

MicroBioPest Newsletter

Advancing sustainable control of disease vectors and agricultural pests



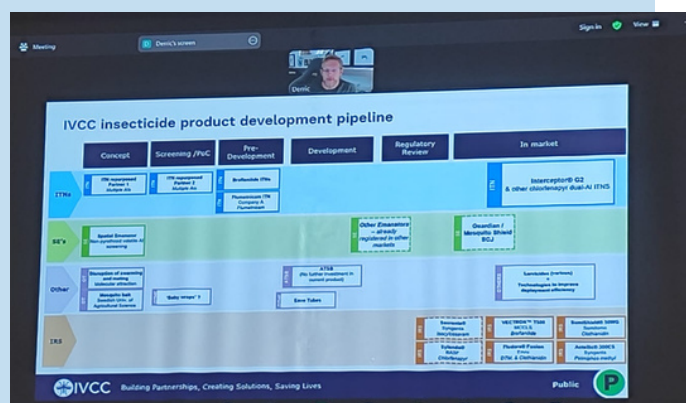
Engagement with the vector biology community

On 3 August 2026, as part of the Mosquito Kolymbari Meeting 2026, the symposium “Advancing Microbes and Chemicals for Integrated Vector Borne Disease Control” brought together experts working on complementary approaches to vector control. Talks covered insecticide discovery, microbial biopesticides, symbiont-based strategies and low-risk pesticides, highlighting different routes towards more effective and sustainable vector control.

August 2026



Prof. Favia (top) and Dr. Nimmo (bottom) during their talks at our symposium.



At the same meeting, Dr. Martyn Wood presented his poster entitled “Nature’s Larvicides: Cretan *Chryseobacterium* as a Novel Mosquitocide”, showcasing ongoing MicroBioPest research on promising microbial candidates for mosquito control.



Dr. Martyn Wood at the MicroBioPest symposium (left) and poster session (right) during the Mosquito Kolymbari Meeting 2026.

At the 9th Molecular Insect Science Conference in Kuala Lumpur, Malaysia, on 27-29 April 2026, Prof. Vontas participated as a plenary speaker. His talk, titled “Functional Approaches for Elucidating Insecticide Resistance Mechanisms”, highlighted recent advances in understanding the molecular basis of insecticide resistance and their relevance to the MicroBioPest project.



Prof. Vontas presenting MicroBioPest in Kuala Lumpur, Malaysia (top) and in Larissa, Greece (bottom).



MicroBioPest was also represented at the 9th Hellenic Meeting for Plant Protection, in Larissa, Greece, by Prof. John Vontas, who presented the project's work and its contribution to the development of more sustainable pest and vector control approaches.

Recent Publications

Recent publications from the MicroBioPest team highlight the potential of microorganisms as new tools for mosquito control. A large-scale screening of environmental bacteria from Crete identified numerous isolates with strong larvicidal activity against *Culex pipiens*, including promising candidates from *Chryseobacterium* and *Pseudomonas*. In parallel, the team explored the island's fungal diversity, identifying several mosquitocidal isolates and highlighting a *Metarhizium* strain that caused over 90% mortality in both larval and adult mosquitoes. A recent review further examined the steps required to turn entomopathogenic fungi into practical bioinsecticides, from formulation and storage stability to regulation and commercialization.

Journal of Medical Entomology, 2026, 63, iag069
DOI: <https://doi.org/10.1093/jme/iag069>



OXFORD

Vector Control, Pest Management, Resistance, Repellents

Screening of environmental fungi from Crete reveals candidates for biological control of mosquitoes

Joel C. Couceiro¹, Martyn J. Wood¹, Juan J. Silva¹, Andronikos Papadopoulos¹, John Vontas^{1,2}, and George Dimopoulos^{1,3,4}



ENVIRONMENTAL MICROBIOLOGY
August 2025 Volume 91 Issue 8 e00966-25
<https://doi.org/10.1128/aem.00966-25>

Bacteria isolated from biodiverse Mediterranean island habitats yield a large array of biopesticidal metabolites against mosquito larvae

Martyn J. Wood¹, Katerina Kanelli^{1,2}, Juan J. Silva¹, Joel C. Couceiro¹, Andronikos Papadopoulos^{1,2}, F. Elektra Maridaki^{1,2}, Maria Mazavli^{1,2}, Inga Siden-Kiamos¹, John Vontas^{1,3}, George Dimopoulos^{1,3,4}



Review

Development of Mycoinsecticides: Advances in Formulation, Regulatory Challenges and Market Trends for Entomopathogenic Fungi

Joel C. Couceiro¹, Martyn J. Wood¹, Andronikos Papadopoulos¹, Juan J. Silva¹, John Vontas^{1,2} and George Dimopoulos^{1,3,4}

Science meets society

The MicroBioPest project is launching a citizen science initiative inviting farmers and members of the public to collect dead insects from natural and agricultural environments. The samples will be studied to identify bacteria and fungi with potential activity against harmful insects. By contributing to this research, non-specialist audiences can learn more about microbial biopesticides and support the development of safer and more sustainable approaches to insect control.



Collection kit distributed to farmers and agronomists as part of the MicroBioPest citizen science initiative.

Stay connected

To follow updates on the project and contact the group, visit the website microbiopest.eu and follow the project on Instagram @microbioeu and on LinkedIn @MicroBioPest EU.

Listen to Microbes

The MicroBioPest project runs a new podcast series, “Listen to Microbes”, exploring topics related to microbial biopesticides and pest control. The episodes cover the history and mechanisms of biological and chemical insect control, as well as the journey from discovery to biopesticide development.

The first episode is already available on Spotify and YouTube, and it has Prof. John Vontas and Prof. George Dimopoulos discussing the drawbacks of relying mainly on chemical insecticides for pest control, and how alternative approaches based on biological control can be explored.



Episode one of the MicroBioPest podcast, “Beyond the Chemical Age: Rethinking Pest & Vector Control”.

🎧 Listen to the episode on Spotify [HERE](#).

▶ Watch the episode on YouTube [HERE](#).



This project is funded from the European Union's HORIZON-CSA (HORIZON-WIDERA-2022-TALENTS-01-ERA Chairs) programme under Grant Agreement No 101087110