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Extended Abstract
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In organic Chemistry: 2018 - Isolation, structural elucidation, and bioactivity studies of leaf extract of Vernonia amygdalina - Muluye Melak Zenebe

Muluye Melak Zenebe
Faculty University of Gondar, Ethiopia

Vernonia amygdalina (VA) is a tropical African plant of the Asteraceae family and is occasionally cultivated for its medicinal uses, which include as a treatment for diarrhea, skin wounds, fever mastitis and warms infection. The aim of this study is to isolate and elucidate the structure of some of the chemical constituents from the leaf of Vernonia amygdalina and its bioactivities. Methanol extract of Vernonia amygdalina, after repeated chromatography led to the isolation of a different compound, one of this compound (MM-4) is partially characterized based on the spectral data (IR, 1H NMR, 13C NMR, and DEPT) and Extracts from Vernonia amygdalina have been shown to have antimicrobial activity. Key words: - Vernonia amygdalina, Asteraceae

Vernonia amygdalina (family of asteraceae) may be a valuable medicinal plant that's widespread in East and West Africa2. it's referred to as bitter leaf and should be used as active anti-cancer3, anti-bacteria, anti-malarial, and anti-parasitic agent4. This plant contains complex active components that are pharmacologically useful. The roots and therefore the leaves are utilized in ethnomedicine to treat fever, hiccups, kidney problems, and stomach discomfort5. The stem and root divested of the bark are used as chew-sticks in many West Africa countries like Cameroon, Ghana, and Nigeria. The leaves of Vernonia amygdalina (VA) are among the most widely consumed by leafy vegetables on Cameroonians such as weddings, baptisms, Christmas and birthdays. Pharmacological studies have also shown that leaf extracts have both hypoglycemic and hypolipidemic properties. Traditional medical practitioners, herbalists, and indigenous healers in West Africa recommend an aqueous AV for his patients.

Vernonia amygdalina, a member of the daisy family, may be a small shrub that grows in tropical Africa. V. amygdalina typically grows to a height of 2–5 m (6.6–16.4 ft). The leaves are elliptical and up to twenty cm (7.9 in) long. Its bark is rough.[1] V. amygdalina is usually called Congo Bololo in D. R. Congo, bitter leaf in English due to its bitter taste. African common names include grawa (Amharic), ewuro (Yoruba), etidot (Efik), onugbu (Igbo), ityuna (Tiv), oriwo (Edo), Awɔnwono (Akan), chusar-doki (Hausa), mululuza (Luganda), labwori (Acholi), olusia (Luo), ndoleh (Cameroon) and olubirizi (Lusoga

The Tongwe use cold concoctions of this plant as a treatment for malaria, intestinal parasites, diarrhea, and indigestion . for varied African ethnic groups, a concoction of this plant is additionally a prescribed treatment for malarial fever, schistosomiasis, amebic dysentery , and a number of other other intestinal parasites and stomach aches.

In pharmacolog, biological activity or pharmacological activity describes the beneficial or harmful effects of living on a drug. When a drug can be a complex chemical mixture, this activity is exerted by the active ingredient of the substance or the pharmacophore but is often modified by the opposite constituents. Among the various properties of chemical compounds, pharmacological / biological activity plays an important role because of its applications in medical applications. However, chemical compounds can have harmful and toxic effects that can prevent their use .

Activity is usually dosage-dependent. Further, it's common to possess effects starting from beneficial to adverse for one substance when going from low to high doses. Activity depends critically on fulfillment of the ADME criteria. To be an efficient drug, a compound not only must move against a target, but also possess the acceptable ADME (Absorption, Distribution, Metabolism, and Excretion) properties necessary to form it suitable to be used as a drug.

Structure elucidation of the bioactive constituent depends almost exclusively on the appliance of recent instrumental methods, particularly high-field NMR and

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MS. These powerful techniques, coupled in some cases with selective chemical manipulations, are usually capable solve the structures of most secondary metabolites up to 2 kDa relative molecular mass . X-ray crystallography is additionally a valuable tool if crystallization of the fabric are often induced, and in some cases, it's the sole method to unambiguously assign absolute configurations. Nowadays, the determination of the aminoalkanoic acid sequences of polypeptides or peptide-containing natural products up to 10–12 kDa may be a relatively straightforward task, requiring but 5 mg of a polypeptide. Additionally, MS techniques have developed to the stage where polypeptides containing unusual amino acids not recognized by conventional sequence techniques are often sequenced entirely by MS.

Muluye Melak Zenebe muluchem@gmail.com

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