Abstract

Piper aduncum L. is used in folk medicine to treat respiratory and inflammatory diseases. The aim of this study was to analyze the essential oil from leaves of P. aduncum collected in the Brazilian Cerrado, North of Minas Gerais, as well as to evaluate the larvicidal activity of this oil and of its major constituent. The essential oil was analyzed by gas chromatography coupled to flame ionization detector and gas chromatography coupled to mass spectrometry that allowed characterizing 23 compounds (monoterpenes: 90.4%; sesquiterpenes: 7.0%). The major component was 1,8-cineole (53.9%). This oil showed to be very different from those obtained from the same species. Larvae of A. aegypti were exposed to different concentrations of the essential oil and 1,8-cineole. The mortality rate of 100% was obtained after 24h of treatment with the oil at concentrations of 500 and 1,000 ppm. After 48h of treatment, the mortality rate was 80% and 50% for concentrations of 250 and 100 ppm, respectively. The LC 50 obtained after 24h was estimated in 289.9 ppm and after 48h was 134.1 ppm. The major compound 1,8-cineole showed no larvicidal activity.

Keywords

Piper aduncum, Aedes aegypti, larvicidal activity, dengue, 1,8-cineole, GC-MS.