Abstract

Over the past two centuries, research into the chemical and biological properties of natural products has yielded novel and more effective therapeutic agents for treatment of many human ailments. There is, therefore, need to focusing on these bioactive metabolites as possible biological controls of agricultural pests.The present study was intended to find some remedial measures to some common problems challenging to man. Seven Kenyan Croton plants, C. alienus Pax, C. dichogamus Pax, C. megalocarpoides Friis Gilbert, C. megalocarpus Hutch., C. menyharthii Pax, C. pseudopulchellus Pax, and C. sylvaticus Hochst. were selected for this study because of their reputation in folklore medicine.Crude extracts of the leaves, stembark and rootbark of these plants were bioassayed for antibacterial, antifungal and nematicidal activities. Based on the preliminary antimicrobial activity test results, four plants were selected for isolation and chemical characterization of compounds from their organic extracts to the chemical state of purity. The pure compounds were also investigated for antimicrobial and nematicidal activities.Liquid vacuum chromatography (LVC), column chromatography (CC) and thin layer chromatography (TLC) were used for isolation and purification of bioactive principles. Spectroscopic measurements like: Ultra violet and infrared radiations (UV IR), mass spectrometer (MS), proton and carbon-13 nuclear magnetic resonance (1HNMR and 13CNMR) were done to facilitate structure elucidation and identification of isolated compounds.Four compounds, lupeol, stigmast-5-en-3-β-ol, crotepoxide and harwickiic acid have been identified from these species which have been found to possess different biological activities.