavourable but became suitable; the enlargement of the altitudinal or latitudinal distribution range of invasive pests. In this context invasive mites originated from or established in the Neotropical region that could affect European agricultural systems will be pointed out. Pest risk analysis should consider both current and future climate change scenarios as well as associated agricultural landscape changes.

Detection and identification of invasive mites and regulatory measures: a global overview

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Plant feeding mites are usually microscopic and camouflaged, making them difficult to detect at ports of entry worldwide. Increased international trade in agricultural commodities and world climate change has resulted in increased interceptions of potentially invasive mite species. The most commonly intercepted economically important plant feeding mites are Tetranychidae and Eriophyidae, but species in the Tenuipalpidae, Tarsonemidae,