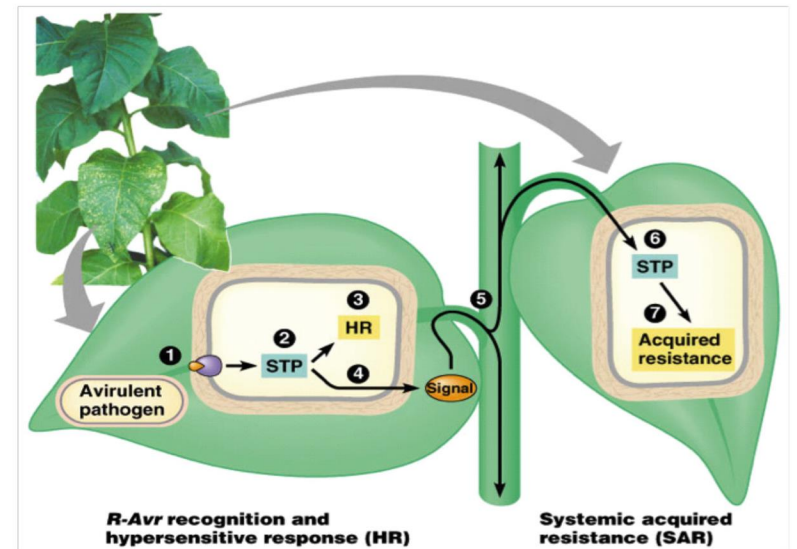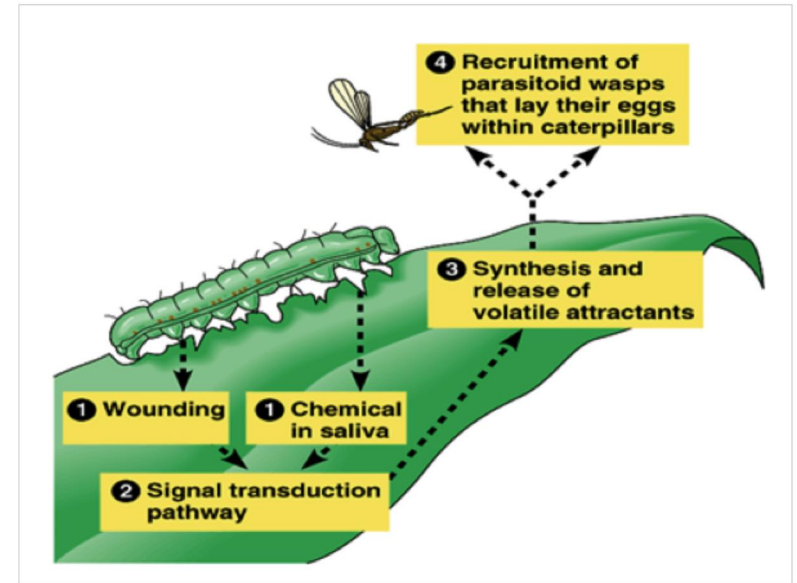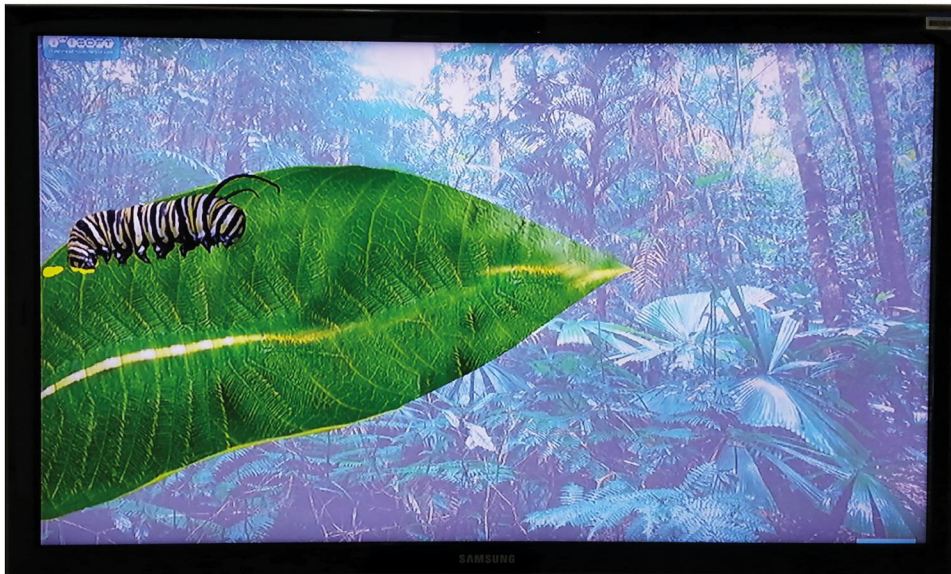# Molecular Crosstalk

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Insects, like other organisms do not exist in isolation, but interact with many other species in their communities. Insect-plant interactions are common and widely distributed in nature. Some of these interspecific interactions, for example, plant associations with fungi in mycorrhizae or with insect pollinators - are mutually beneficial. However, most interactions that plants have with other organisms (particularly to the insects) are not beneficial to the plant. Understanding the molecular mechanism of this interaction could help us to solve numerous natural mysteries. All the commands of this interaction are written in their genetic constituents in a coded fashion represented by their genes, which act in a fine integrative fashion. The cascade of genes acting like molecular switches is known to regulate these interactions.

Insects and plants communicate with certain molecular signals which could be the language of life and under certain stressful conditions could be better understood by developing the means to halt the expression of specific genes tools i.e., blocking the jasmonate cascade by silencing the lipoxygenase gene has important consequences for the insect community associated with *Nicotiana attenuata* Steyd. in its native environment; some herbivores that were never before encountered on this plant were now able to colonize the plant (Kessler et al., 2004). Moreover, silencing the Coronatine Insensitive gene results in changes in a range of defense -related characteristics and changes in interactions with the natural community (Paschold et al., 2007).

A common example of molecular coding is evident during insect-plant interaction when plants recruit predatory animals (insects) that help defend the plant against specific herbivores. The volatile molecules produced by the plants when bitten by the insects can also function as an "early warning system" for nearby plants of the same species.