Larvicidal activity of essential oils extracted from commonly used herbs in Lebanon against the seaside mosquito, Ochlerotatus caspius.

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This study investigates the potential of essential oils from commonly used medical and culinary herbs in Lebanon as an environmentally safe measure to control the seaside mosquito, Ochlerotatus caspius. The composition of essential oils extracted from parsley seeds and leaves, alpine thyme inflorescences, anis seeds, and coriander fruits were analyzed by GC-MS, and the major components of these oils were found to be thymol, sabinene, carvacrol, anethole, and linalool, respectively. Mosquito larvicidal assays were conducted to evaluate the LC(50) and LC(90) after 24 and 48h of the essential oils and their major constituents. All of the tested oils proved to have strong larvicidal activity (LC(50): 15-156ppm) against Oc. caspius fourth instars, with the most potent oil being thyme inflorescence extract, followed by parsley seed oil, aniseed oil, and then coriander fruit oil. Toxicity of each oil major constituent was also estimated and compared to a reported larvicidal compound, eugenol.

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