

# Insect conservation

John Hutcheson



*'Mighty midgets and tiny tyrants' was the theme for this year's Conservation Week, which focussed on the conservation of invertebrates. In this personal plea, written with younger readers in mind, John Hutcheson suggests practical ways of improving the lot of insects.*

**W**HY ON EARTH would anyone want to conserve insects?' I hear my friends exclaim. 'What are they good for anyway? They only eat my vegetables and suck my blood!' Well, let's look at what insects do, what the New Zealand situation is, and what we can and should do for insect conservation.

Firstly, a few figures. Ninety three per cent of the animal biomass in natural forests is in the form of invertebrates (animals without backbones) and this may also be the case for natural grasslands. About two thirds of this biomass consists of earthworms, while the rest is composed of the arthropods. Insects are the major group of the arthropods and comprise an

estimated 20,000 species here in New Zealand. Why are there so many?

Let's look for a moment at the system in which they work. All life on earth runs on energy from the sun, and the most efficient solar collectors (by a huge margin) are the green plants. In the presence of water, plants communities transform bare ground into highly productive ecosystems. They can only do this by creating their own sheltered environment, they 'grow their own house' as it were. In true Kiwi do-it-yourself style, modifications and extensions are made to the structure continually. From the modest beginning of bracken or tussock grasslands (the equivalent of a raincoat), through the 'cottage' stage of manuka and Coprosma species, then the 'house in suburbia' of fivefinger or lancewood tall shrubland, the 'large country house' of low forests, to the 'enclosed cities' of kauri, podocarp or broadleaf forests.

This amazing transformation is only possible because of the highly skilled and dedicated workforce that is continually

pruning, thinning and recycling all debris, from leaf fragments to whole trees. These workers are the insects, who, together with micro-organisms and fungi, are the only terrestrial organisms able to breakdown cellulose, the building material of plants. They skilfully help new growth to succeed the old, while retaining that all important shelter.

The Harvard biologist E. O. Wilson describes the importance of the invertebrates in the following graphic terms. . .

'If invertebrate species were to disappear, most of the fish, amphibians, birds and mammals (including humans) would crash to extinction within a few months. Next would go the bulk of the flowering plants and with them the physical structure of the majority of the terrestrial habitats of the world. The earth would rot. As dead vegetation piled up and dried out, closing the channels of the nutrient cycles, other complex forms of vegetation would die off, and with them the last remnants of the vertebrates. The remaining fungi, after enjoying a population explosion of stupen-