Zoologie Innovante

Series 1

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CHEMOMETRIC CHARACTERIZATION OF BIOACTIVE COMPOUNDS OF PLECTRANTHUS AMBOINICUS LEAF EXTRACT COMPLIMENTING MOLLUSCICIDAL ACTIVITY

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Abstract

The present study was intended to delineate the molluscicidal property of aqueous extract of the plant *Plectranthus amboinicus* against the fresh water snail *Radix luteola.* Sample was extracted by simple decoction. Different concentrations of extract were added to petri dishes with the snail and their death rate was observed. Following this was optimization of the molluscicidal property of the extract at various temperature and pH. Histological analysis of subject exposed to leaf extract reveals that treatment with *Plectranthus amboinicus* extract altered the tissue level organization of the treated animal which includes formation of basal cell-basement membrane zone, vacuolation, muscular elongation, and formation of gaps and vacuoles also degradation of muscular cells and lose of integrity. The study proves that the aqueous extract of *Plectranthus amboinicus* is an effective molluscicide, it is eco friendly and causes no harm to the environment and is also easily available and easy to use.

Keywords: Molluscicide *Radix luteola, Plectranthus amboinicus,*

Introduction

Schistosomiasis is endemic in about 74 countries and more than 207 million people are infected worldwide, of which 85% of them live in Africa (WHO 2011).It is the second most prevalent disease in Africa after malaria. In Nigeria, 22 million people are infected, which include more than 16 million children (Otarigho Benson, 2012), In small children, *Fasciola hepatica* is one of the pathogenic worms developing resistance to most of the commercially available anthelmintic which became a severe problem nationwide.The vector snails are aquatic and act as an intermediate host for the development of the parasite to an infective free swimming larval stage, i.e. cercariae for schistosome or metacercariae for fasciola. There have been several synthetic chemical compounds and nanoparticles proven their Molluscicidal activities. However, it is also observed that these compounds are mostly toxic to the environment. In this juncture it is essential to develop suitable ethno botanical agents against this threat (Rajeswari, 2014). Biological control stands to be a better alternative to the chemical

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