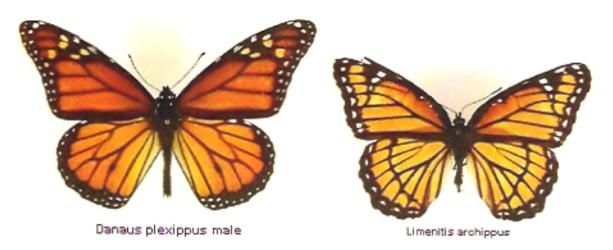


Relationship #15



The Monarch butterfly (Danaus plexippus) feeds as a larva on species of milkweeds (Asclepias spp.). The milkweeds contain a group of chemicals called cardiac glycosides. Cardiac glycosides are poisonous to vertebrates (although not to invertebrates). The larvae store these cardiac glycosides and the later adult contains them as well. If a bird (or other vertebrate such as a mouse or frog) eats a Monarch it finds them distasteful to begin with and is later sick. Experimentally birds learn to avoid Monarchs. The Monarch advertises its inedibility by a bright orange and black coloration.