LATEX OF "CORA DE CRISTO" (EUPHORBIA SPLENDENS): AN EFFECTIVE MOLLUSCICIDE

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An aqueous solution of the latex of "coroa de cristo" (Euphorbia splendens var. hislopii) showed molluscicide action (LD90) at a concentration lower than 0.5ppm on Biomphalaria glabrata and B. tenagophila reared in laboratory and at a concentration lower than 4.0ppm for field B. tenagophila.

Key words: molluscidic – Euphorbia splendens – schistosomiasis

Plant products have been long investigated as molluscicides, which will be one of the helpful strategies for schistosomiasis control.


The molluscicide action of other Euphorbiaceae has been already studied, as for example the "avelós" (Euphorbia tirucalli) latex, which was active at the concentration of 85 ppm for adult snails (Jurbeg, Cabral-Neto & Schall, 1985).

The molluscicide activity of latex samples of "coroa de cristo" was obtained by dropping through cuts on the plant stem. One ml of latex was collected in 9ml of distilled water, which represented 10% (v/v) of the solution from which the required concentrations were attained. Aqueous solutions in several concentrations were tested according to the OMS standard methodology, as advised for molluscicide tests such as: use of beckers, the relation volume of the solution by the number of animals (40ml/snail); control of the environmental conditions (temperature of 27ºC, rhythm of illumination of 12h of light and 12h of darkness), the time of exposal and recovery of 24h each. The values of lethal doses (LD50 and LD90) were attained by Probit’s analysis (Finney, 1971) through computation procedures.

Adult snails and fishes were tested: Biomphalaria glabrata from laboratory, Biomphalaria tenagophila from laboratory and field and ‘‘guppy’’ fish (Lebistes reticulatus) from field.

The results demonstrated that the plant latex exhibited a molluscicide action (LD90) under a concentration below 0.5 ppm for laboratory snails, while below 4ppm for field snails and fishes (Table 1).

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<th>TABLE 1</th>
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<td>Activity of the &quot;coroa de cristo&quot; (Euphorbia splendens var. hislopii) latex on Biomphalaria glabrata, Biomphalaria tenagophila and Lebistes reticulatus.</td>
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<td>Origin</td>
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Obs.: The tests were carried out with one replica (30 animals per dilution).

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This product has several advantages, such as: is easily obtainable, is active at low concentrations, is biodegradable, comes from a plant widely distributed in some parts of the world, is strong and of easy culture, can be collected all over the year, which may represent an effective strategy of low cost on schistosomiasis control.

RESUMO

Foi estudada em laboratório a atividade moluscidica do látex da “coroa de cristo” (Euphorbia splendens var. hislopil). A planta apresentou ação moluscidica (DL90) a uma concentração inferior a 0,5 ppm para Biomphalaria glabrata e Biomphalaria tenagophila de laboratório e inferior a 4 ppm para caramujos de campo.

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REFERENCES


