



SYMBIOSIS: ODD COUPLES

Dart frog tadpoles live in tiny pools of water that collect in the spiky leaves of bromeliads. Bromeliads are rainforest plants that grow on tree branches instead of on the ground. Their roots are in the air, not in dirt, so bromeliads do not get much plant food. Tadpole dung feeds bromeliads. Dart frogs and bromeliads are connected in a special way, called "symbiosis."

SYMBIOSIS means "living together." It is the scientific name for a close connection between two species that are not alike. There are three kinds of symbiosis.

1. **Win-Win Symbiosis.** Why does the strangler fig need wasps? Why do the wasps need figs? Every kind of fig tree is pollinated by its own special wasp species. Without the wasp, the fig could not make fruit and seeds. Without the fig, the wasp would have nowhere to live and reproduce. Both species get something from their connection. This kind of symbiosis is called **MUTUALISM**.

2. **So-So Symbiosis.** Orchids need trees, but do trees need orchids? Orchids are plants that grow without soil. They grow on tree branches, high in the forest canopy, because they need to be in sunlight. They do not hurt trees, but they do not give them anything, either. This symbiosis is called **COMMENSALISM**. One species gets something good, and the other species gets nothing good and nothing bad.

3. **WIN-LOSE SYMBIOSIS.** Can a leaf cutter ant live without a brain? Leaf cutter ants must watch out for the coffin fly. The fly lands on the neck of a foraging ant and lays its eggs. When the eggs hatch, the larvae burrow into the ant's brain. The larvae are parasites, living in another species. **PARASITISM** is symbiosis in which one species gets something good and the other is hurt or killed. In this example, the larvae live inside the ant and eat its brain, and the ant dies.

