

Presenter: Noel Starick - Entomologist**Topic: Displaying Insects**

Hello. I'm Noel Starick. I'm an entomologist and I've been collecting insects since I was six years old. Today, I'm going to show you how you can pin insects onto pinning boards and how you can put them into a display box and end up with a collection, over a period of time, looking like this.

Now that we have our insect, we need to kill it. So we put it in a killing jar which contains a chemical called **ethyl acetate**, or you can use nail polish remover (non-acetone), that has ethyl acetate in it. So we place the insect in, and then close down the lid, and we leave it there for about two hours.

After two hours it's important that we set the wings before they start to harden.

Now I'm going to show you how to pin a **butterfly**. The first thing you do is pick the butterfly up by the wings, very gently, and then the next thing you do is get yourself an **entomological pin**, and you very carefully find the centre of the thorax. It's very important that we put the pin properly through the body.

Now this varies with different insects but with butterflies, it's important that we put it through the centre of the thorax and it's at 90 degrees to the body and straight. So when you go to put the pin in the collection it will look nice and neat. The next step is to separate the **wings**, if you can. Sometimes it's difficult. What I normally do in this situation, is I tend to: get the pin top and press it in to the pinning board; take a piece of **tracing paper**, and these are little strips that have already been cut; and you place it on the wings of the butterfly; put in a couple of pins to hold the wings down; and you do the same on the other side.

Now that we've got the papers in place we can start to **pull the wings** around. So what we've got to do is we pull the forewing around until the bottom of the forewing is at 90 degrees to the body. Once we have that in position, then we move the back wing so it comes just underneath the forewing and then we put a pin through it to hold it in place. Then we turn the insect around the other way. Then we pull this forewing around so that it is 90 degrees to the body. The next important step is the **antennae**. Set them so they look like they're neatly placed, and this is important because it's also part of identification. So we end up with a butterfly pinned.

Now we're going to pin a **grasshopper**. Now this is slightly different from what we did with the butterfly. Firstly, when we're putting the **pin** through, we don't put it through the centre of the body. We put it to one side. Now the reason for this is, that on the underneath of a grasshopper there are characteristics that we need for identification. So if we were to put the pin through the centre, we may damage that characteristic. So we put it through on the right-hand side of the thorax and the pin is 90 degrees to the insect.

I usually pull the **wings** out first because the board here is very different to most boards. This one here has got a groove down the centre. This one we only want to pin one side of the grasshopper's wings. So what we do, we place the wings near enough to where they are going to go, and then we push the pin in. Then we get a piece of **tracing paper**. We pull the wing around to where it's approximately 90 degrees to the body again, and we make sure the wing is properly spread so we can see the venation as that's important also for identification. Secure the wings. The next part of the pinning is to get the **legs** in a position for identification again. We try to set the second pair of legs away from underneath the body, so we can see them, same with the foreleg. Now the next aspect that we work on is the **antennae**. We pull them around so that they are looking in a normal position. There we have the grasshopper pinned.

The last insect that we're going to pin is a **beetle** and the location of the **pin** this time is different again. Where we put the pin is through the right-hand wing, three-quarters of the way up towards the thorax and in the centre of the wing. The reason we do that is underneath the thorax, there are some characteristics that we need to see to do identification. So having pressed the pin through, we then pull it through so that it's three-quarters of the way up the pin, and then we press it right in so the beetle is flat

on the material that you are pinning it on. Then we set the **legs** and it's important to try to get the beetle to look like it would in its natural state. You can do this by just pulling the legs around and securing them with pins. I always do the back legs first, because they're the easiest and fortunately on this one, the forelegs are nicely positioned. We bring the **antenna** around and pin that down. Now on this beetle, one of them has broken off a bit so we're not really going to see the whole of it. This labial palp here, sometimes we can pull those around. I don't think we're going to be able to do it with this one but we secure the antennae and there's the beetle pinned.

The next step is we need to put a **label** on each of these insects that we've pinned. We place a pin through the centre of it. We put it beside the insect and that stays with the insect until it is dry. We need to put the **location** –in other words, the city – and in this case it's Brisbane, Queensland. We need to put roughly where it is, and in this particular case, it's 6 km north-west of Brisbane, and then we have to put the **date**. Now it's important that we put the full year because if we don't do that, it is possible to look at insects that occurred back in 1811, 1911 and 2011. So we need to have the date correct. The next thing we can do is to put the **longitude** and **latitude** and then the **name of the collector** – the person who collected the insect.

After three weeks when the insect has dried, we can then take the specimen off the pinning board and we can carefully remove the pin with the paper still on it. We then take the label and place it on the under side of the insect, twelve millimetres from the point of the pin. We then transfer it to the collection.

Now having put the insect in the collection, there's another thing we must do. There are insects that will eat the dried insects, so we need to put **naphthalene** (or commonly called mothballs), and secure them in the collection. We also need to put something in there to stop the mould, and this is called **chloro-creosol**. It may be a little difficult to get but it stops any mould growing on the insects.

Happy collecting!

July 2011