An ant visits the inflorescence of the *para-tudo-do-campo* or *perpétua* (*Gomphrena macrocephala*)

isolated example here, because at least 4,500 species of plants with flowers, or 1% of the total, are parasites that live off the water and nutrients extracted from other plants.

"Chemical signaling is nature's dominant means of communication," says Meinwald. The number of types of interactions is practically unlimited. To complicate matters further, flowers and leaves may produce different types of compounds as they grow. In 2006, Sílvia, Elza and Elisa Gregório, from Unesp in Botucatu, showed that the flowers of a Cerrado savanna bush, the *Zeyheria montana*, produced alkaloids, which repel visitors, during their early development, and terpenes, which attracts them, when the grains of pollen are ready to fertilize other flowers.

Message for other leaves - At least 1,000 species of plants resort to chemical language, according to a study by Christopher Frost, from Consuelo's team, in *Plant Physiology*. The plants release at least three types of compounds that give woods their typical smell. Identified by the abbreviations z3HAL, z3HOL and z3HAC, they trigger a response to parasites, inducing the release of substances with a nasty taste. In 2008, in *New Phytologist*, Consuelo and her group described the biochemical reactions through which one of these substances, z3HAC, released by leaves that are being devoured by insects, activates the production of compounds that strengthen the defense of leaves that are still intact in a type of poplar, a cold-weather tree. "If a leaf is being attacked, the neighboring leaf prepares to defend itself when it perceives the volatile compounds," says Consuelo. "The leaves that are not connected amongst themselves communicate through these compounds."

Lucia Paleari decided to present these interactions in a more exciting manner and proposed an exhibition about the *croton* to a group of students from Unesp in Botucatu, last November. According to her, two thousand children, youths and teachers from an elementary school and high school in Botucatu became acquainted with the plant and were amazed at the immense models and expanded photos of insects and their heads on show at the school's sports gym. "They asked how insects could have so many structures on their head and how could a plant that they referred to as a weed be so interesting and capable of attracting so many different little animals," she recalls. "We are learning to look at such things more slowly." ■

Scientific articles

1. FROST, C. J. *et al.* "Plant defense priming against herbivores: getting ready for a different battle." **Plant Physiology.** v. 146. p. 818-24. 2008.
2. RODRIGUES, T. M.; Machado, S. R. "Developmental and structural features of secretory canals in root and shoot wood of Copaifera langsdorffii Desf. (*Leguminosae Caesalpinioideae*)." **Trees.** v. 23 (5). p. 1013-18. 2009.

EDUARDO CESAR

Insects copulate under the fluff of the *paineirinha-do-cerrado* (*Eriotheca gracilipes*)