

## Effect of *Guettarda speciosa* L. (Rubiaceae) water extract on serum and liver lipids in rats

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*Guettarda speciosa* (Sin. Kuringnan) is a woody climber found in wild and in home gardens that has folkloric reputation for reduction of lipids when taken as a leafy vegetable. This study was undertaken to scientifically investigate the claimed effect in order to use this plant as a potential lipid controlling functional food.

Two groups of male Sprague-Dawely rats (n = 6, Control & 7, treatment) were fed either a lipogenic purified experimental diet (control) or the same diet containing 4% freeze-dried water extract of mature leaves of *G. speciosa* for 15 days. On day 16 animals were sacrificed and sera & livers obtained. Liver lipids were extracted according to Floch method and lipid profiles: Cholesterol, triglycerides and phospholipids were studied. In addition, serum free fatty acids also were recorded.

As shown in table 1, treatment group had reduced levels of lipids in liver and serum compared to control group. However, statistically significant reduction was observed only in serum free fatty acids and liver cholesterol and triglycerides.

Table 1. Effect of diet containing 4% freeze-dried *Guettarda speciosa* water extract on serum and liver lipid levels. Values are mean $\pm$ SEM.

		Cholesterol	Triglycerides	Phospholipids	Free Fatty acids
Serum lipids ( $\mu$ mol/dL)	Control	277 $\pm$ 25	364 $\pm$ 55	331 $\pm$ 14	120 $\pm$ 6
	Treatment	249 $\pm$ 10 (10.2)	288 $\pm$ 32 (21.0)	294 $\pm$ 15 (11.2)	88 $\pm$ 4.2* (26.4)
Liver lipids ( $\mu$ mol/liver/100 gBW)	Control	43.8 $\pm$ 3.8	368 $\pm$ 90	189 $\pm$ 9	-
	Treatment	31.5 $\pm$ 1.8*(27.9)	109 $\pm$ 16* (70.3)	181 $\pm$ 7 (4.2)	-

\* = p<0.05; ANOVA. Values in parenthesis = % reduction compared to control.

In conclusion, the water extract of *Guettarda speciosa* possesses lipid lowering activity as claimed in folk knowledge.