

BIOLOGICAL DISPERSAL STRATEGIES OF THE NEW INVASIVE *MEGACOPTA CRIBRARIA* AT A REGION LEVEL

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Abstract Parameters defining the dispersal strategies of phytophagous insects at a local scale are key components of the fitness of these insects and may thus be essential in the adaptation to new-geographic environments that are structured in space and time. The Kudzu bug, *Megacopta cribraria*, is a new invasive insect recently detected in USA. Its rapid spread and exponential population growth have elevated it to be a serious urban and agricultural pest. We examined its life history, behavioural and physiological traits, as well as the abundance and distribution of feeding resource and evaluated the impact of the region-scale biological and ecological dispersal strategies on its invasiveness. Here we report that traits defining its dispersal strategies may be a cornerstone of host-plant specialization due to the fact that the effect of dispersal parameters on its fitness depends strongly on plant characteristics. The abundance and widespread of reproductive and feeding host plants, structured in time and space, provide kudzu bug with a high-level resource. The life history, behavioural, physiological and reproductive traits have evolved in response to the new environment, allowing the rapid spread of the Kudzu bug.