

Predation of monarch butterfly larvae by ants.

Corinne H. Watts. Landcare Research, Private bag 3127, Hamilton

In early January 1999, I noticed that the swan plants (*Gomphocarpus physocarpa*) growing in my garden were looking extremely healthy despite the occurrence of Monarch butterflies. The swan plant is the major diet of Monarch butterfly (*Danaus plexippus*) larvae in New Zealand (Gibbs 1980). When closely examined, every swan plant had substantial numbers of a small black ant on them which was subsequently identified as *Technomyrmex albipes* (Fr. Smith) (Hymenoptera) by Jo Berry from Landcare Research.

The white-footed house ant is a cosmopolitan species which is a relatively important domestic pest (Berry, personal communications). I observed the ants crowding around eggs and after hatching occurred, carrying the larvae to their nest.

Other recorded predators of the Monarch butterfly include the preying mantis, European wasp (*Vespula germanica*), ladybird beetle, flat brown soldier bug (*Cermatulus nasalis*) and Tasmanian paper wasp (*Polistes tasmaniensis*) (Gibbs 1994). Although many eggs were being laid on the swan plants few, if any, larvae were surviving past the first instar stage.

To establish whether ant predation was affecting the Monarch butterfly populations on plants, I isolated one plant from ants (using Vaseline) and left four plants as controls. After three weeks the ant-free plant was stripped of its foliage and a number of larva of varying instars were present on the plant. The control plants still had little visible damage and only a few larger larvae were present (possibly having dispersed from the infested plant).

It appears that if Monarch larvae can evade predation past the first instar they become, (1) too large to be carried away by the ants and/or (2) are too toxic to be consumed by *T. albipes*.

References

Gibbs, G.W. 1980. *New Zealand Butterflies: identification and natural history*. Collins, Auckland.

Gibbs, G.W. 1994. *The Monarch Butterfly*. Reed Books, Auckland.