**Antibacterial and phytochemical activities of South Benin plants on multidrug-resistant enteropathogens**

**Afousssatou Amadou3**\***, Victorien Dougnon2,3,, Esther Deguenon3, Jerrold Agbankpè3, Gildas Hounmanou3,Boris Lègba3, Alidah Aniambossou3, Edna Hounsa3, Kafayath Fabiyi3, Phénix Assogba3, Honoré Bankolé1, Jacques Dougnon3, Lamine Baba-Moussa2,3**

1Laboratoire de Recherche en Biologie Appliquée (LARBA), Ecole Polytechnique d’Abomey Calavi (EPAC), University of Abomey-Calavi, Benin, 2Laboratoire d’Hygiène, Assainissement, Toxicologie et de Santé Environnementale, ex-Laboratoire de Toxicologie et de Santé Environnementale (HeCOTHES), CentreInterfacultaire de Formation et de Recherche en Environnement pour le Développement Durable (CIFRED), University of Abomey-Calavi, Benin; 3Unité de Recherche en Microbiologie Appliquée et Pharmacologie des substances naturelles (URMAPha), Ecole Polytechnique d’Abomey-Calavi, Université d’Abomey-Calavi,

\***Auteur pour la correspondance:** AMADOU Afoussatou, Tél: (229) 97 73 64 46, E-mail: [afoussaa82@gmail.com](mailto:afoussaa82@gmail.com)

**Abstract**

As a result of the therapeutic failures and the rising cost of treating enteropathogenic infections, scientists are trying to find alternative care options. Hence, the emergence of medicinal plants, increasingly known in sub-Saharan Africa in the traditional pharmacopoeia for its many pharmacological activities.

The present study was initiated in general aim, to evaluate the biological and chemical activity of the aqueous and ethanoid extracts of some plants of southern Benin namely Cajanus cajan (leaves), Vernonia amygdalina (leaves) and Psidium guayava (leaves and roots ) on multi-resistant bacterial strains.

Fieldwork following an ethnobotanical survey to select efficient plants, followed by laboratory work through bacteriological and molecular biology tests, allowed the study of the efficacy of these various plants in the treatment of enteropathogens in vitro.

Thus, all the plants selected have presented interesting levels of flavonoids and polyphenols and are all nontoxic at a concentration of 100 mg / ml. The agar and liquid diffusion methods were used for the sensitivity test and the determination of the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC). The aqueous and ethanoid extracts of the plants used are antibacterial.

The lowest MICs and CMBs were obtained at a concentration of 25 mg.

The various extracts of selected plants have shown therapeutic efficacy to the various enteropathogenic strains tested and could therefore constitute substituents to antibiotics following transformations in improved traditional drugs.

Key words: ethnobotany investigation, enteropathogenic strains, aqueous extracts, ethanoic extracts, phenolic compounds.