Special Issue

Insecticide Resistance in Disease Vectors: Mechanisms, Surveillance, and Control Perspectives

Message from the Guest Editor

Insecticide resistance threatens the effectiveness of vector control programs, especially where vector-borne diseases remain endemic and chemical control is still key to public health. While alternative tools—such as sterile insect releases, symbionts, and entomopathogens—are emerging, synthetic insecticides remain essential due to their rapid impact and cost-effectiveness in tropical and subtropical regions. Resistance is a complex and evolving issue at the intersection of ecology, genetics, evolution, physiology, and biochemistry. Despite decades of research, major gaps remain, particularly on how climate change and new control tools affect resistant populations. This Special Issue, Insecticide Resistance in Disease Vectors: Mechanisms, Surveillance, and Control Perspectives, invites global contributions—original research, reviews, and opinions—on: molecular and physiological mechanisms; evolutionary and genetic dynamics; resistance surveillance; environmental influences; interactions with novel tools; risk modeling; and operational management strategies.

Guest Editor

Dr. Ademir J. Martins

Laboratóro de Biologia, Controle e Vigilância de Insetos Vetores, Instituto Oswaldo Cruz, FIORUZ, Rio de Janeiro CEP 21040-360, RJ, Brazil

Deadline for manuscript submissions

31 January 2026

Insects

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 5.6
Indexed in PubMed

mdpi.com/si/244270

Insects
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
insects@mdpi.com

mdpi.com/journal/insects

Insects

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 5.6
Indexed in PubMed

mdpi.com/journal/insects

About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Brian T. Forschler
Department of Entomology, University of Georgia, 413 Biological Sciences Building, Athens, GA 30602-2603, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, and other databases.

Journal Rank:

JCR - Q1 (Entomology) / CiteScore - Q1 (Insect Science)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.1 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).