Sixth Article: Sharing with another inside the specialization-Published

Abstract

In this study, toxicity of crude leaf extract of *Calotropis procera* (Aiton) (Apocynaceae) was assessed against *Tetranychus urticae* Koch (Acari: Tetranychidae) in laboratory conditions using the spraying method. The LC50 values after 24 hours of treatment were calculated as 3608.73 and 2277.02 mg/L for female and male mites respectively. These amounts after 48 hours of treatment were 2456.98 and 1671.2 mg/L. Results showed that the incubation period, total immature and life cycle durations of *T. urticae* were prolonged under the influence of the *C. procera* extract. The fecundity and hatchability percentages were significantly lower (18.2 eggs/females and 94.38%) compared to control (44.73 eggs/females and 99.47%), respectively. The reduction rate of *T. urticae* at different stages after 1, 3, 7, and 14 days of spraying showed that *C. procera* had a positive impact on mite population reduction that recorded 94.84 and 100% for females and males 14 days post-treatment. The methanolic extract of *C. procera* leaves was separated into 18 fractions. The 10th fraction exhibited 67, and 73% mortality, 48 and 72 hours post-treatment, respectively. Seventeen substances were identified in this fraction by using the GC-MS. These findings suggest that the leaf extract of *C. procera* which contains different novel compounds has the potential to be used for controlling *T. urticae* in the future.