SCALING UP BIOCONTROL USING STERILE INSECTS AS PHORETIC AGENTS

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CIRAD is the French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

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Why?

- Innovations relying on ecologically-based control of insect pests and vectors of plant, human and animal diseases are needed to respond efficiently to global food demand, while addressing societal concerns for safer food, better health and environmental protection.


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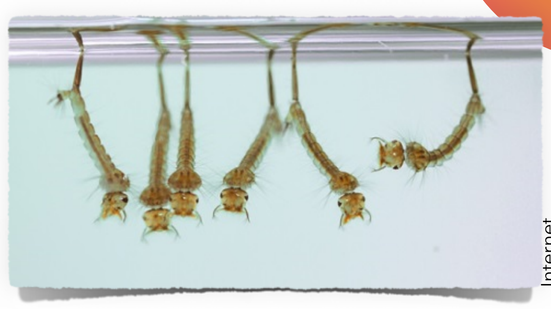
Aedes albopictus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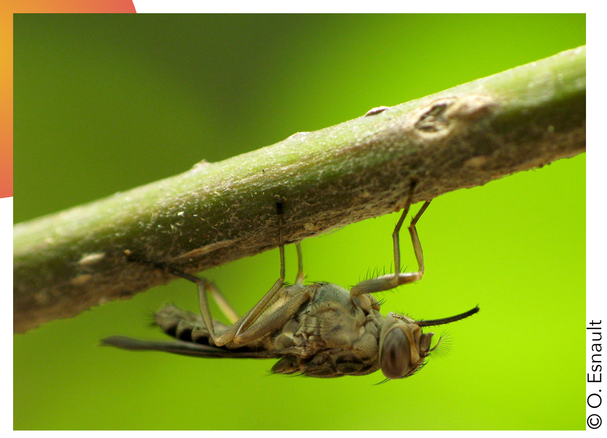
Zeugodacus cucurbitae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Glossina palpalis gambiensis

