

Insects as Medicine: Rediscovering a Sustainable Solution for Global Health

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Abstract: *As global healthcare systems face mounting challenges—rising antimicrobial resistance, unequal access to medicine, and the need for sustainable therapeutic resources—there is renewed scientific interest in entomotherapy, the use of insects and their derivatives for medicinal purposes. This paper explores the historical roots, biochemical potential, clinical applications, and future prospects of insect-based medicine. Drawing from ethnopharmacological evidence and contemporary biomedical research, the review identifies key therapeutic compounds such as antimicrobial peptides (AMPs), enzymes, and immunomodulators found in species like *Lucilia sericata*, *Apis mellifera*, and *Tenebrio molitor*. The ecological efficiency of insects, coupled with their capacity to provide cost-effective and locally producible therapeutics, positions them as a viable alternative to conventional pharmaceuticals, especially in resource-limited settings. However, cultural stigma, regulatory gaps, and ethical concerns about bioprospecting and standardization continue to hinder mainstream integration. The paper concludes by proposing strategic directions for bridging traditional knowledge with molecular science, enhancing policy frameworks, and promoting equitable, sustainable innovation in global health. Insects, long seen as nuisances or novelties, may now hold the key to some of the 21st century's most urgent medical challenges.*

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