



West Coast and northwest Nelson have not yet been colonised by common wasps. This year, German wasps were more abundant in this uncolonised area than they were in areas with both species. The most likely explanation is that common wasps have not yet reached this last corner of the country and when they do, German wasps will decline because of competition with the new species. Despite this, there were many more wasps in honeydew forests this year, which suggests that the new species is adding to the total numbers of wasps in our forests. In Europe, good years for German wasps are also good years for common wasps. If the relationship is similar in New Zealand, these first-year results from our study will indicate the relative abundance of the two species in years to come.

Wasps have become so numerous that they are now by far the greatest harvesters of honeydew drops in summer and autumn in Nelson forests. One tree in our study area near Nelson had 360 wasps per square metre of trunk — the equivalent of about 500 wasps crawling over an average sized door! Wasp numbers fluctuate so much that we do not yet know if these are typical or exceptional densities. We found many more drops, much bigger drops, and drops with higher sugar concentration on tree trunks that we had covered with mesh screens to prevent wasps from taking the honeydew. Because wasps removed drops soon after they began to reform, the drops remained small and had a low sugar concentration. This meant that bees and birds had to lap up many more drops to get enough energy. In the months when wasps were most numerous, the task became so unrewarding

One of the villains of the piece? Since the 1950s wasps have been a nuisance both in the wild and in populated areas. Photo: G Harrison. Inset: The large number of wasps seen suggest they must strongly reduce the number of native insects, such as cicadas. Photo: B Thomas



Top: The question of whether scale insects — which create honeydew — benefit trees or not is a complex one to answer. In some ways they do since their honeydew nourishes the soil bacteria, but they may also kill host trees, such as the one on the left. Photo: G Harrison. Bottom: Feeding on the sap of the tree, the honeydew beech scale insect passes unused sap and wastes out through this hollow white thread. Photo: G Harrison.

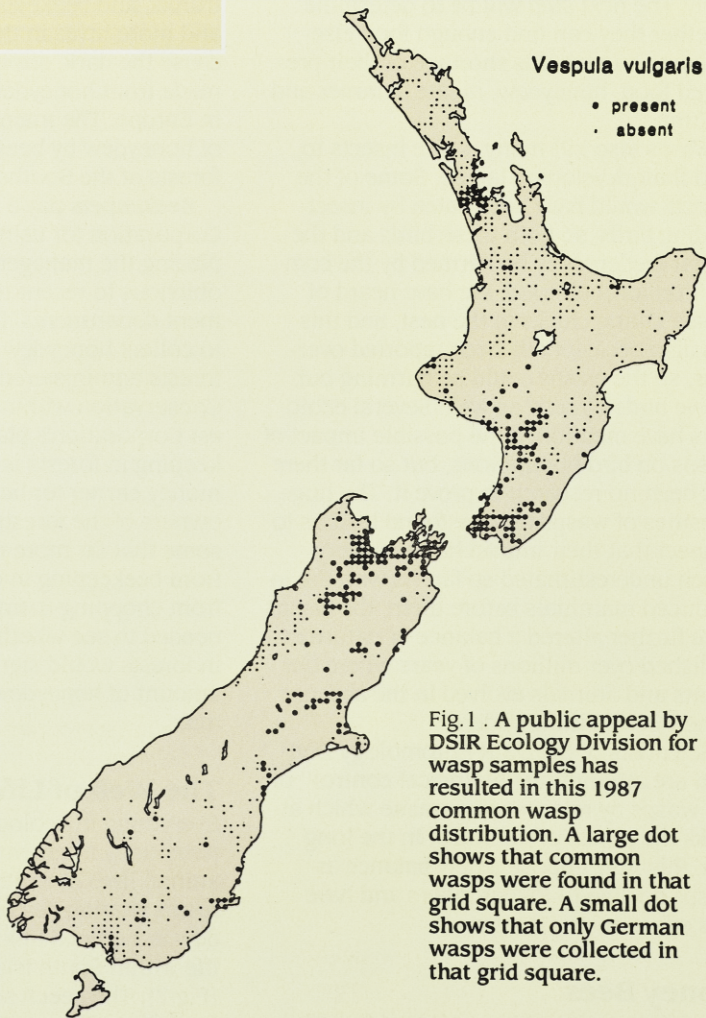


Fig. 1 . A public appeal by DSIR Ecology Division for wasp samples has resulted in this 1987 common wasp distribution. A large dot shows that common wasps were found in that grid square. A small dot shows that only German wasps were collected in that grid square.