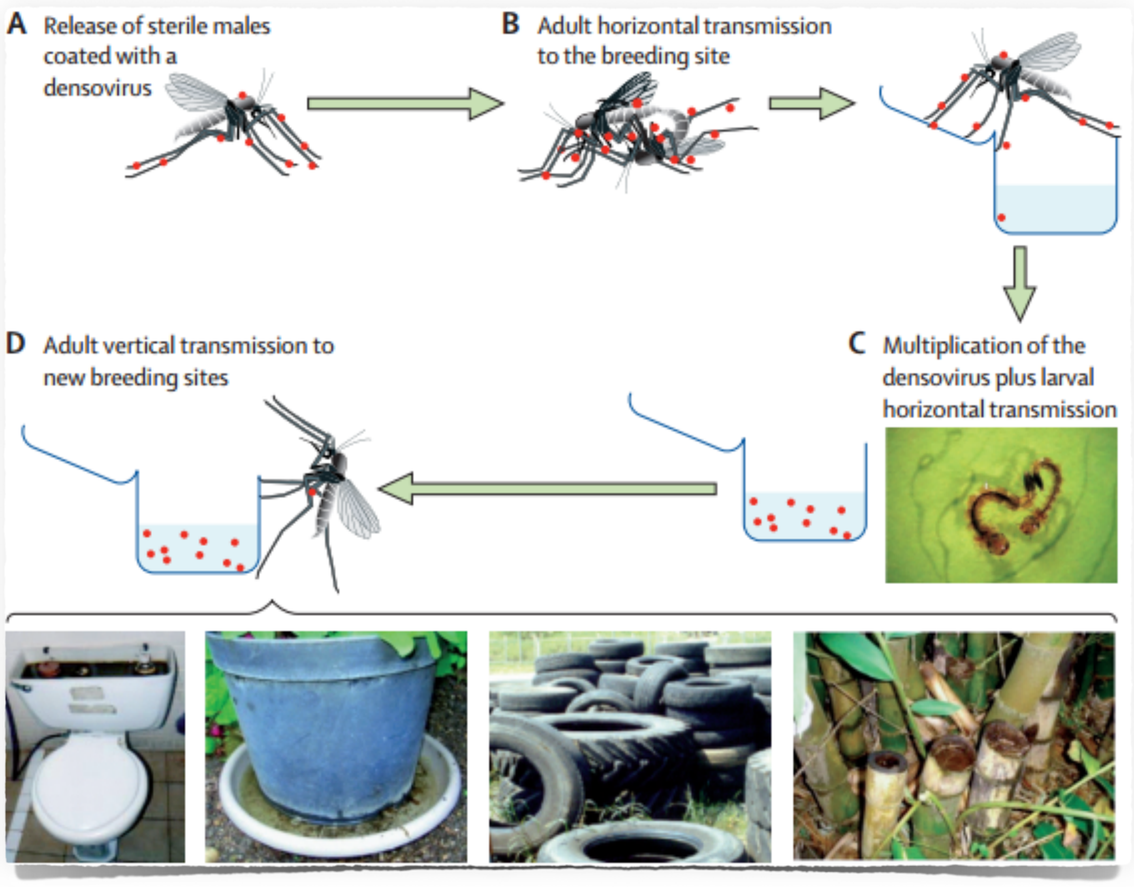


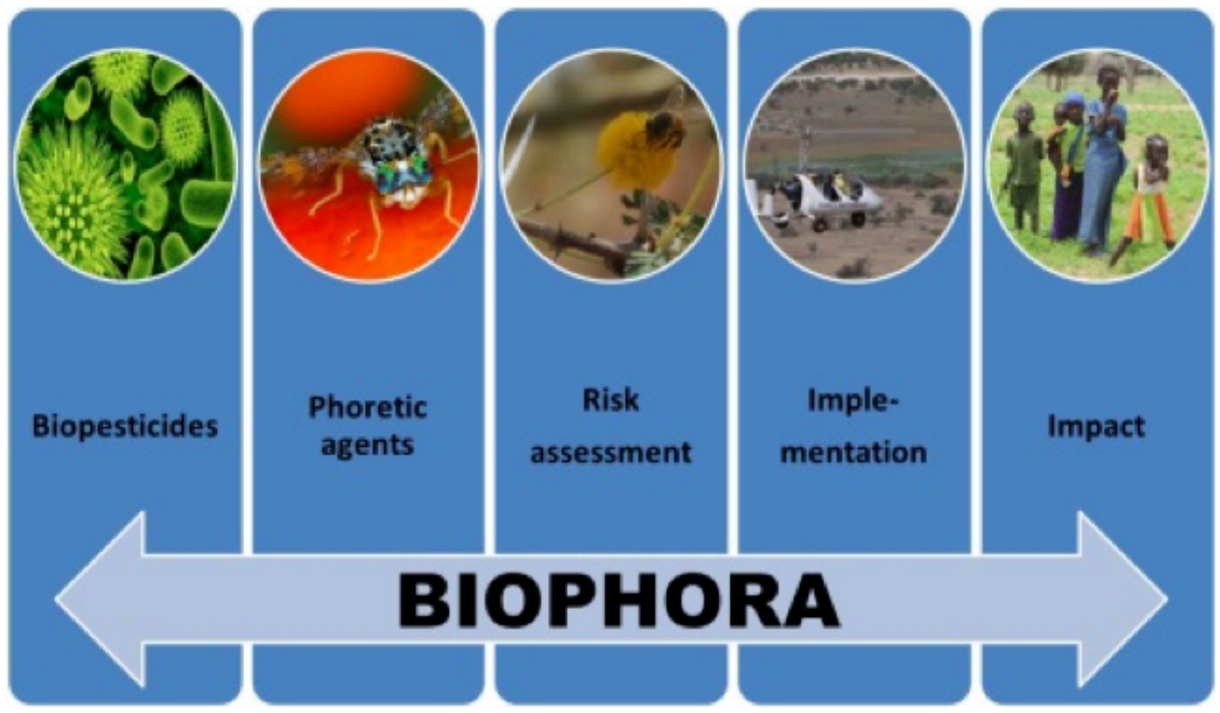
Figure 1. Principle of the boosted sterile insect technique using a densovirus (Bouyer *et al.* 2016)

Our concept

- The Biophora (Biocontrol Phoretic Agents) project focuses on developing biocontrol systems based on the release of insects as conveyors of biopesticides for the control of conspecific or hetero-specific crop pests or disease vectors. One promising application of this concept is the boosted sterile insect technique using a densovirus to control mosquitoes (Bouyer *et al.* 2016, fig. 1).

Our approach

- High-quality basic and applied research on biopesticides, phoretic agents, target systems, deployment scale, risk assessment, implementation and impact.
- Accurate evaluation of feasibility and sustainability.



Reference

Bouyer J, Chandre F, Gilles J, Baldet T (2016) Alternative vector control methods to manage the Zika virus outbreak: more haste, less speed. Lancet Glob Health 2016; 4: e364.

Join us!

By mobilizing a wide range of scientific skills to generate innovative and action-oriented knowledge, CIRAD is the key scientific partner for developing and scaling up operational pest and vector biocontrol within an integrated pest management perspective.

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