Special Issue on Molecules

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COST Action CA21111 - OneHealthdrugs is pleased to announce the Special Issue (SI) titled **"One Health Drugs against Vector-Borne Parasitic Diseases – A Sustainable Chemical/Biological Approach,"** to be published in the open-access journal **Molecules (MDPI)**.

Special Issue

One Health Drugs Against Vector-Borne Parasitic Diseases—a Sustainable Chemical/Biological Approach

Guest Editors

Prof. Dr. Pascal Marchand
Dr. Sébastien Pomel
Dr. Katerina Tsitsanou
et al.

Deadline

31 January 2026

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Special Issue Editors

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Guest Editor
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Interests: heterocyclic chemistry; medicinal chemistry; antifungal and antiparasitic agents; kinase inhibitors; resistance; Leishmania; Chagas disease
Special Issues, Collections and Topics in MDPI journals

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Guest Editor
Faculté de Pharmacie, Chimiotérapie Antiparasitaire (PARACHEM), UMR 8076 CNRS BioCIS, Université Paris-Saclay, Orsay, France
Interests: parasitology; Leishmania; antiparasitic drugs; in vitro/in vivo models; amoeba; emerging parasitic diseases

Dr. Katerina Tsitsanou E-Mail Website
Guest Editor
Institute of Chemical Biology, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece
Interests: protein biochemistry; protein-ligand interactions; structural biology; Leishmania; antiparasitic drugs; insect chemoreceptors

Prof. Dr. Anton Gerilovych E-Mail Website
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One Health Institute, Kharkiv, Ukraine
Interests: biosafety; One Health approach; veterinary microbiology; virology; molecular diagnostics; biotechnology

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Guest Editor
Department of Biology, Hacettepe University, Ankara, Turkey
Interests: host-pathogen interactions; microbiome-host-pathogen interactions; parasitology; microbiology

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Guest Editor
Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Ege University, İzmir, Turkey
Interests: antileishmanial compounds; Leishmania; antiparasitic drugs; multi-target directed ligands; One Health drugs

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Dear Colleagues,

Vector-borne parasitic diseases continue to pose a significant threat to human and animal health worldwide, especially in tropical and subtropical regions. This problem requires consolidation on intersectorial and multisectorial levels under One Health approach including public health, veterinary medicine and ecological/biological scientific and practical community. These diseases, including malaria, leishmaniasis, filariasis, and trypanosomiasis, and many others are intricately linked to ecological changes, animal reservoirs, and the complex dynamics of vector populations. In the context of the One Health framework—which recognizes the interconnectedness of human, animal, and environmental health—there is a pressing need for integrated, sustainable strategies to combat parasitic diseases, including development of new drugs against biological agents and their vectors, its potency, efficacy and safety considerations.

This special issue aims to bring together original research, reviews, and perspectives on the development of novel chemical and biological therapeutics targeting vector-borne parasitic pathogens. Contributions will explore innovative drug discovery pipelines, repurposing of existing compounds, bioactive natural products, and synthetic molecules with antiparasitic activity. We also highlight advances in host-targeted therapies, parasite resistance mechanisms, and integrated vector control strategies.

By uniting chemical biology, parasitology, pharmacology, and One Health sciences, this issue seeks to inspire collaborative, cross-sectoral solutions to mitigate the burden of parasitic diseases in an increasingly interconnected world

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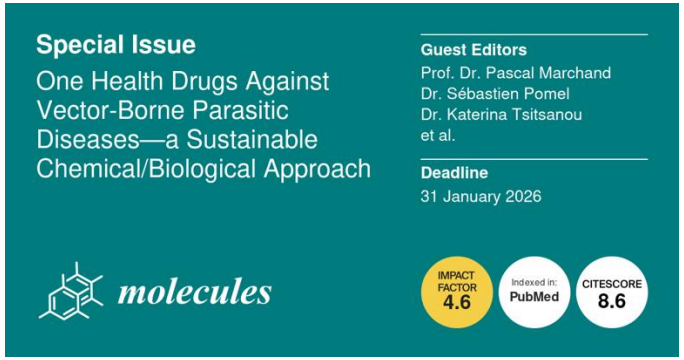

1. One Health Framework against vector-borne parasitic diseases

- Integration of human, animal, and environmental health in parasitic disease control.
- Role of zoonotic cycles and animal reservoirs in disease persistence.
- Socio-ecological drivers of vector-borne parasitic diseases.

2. Chemical and Biological Therapeutic Discovery

- Screening of natural products, synthetic compounds, and marine/plant-derived agents.
- Drug repurposing and repositioning strategies.
- Development of multi-targeted or host-directed therapies.
- Novel delivery systems (e.g., nanocarriers, injectable depots).

3. Vector and Transmission Control

- Drugs with transmission-blocking potential (e.g., for *Plasmodium*, *Leishmania*, *Trypanosoma*).
- Approaches targeting vector microbiomes or vector–parasite interactions.
- Synergistic strategies combining chemotherapeutics and vector control.

4. Resistance and Sustainability

- Surveillance and molecular mechanisms of drug resistance in parasites and vectors.
- Sustainable use of antiparasitic drugs in livestock to minimize environmental impact.
- Eco-toxicological profiles and bioaccumulation of drug residues.

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OHD and Molecules will support few papers' APC fees within the OneHealthDrugs Action on a first come first served basis

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