

LATEX OF "COROA 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 0.5 ppm on Biomphalaria glabrata and B. tenagophila reared in laboratory and at a concentration lower than 4.0 ppm for field B. tenagophila.

Key words: molluscicide – *Euphorbia splendens* – schistosomiasis

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

Amorim & Pessoa (1962), Barbosa & Mello (1969), Silva, Sousa & Rouquayrol (1971), Sousa & Rouquayrol (1974), Rouquayrol, Sousa & Silva (1972), Rouquayrol, Sousa & Matos (1973) and Rouquayrol et al. (1980) identified potentially active Brazilian plants. Mendes et al. (1984) tested hexane and alcohol extracts of ground leaves, stem and bark of *Euphorbia splendens* which showed molluscicide activity in adult snails at a concentration of 100 ppm.

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 (Jurberg, 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 9 ml 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 beakers, the relation volume of the solution by the number of animals (40 ml/snail); control of the environmental conditions (temperature of 27°C, rhythm of illumination of 12h of light and 12h of darkness), the time of exposure 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 4 ppm for field snails and fishes (Table I).

TABLE I

Activity of the "coroa de cristo" (*Euphorbia splendens* var. *hislopii*) latex on *Biomphalaria glabrata*, *Biomphalaria tenagophila* and *Lebistes reticulatus*.

Origin	Laboratory		Field		
	<i>B. glabrata</i>	<i>B. tenagophila</i>	<i>B. tenagophila</i>		<i>L. reticulatus</i>
			Pendotiba	Água Santa	
LD50	0.32	0.21	1.86	0.72	2.36
LD90	0.45	0.31	4.04	1.07	3.77

Obs.: The tests were carried out with one replica (30 animals per dilution).

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 moluscicida do látex da "coroa de cristo" (*Euphorbia splendens* var. *hislopii*). A planta apresentou ação moluscicida (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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