

The potential global distribution of the Bronze bug, *Thaumastocoris peregrinus* (Hemiptera: Thaumastocoridae)

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Eligible for student prize

Thaumastocoris peregrinus is a sap-feeding insect native to Australia that has become a serious global pest of *Eucalyptus* species. In 2012 *T. peregrinus* has been found in more than ten countries across Europe, Africa, South America and Oceania. In this study, we used the climate modelling software CLIMEX and *T. peregrinus* geographic range in Australia and Brazil to predict its potential distribution globally, and in New Zealand. CLIMEX parameters were based on experimental data obtained on thermal development and from records collated from its native and invasive distribution. Our model of the potential native geographic distribution closely agrees with the known distribution of *T. peregrinus* and also predicts potential expansion into more tropical areas of Australia. In New Zealand, the predicted potential distribution of *T. peregrinus* matches with its current distribution and it is predicted that the species will be able to establish in most of the warmer areas of the North Island and in northern and eastern regions of the South Island. Globally, the model predicts that *T. peregrinus* has the biological potential to establish in many more of the world's temperate, mediterranean and subtropical areas. CLIMEX projections of potential suitability for *T. peregrinus* presented here may prove useful for risk assessments and for the identification of areas susceptible to invasion by this pest.

