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Anthelmintic Efficacy of Methanol Extract of *Momordica charantia* on Helminth of Nigerian Indigenous Chicken

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Abstract

The anthelmintic efficacy of methanol extracts from the whole plant of *Momordica charantia* and bark of *Adansonia digitata* were compared and examined on *Ascaridia galli* of indigenous chicken of Nigeria. Phytochemical screening conducted on both extracts revealed the presence of steroids, alkaloids, saponins and tannins with an inclusion of flavonoids in *M. charantia* only. Three concentration levels of the extracts (0.25, 0.50 and 1.00 mg ml^{-1}) and a control (0.00 mg ml^{-1}) were prepared and tested on the larvae at 1:1 v/v. The treated L3 were viewed under an optical microscope for 120 minutes. The numbers of the motile worms were recorded after every observation. *In vivo* test of the most potent plant extract from the *in vitro* assessment was performed. Faecal samples were collected from 100 infested indigenous birds to confirm the presence of eggs and L3 of helminths. Doses of 400, 200 and 100 mg kg^{-1} b.w. of the extract were used to treat the birds in Groups A-C. Groups D was the positive control (treated with Piperazine®) while birds in group E were left untreated as the negative control. Results from the *in vitro* tests presented in graphs revealed that 1.00 mg ml^{-1} of *M. charantia* rendered all L3 immobile after 60 minutes, making it the most effective of both extracts. 1.00 mg ml^{-1} of *A. digitata* achieved the same at 120 minutes. *M. charantia* was used in the *in vivo* test. After therapy, egg count was significantly higher ($p < 0.05$) in Group E while that of Group A was significantly lower ($p < 0.05$) than the other groups. In conclusion, the study shows that methanol extracts of both plants exhibited dose dependent anthelmintic activity in indigenous chickens and they are promising to be employed for the treatment of helminth infestation as an alternative to conventional anthelmintic chemotherapy by poultry farmers.

Keywords: *Adansonia digitata*, anthelmintic, *in vitro*, *in vivo*, indigenous chickens, *Momordica charantia*, phytochemical

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