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RECENT TRENDS IN
ENVIRONMENTAL SCIENCE
AND
APPLIED ECOLOGY

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RECENT ADVANCEMENTS IN ECO-FRIENDLY MOSQUITO CONTROL STRATEGIES

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Abstract:

Mosquitoes transmit several diseases and are therefore a major cause of global health concern. Global climate changes have made situations even worse by facilitating the mosquitoes to cross continental borders and carry the diseases to those parts of the world where they did not exist earlier. Absence of suitable treatments and/or vaccines against most of them aggravates the situation further. Under these circumstances, vector control seems to be the most effective way to control these diseases. However, application of conventional control regimes has failed to achieve the targets. Moreover, the chemicals despite being cheap and effective leave behind toxic residues with deleterious effects on the environment. This has encouraged substantial research across the globe to develop innovative strategies of mosquito control with environment friendly approaches. Some of them include novel larvicides, mosquito traps and genetic manipulations. The current paper discusses recent advancements in this field and highlights their importance.

Keywords: Mosquito; Vector control; Innovative strategies of vector management; Eco-friendly approach; Public health

Introduction:

Mosquitoes are medically important arthropods because the female members of this insect species feed on animal blood and in the act of doing so they are able to transmit the causative agents of several diseases of global concern (Jones *et al.*, 2021). They need blood to nourish their developing ovum making them inseparable from their animal hosts including man. Thereby, they are ubiquitously found close to human habitations and over the years they have adapted themselves to breed in almost every kind of habitat - natural or man-made (Becker *et al.*, 2012). This has boosted their breeding success enabling them to proliferate at higher rates. Moreover, the global climate change has made conditions favourable for them to populate regions where they were not initially found (Mahgoub *et al.*, 2017). The warmer climates have

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