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Proposed categories of larvicidal activity of natural products derived from plants against *Anopheles* vector larvae

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Anopheles mosquitoes are the most important vectors among the arthropods. Human malaria is transmitted through the bites of female *Anopheles* mosquitoes. It is estimated that malaria is responsible for 627000 deaths globally. The usage of natural products such as larvicides is considered as a significant method for mosquito control. Natural products have beneficial advantages including efficacy, degradability and non-toxic effects on non-target organisms. Based on laboratory and field experiences, descriptive studies or reports, six categories are considered for larvicidal activity of natural products derived from plantsincluding extremely active, highly active, active, moderately active, slightly active and non active. This guidance suggests the likely larvicidal activity of plant essential oils based on the LC_{50} value. We consider natural products derived from plants extremely active when its LC_{50} is up to 1, highly active when its LC_{50} is between 1-5, active when its LC_{50} is between 5-50, moderately active when its LC_{50} is between 50-100, slightly active when its LC_{50} is between 100-200 and non-active when its LC_{50} is more than 200. It seems three classes extremely active, highly active and active are required more attention, while there is no priority of research for the rest of categories.

Biography

Mohammad Mehdi Sedaghat is Associate Professor at Tehran University of Medical Sciences (TUMS). He completed his doctoral study in integrated molecular and morphological systematic of *Anopheles* at the school of Public Health, Tehran University of Medical Sciences and Natural History Museum, London in 2002. He is head of Vector Biology lab and acts as research deputy of department of Medical Entomology and Vector Control at TUMS. His area of interest includes medical and molecular entomology and also vector control using natural products.He has published many research and review articles in the international peer reviewed journals and served as reviewer of the reputed journals in these fields.

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