

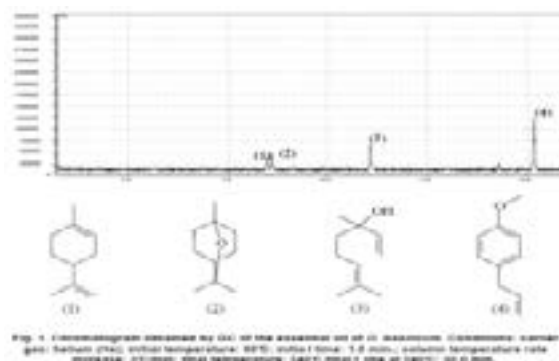
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Amsterdam, NetherlandsSheylla S M S Almeida et al., Am J Ethnomed 2018, Volume 5  
DOI: 10.21767/2348-9502-C1-006**CHEMICAL STUDY, ANTIOXIDANT ANALYSIS AND EVALUATION OF THE LARVICIDAL POTENTIAL AGAINST AEDES AEGYPTI LARVAE OF ESSENTIAL OIL OF OCIMUM BASILICUM LINN.****Sheylla S M S Almeida, Rosany L Martins, Ana L F Farias, Alex B L Rodrigues and Érica M Rabelo**

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The purpose of this research was to accomplish chemical study, antioxidant analysis and evaluation of the larvicidal potential against *Aedes aegypti* larvae of essential oil from the leaves of *O. basilicum* Linn. The research was carried out in the Pharmacognosy and Phytochemistry Laboratory, Department of Biological and Health Sciences, Federal University of Amapá (UNIFAP), between July 2013 and March 2014. Arthropoda Laboratory, Department of Biological and Health Sciences, Federal University of Amapá (UNIFAP) between September 2013 and March 2014. The essential oil was obtained by hydrodistillation; the identification and quantification of components was achieved with the use of GC-MS analysis. The antioxidant activity was evaluated by the method of sequestration of DPPH. The essential oil was tested in the third larval state of the development of the mosquito *Aedes aegypti*. The third larval instar were exposed to different concentrations of the oil (500, 400, 300, 200 and 130 ppm) in triplicates. Chromatographic analysis identified that the major constituents found in essential oil of *O. basilicum* were limonene (13%), 1,8-cineole (15%), linalool (20%) and methyl chavicol (45%). In trials of free radicals sequestration, the essential oil showed (AA%) 67.35±1.11 in the highest concentration and inhibitory concentration, IC<sub>50</sub> value of 61.517 mg/mL. The essential oil of *O. basilicum* showed larvicidal potential with CL<sub>50</sub> of 67.22 ppm. A more detailed study should be done to verify the larvicidal potential and biological mechanism of action, as several authors claimed that the constituent of essential oils affect the nervous system of the mosquito *Aedes aegypti* and the action mechanism is not yet fully elucidated. New studies demand the development of tests using samples of lower concentrations to verify the degree of toxicity in other animal species, including man, and preparation of formulations that may function as a natural alternative to combat mosquito larvae.

**Recent Publications**

1. Almeida S S M S (2017) Chemical composition and *in vitro* antioxidant, cytotoxic, antimicrobial, and larvicidal activities of the essential oil of *Mentha piperita* L. (Lamiaceae). The Scientific World Journal 2017:1–8.
2. Almeida S S M S (2017) Mineral composition of leaves, ethanolic leaf extract and infusions of *A. occidentale* L. from Amazon in Northern Brazil. Mintage Journal of Pharmaceutical E Pharmaceutical Research 6:8–11.
3. Almeida S S M S (2016) Chemical composition: an antioxidant, cytotoxic and microbiological activity of the essential oil from the leaves of *Acollanthus suaveolens* Mart. ex Spreng. Plos One 1:1–10.
4. Almeida S S M S (2016) Antioxidant effect of plant extracts of the leaves of *Tithonia diversifolia* (Hemsl.) A. Gray on the free radical DPPH. Journal of Chemical and Pharmaceutical Research 8:1182–1189.
5. Almeida S S M S (2016) Larvicide and antioxidant activity of the ethanol crude extract from the stem bark of *Pseudoxandra cuspidata* (Annoaceae). Journal of Chemical and Pharmaceutical Research 8:841–846.



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## Biography

Sheylla S M S Almeida is a Graduate in Pharmacy and is a qualified Clinical Analyst from the Federal University of Pará. She holds a Master's in Chemistry with a specialization in Organic Chemistry from the Federal University of Pará. She has a PhD in Chemistry in the area of Chemistry of Natural Products (Organic Chemistry) from the Federal University of São Carlos. She is Professor of Pharmacognosy, Organic Chemistry and Mechanisms of Organic Reactions at the Federal University of Amapá. Also, she is a Permanent Teacher of the Master's Course in Pharmaceutical Sciences, at the same university. She is the State Coordinator Amapá and Permanent Professor of the Doctoral Program of the Postgraduate Program in Biodiversity and Biotechnology of the Bionorte Network. She works in several lines of research in the areas of Biotechnology, Biodiversity, Essential Oils and Natural Product Chemistry.

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