

Research Summary:

The aim of this study was to complete the development of a mirid feeding bioassay to facilitate screening and characterization of proteinaceous toxins. The types of protein toxins that are available for screening influenced the assays that were developed. Acute toxins, such as the scorpion neurotoxin, can be assayed using adults and scoring for mortality or paralysis. However, there is a very limited number of these acute toxins available. Much more numerous and available are inhibitors of digestive enzymes, lectins and similar proteins that are likely to have a more subtle effect on mirid feeding, growth and development. Assessment of the deleterious effect of these proteins necessitated the development of a feeding bioassay using nymphs.