The Ethanol Room

... part of the New Zealand Arthropod Collection (NZAC)

In some insect groups (e.g., crickets, grasshoppers, cockroaches) and spiders, the juvenile stages look like small versions of the adult with a hard, jointed exoskeleton throughout all life stages. However, in other insect groups, the juvenile stages are soft-bodied caterpillars, grubs, or maggots that metamorphose (via a pupal or cocoon stage) into an adult with a completely different form.

Soft-bodied specimens, both adults and immatures, cannot be preserved by pinning and drying as their bodies simply shrivel up and collapse. Instead they are are preserved in 70% ethanol, and stored in the ethanol room. Small delicate specimens, for which pinning is not appropriate (e.g., tiny wasps and flies), are also preserved in ethanol.

Specimens are contained in small glass tubes that are stored inside 0.6 litre jars. Each of the 9000 jars in the ethanol room contains up to 50 small specimen tubes.

Specimens kept in ethanol will deteriorate if exposed to normal temperature and light regimes. Hence the ethanol room is always kept cool (about 10–12 °C) and dark. Lighting is used only when someone needs to go in there to get or put away specimens.

Managing fire risk

The amount of ethanol stored in the jars is a potential fire-hazard. Because of this risk, the ethanol room is constructed to the same specifications as the dangerous goods store, and both look a little bunker-like with their windowless, concrete block construction. Insulation and the cooling system needed to preserve the insects, also assist in reducing the fire risk.