Many insects that feed on nutrient-poor diets contain symbiotic microorganisms. In plant-sap-feeding insects these associates are housed within a specialized organ in their abdomen (the bacteriome), and are typically endosymbiotic bacteria. For example, the association of aphids is with the Gammaproteobacteria, Buchnera aphidicola. Most of these insects could not have existed without this association: genomic and experimental studies on these symbionts indicate that they produce the nutrients missing in the insects’ diets, including essential amino acids and vitamins (Moran & Bennett 2014). Thus, symbiosis can open up nutritionally unbalanced diets as new ecological niches for hosts, leading to evolutionary diversification and ecological expansion. Symbiosis may also accelerate speciation rates, when maternally inherited, obligate symbionts thrust lineages into a peculiar, irreversible co-evolutionary relationship (Bennett & Moran 2015).

A comprehensive understanding of the co-evolutionary dynamics of insect-symbiont relationships can be accomplished only when knowledge of many associations is obtained. However, several plant-sap-feeding Hemiptera remain incompletely explored. For example, recent molecular studies have failed to identify the presence of symbionts in certain Fulgoroidea (planthoppers) (Urban & Cryan 2012), despite that early microscopy studies indicated their presence (Müller 1940a.b). In this study, we aim to identify and characterize the bacterial endosymbionts of Issidae planthoppers. We will determine whether their endosymbionts are typical of other planthoppers, or whether they might represent novel associations.

**REFERENCES**