

Insects use plant like a telephone

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Dutch ecologist Roxina Soler and her colleagues have discovered that subterranean and aboveground herbivorous insects can communicate with each other by using plants as telephones. Subterranean insects issue chemical warning signals via the leaves of the plant. This way, aboveground insects are alerted that the plant is already 'occupied'.

Aboveground, leaf-eating insects prefer plants that have not yet been occupied by subterranean root-eating insects. Subterranean insects emit chemical signals via the leaves of the plant, which warn the aboveground insects about their presence. This messaging enables spatially-separated insects to avoid each other, so that they do not unintentionally compete for the same plant.

In recent years it has been discovered that different types of aboveground insects develop slowly if they feed on plants that also have subterranean residents and vice versa. It seems that a mechanism has developed via natural selection, which enables the subterranean and aboveground insects to detect each other. This avoids unnecessary competition.

Via the 'green telephone lines', subterranean insects can also communicate with a third party, namely the natural enemy of caterpillars. Parasitic wasps lay their eggs inside aboveground insects. The wasps also benefit from the volatile signals emitted by the leaves, as these reveal where they can find a good host for their eggs. The communication between subterranean and aboveground insects has only been studied in a few systems. It is still not clear how widespread this

phenomenon is.

Source: NWO

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