Chemical composition and acute toxicity of the essential oil of *Copaifera reticulata* (Ducke) from seasonal collections in the Tapajós National Forest, Belterra, Para, Brazil.

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The *Copaifera* genus consists of economic and ecological high value species widely distributed in Africa and tropical and subtropical regions of South America, especially in Brazil, Venezuela, Guyana and Colombia. In Brazil, they are mainly found in the states of Pará and Amazonas (1). *Copaifera reticulata* Ducke is some of the most important species economically exploited in the Amazon region with potential anti-inflammatory, antitumor and healing. The oleoresins are composed primarily of a volatile fraction consisting of sesquiterpenes and other corresponding to acidic diterpenes, and seasonality directly influences the production and oleoresin composition of copaíba (2). Studies of seasonal variations in chemical composition of oleoresin and its biological effects are scarce, so the objective was to evaluate chemically the volatile fraction of the oleoresin of *C. reticulata* and its toxic effect against nauplii of *Artemia salina* Leach. The oleoresin was collected in October 2014, dry period, in the Tapajós National Forest (Belterra, Pará). Aliquots of 30 mL were fractionated by fractional distillation in triplicate to determine the yield of essential oil. Chemical analysis of the volatile fraction was performed by gas chromatography coupled to a mass spectrometry (GC/MS). The toxicity was tested via an adapted bioassay with *Artemia salina* (3). Ten different concentrations of the essential oils were evaluated (1000; 500; 100; 50; 10; 8; 7; 6; 4; 2 μg mL^{-1}), which were dissolved in Tween 80. The assay tubes were incubated at 30 °C for 24 h, and the assay was carried in triplicate. Statistical analysis was carried out through the PRISM3.0 software and found to be of low toxic when the 50 % lethal dose (LD_{50}) was more than 500 μg mL^{-1}; LD_{50} for moderate between 100 and 500 μg mL^{-1} and too high when the LD_{50} was less than 100 μg mL^{-1}. The yield of the essential oil was 41 % (12.3 mL). Twenty-five compounds were identified in the volatile fraction of the oleoresin, and the major compounds were caryophyllene (29 %), α-bergamotene (24 %), β-bisabolene (14 %) and β-eudesmene (13 %). The volatile fraction was found to be highly toxic (LD_{50}= 7 μg mL^{-1}) to the microcrustacean tested. In animal tests, the oleoresin showed relatively low toxicity (4). Although widely studied, *C. reticulata* oil still has differences in their composition and variations of the biological effects caused by different levels of substances that make up the oil. The result of acute toxicity showed that the volatile fraction has high toxicity and the dry period presents high essential oil incomes.

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