**Transcript**

***Dr Heloise Gibb – Understanding the effects of humans on insect diversity & their function in ecosystems***

So, my research focusses on the effects of humans on their environment and in particular on their impacts on insects. So, now we have a lot of major impacts on the environment, things like climate change and landscape modification and even in Australia there are issues such as major extinctions of mammals from the landscape and these all have major impacts on insects. So, I’m interested in, insects that I take a sort of community level approach which means I look at multiple species at once and what I’m trying, the reason that we do this, particularly for insects, is that there are just so many species of insects that we really, it would take us hundreds of years to know enough about those insects to work out which ones might be at risk under human impacts. So, we also take an approach where we try to look at the traits of insects, things like how big they are or what they eat and how that might affect how well they do under human impacts. Insects are also really important in the functioning of ecosystems so we focus a lot on the kinds of functions that insects perform. So, things like, ants are really important as seed dispersers so we’re interested in how ants and their function of seed dispersal might be affected by humans.

So, from this work we hope to obtain a predictive understanding of how humans are impacting insects, and how that actually works. So what kinds of disturbances might cause what kinds of responses. This will give us the ability to alter the way that we might change a landscape such that it’s less damaging to assemblages of insects, so for example there’s a lot of work now looking at putting out trees for carbon offsets. So that’s great for offsetting carbon but how, how could we make that also better for insects? Could we just do some sort of minor measure like altering the structure of the ground layer that might also make it a really valuable thing for conserving insect species.

Well species diversity it’s really important for a number of reasons. As I said insects are a really major component of species diversity. There are about 4 million species of insects in the world. And some people value, value diversity for itself. I do that myself but I think that other people value diversity because, for example there’s a lot of species out there that we don’t know much about that potentially in the long term are useful for biotechnology, for example, for developing new medicines or many of them are also really important in the functioning of ecosystems. So, for example, pollinators are one of the major things that allow us to keep a lot of crops going. So if we didn’t have pollinators we wouldn’t, it would be a lot more intensive for us to run agriculture. So, it’s, this means that it’s really important that we preserve this diversity of insects and to do that we need to better understand them and I think particularly with all these changes that are going on in ecosystems we need to make sure that we keep the full, as full a cohort of insects as possible because, because things are changing so much and each species has a different ability to deal with each kind of change that happens.