ABSTRACT

It may be possible to use plant extracts to develop environmental friendly repellents foreffective insects control through screening of plants for repellent activity. Recently, the environmental friendly and biodegradable natural insecticides of plant origin have been receiving attention as an alternative green measure of control ofinsect vectors. Thermal expulsion and direct burning of some aromatic plants believedto have repellent effects on mosquitoes before sleeping continue to play a veryimportant role in household protection against mosquito vectors of dangerous diseasessuch as malaria, yellow fever and dengue fever and elephantiasis. It is for this reasonthatthis research was carried out in Tharaka to find out if *Cyperus articulutus* couldrepel mosquitoes and other effects such as treat malaria, stomach-ache and skin rushas claimed by the traditional medicine practitioners in Meru. The chemicalconstituents of the root tubers of *Cyperus articulatus*, from Tharaka were obtained bysolvent extraction and analyzed by GC/MS. The root tubers of *Cyperus articulatus*were collected and extracted with organic solvents (CH2Cl2, CH2Cl2/CH3OH [1:1], 5%H2O/CH3OH), The crude extract of 100% CH2Cl2 was subjected to a combination ofchromatographic techniques including column chromatography and preparative thinlayer chromatography for the separation of compounds; an exercise which provedfutile due to complexity of the mixture. GC- MS analysis carried at the University of Surrey (U.K.) in order to determine the structures of the compounds revealed a totalof 59compounds, of which 48 (82.76%) were terpenes; amongst the terpenes were 27sesquiterpenes(45.76%), 20 monoterpenes (33.90%) 1 triterpene (1.69%). There were11 non-terpenes (18.64 %). The major sesquiterpene identified was α cubenene andthemajormonoterpene was 5-Isopropenyl-2-methyl-7-oxabicyclo[4.1.0]heptan-2-ol.The crude extract was subjected to anti-bacterial tests using *Staphyloccocus aureus*,*Streptococcus pneumonae* and *Salmonella typhi* bacterial strains. The zones ofinhibition diameters were taken then averaged and positive activity against the threebacterial strains was seen with the 100% dichloromethane crude extract whichinhibited the growth of the micro-organisms with *S. aureus,* 1.5cm, *S. pneumonia,* 1.2