

Title of Article: Antioxidant activities of the leaves of *Chrysophyllum albidum* G.

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Abstract

Chrysophyllum albidum G. is a tropical plant and commonly found in Nigeria. It belongs to the sapotaceae family and used in folklore in the treatment of yellow fever, malaria, diarrhea, vaginal and dermatological infections. The study was aimed at investigating the antioxidant properties of this plant by employing the *in vitro* and *in vivo* experimental models. The effect of DPPH free radical scavenging activity on the fractions of petroleum ether, ethanol, butanol, ethylacetate, and water of *C. albidum* was determined. The ethyl acetate fraction was purified in column chromatography to obtain myricetin rhamnoside. Structure elucidation was done by NMR and mass spectroscopic techniques. Furthermore, ethanol extract was administered to five groups of eight rats per group. The animals in the normal group were administered with vehicle alone for 7 days. The positive control animals were given vehicle on the first four days, and with the vehicle and hepatotoxin (CCl₄) on the fifth, sixth and seventh day. The animals in the treatment category were respectively administered with 500, 1000 and 1500 mg/kg b.w. of extract & distilled water for the first four days, and with distilled water, extract and CCl₄ on the last three days. Animals were subsequently anaesthetized and blood samples were collected for catalase (CAT), malondialdehyde (MDA), reduced glutathione (GSH) and superoxide dismutase (SOD) assays. The petroleum ether fraction showed the least antiradical activity (4057.5 ± 809.6 g/kg) while ethyl ether exhibited the highest activity (414.4 ± 92.0 g/kg). Myricetin rhamnoside also exhibited an excellent radical scavenging activity (314.1 ± 60.2) which was comparable to the positive control. Result from animal study showed that *C. albidum* exhibited significant (p < 0.05) differences on the activity of CAT, MDA and GSH. The plant could therefore be employed as sources of natural antioxidant boosters and for the treatment of some oxidative stress disorders in which free radicals are implicated.