

Many New Butterfly Species Discovered



MAVIS LESSITER

The 'common copper butterfly' is a misnomer, according to scientists at Otago Museum. Their research has radically extended the list of New Zealand butterflies, including more than two dozen distinct species of copper butterflies. Every part of New Zealand has a different set of butterflies, emerging at different times and doing different things. No species is widespread.



New Zealand has been suddenly discovered to have a rich diversity of butterflies, all previously unidentified. Scientists at Otago Museum have found another 25 extra species of copper butterflies alone, and there could be others.

'There is no such thing as the "common copper" butterfly anymore,' says Brian Patrick of Otago Museum. 'Every part of New Zealand has a different "suite" of species, emerging at different times and doing different things.'

'The traditional divisions of the copper butterfly group into "salustius", "feredayi", "rauparaha", and boulder butterflies are all much more diverse than previously thought. The new species have been found among them.' None of the copper species is widespread.

Only a minority of the new butterflies have been previously recognized and their names were either forgotten or regarded as synonyms for other named species.

In establishing the new species, studies have been made of their differences. Some can be distinguished by preferred foodplant, flight behaviour, habitat, and geographical distribution. Other factors studied include wing shape, colour variations, patterning, and dimorphism (the colour differences between sexes of the same species). Hindwing shapes and genitalia are other factors studied in distinguishing species.

The discovery that copper butterflies are usually local species has resulted in a plea to protect the food plants on

which they depend. Eggs are laid on plants of *Muehlenbeckia* where caterpillars feed.

'We are worried about their future because conservation groups often rip this plant out wrongly thinking it is strangling the forest,' says Brian Patrick. 'Muehlenbeckia is the forest — it has more insects feeding on it than any other native genus.'

'Forest birds and lizards also depend on Muehlenbeckia,' he says. 'The plant is hard to find in many places and the butterflies are consequently rare and some possibly extinct. We have big conservation concerns for some of the species.'

Previously New Zealand was considered to be butterfly 'poor', with only 13 species not found elsewhere out of about 26 species recorded. Now the Otago Museum research has revealed not only new copper butterflies but also new black mountain ringlets and other native species.

The discoveries are based on a collection of some 5000 specimens gathered at Otago Museum, the largest collection of New Zealand butterflies in the world. Brian Patrick and Robin Craw have spent 25 years between them, gathering butterfly specimens and doing research to make their discoveries.

'It is an important, if tedious study, but will bring us into line with the butterfly diversity you would expect for a country as old and large as New Zealand. With the support of 20 other researchers through the coun-

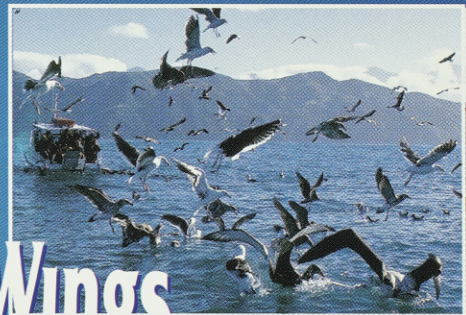
try, the 'team' is discovering new species 'all the time now' and the list of 25 extra species of copper butterflies may well prove an under-estimate.

'Most museum or Crown research collections are too small to show the variations we have discovered in the butterflies,' says Brian Patrick.

A bid for \$378,000 worth of

funding over six years, to describe the new species scientifically, has been rejected by the Foundation for Research, Science and Technology. 'It's disappointing to be turned down on something as fundamental as naming and researching tens of new butterflies but we'll try to continue while funding is found,' Brian Patrick says.

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