

PHYTOCHEMICAL PROPERTIES OF UZIZA LEAVE (*PIPER GUINEENSE*)STEPHEN CHINWENDU¹; EJIKE, E. N.²; EJIKE, B.U²; OTI, W.¹ & NWACHUKWU, I.²Department of Chemistry, Abia State Polytechnic, Aba¹.Department of Biology/Microbiology, Abia State Polytechnic, Aba²**ABSTRACT**

Phytochemical composition of *Piper guineense* (Uziza leave) leaf was analyzed. The quantitative analysis of the leaf indicates the presence of alkaloids, tannins, saponins, flavonoids, hydrogen cyanides and phenols. The results show that *Piper guineense* contains alkaloids (0.86%), HCN (8.87%), saponins (1.87%), phenols (0.66%). From the research work, *Piper guineense* (Uziza leave) contains some considerable amount of anti-nutrients which have medicinal benefits and also serve as a good complement for food to its consumers.

Keywords: *Piper guineense*, phytochemical, anti-nutrients.

INTRODUCTION

In Nigeria a wide variety of plants abound which are of both medicinal and nutritional importance. Plants are being used as valuable source of food and medicine for prevention of illness and maintenance of human health. The importance of plants in medicine remains even of greater relevance with the current global shift to obtain drugs from plants sources as a result of which attention has been given to the medicinal value of herbal remedies for safety, efficacy and economy (Akindahunsi and Salawu, 2003). These medicinal plants have been known to contain chemical substance such as; Alkaloids are very important in medicine and constitute most of the valuable drugs. They have marked physiological effect on animals (Edeoga and Eriata, 2001) and show considerable pharmaceutical activity (Davis and Heywood, 1963). Tannins are useful in medicine because of their astringent properties. Tannins and alkaloids are known to have anti-herbivore defense function in plants (Harbone, 1998). Thus, the presence of tannins and alkaloids in medicinal plants could be serving as a deterrent to grazers (Edego and Eriata, 2011). Saponins are glycosides widely occurring in a variety of plants. They prevent disease invasion of plants by parasitic fungal (Bidwell, 1979). In medicine, it is used to some extent as an expectorant and emulsifying agent (Basu and Rastogi, 1967). Flavonoids are the commonest phenolic constituents having 15-compounds generally distributed throughout the plants kingdom (Harbone, 1988). Some flavonoids have antibacterial function with gram-positive species more sensitive to isoflavanones, than their negative counterpart. Phenols are synthesized via the shikimic acid pathway. Phenolic compounds are known to have anti-fungal and anti-microbial effects. The *Piper guineense* (Uziza leave) is the most pungent and flavourful of all other leafy vegetables and the fruits and leaves are used as spices for preparing soups for post-parturient women (Dewett, 2006).

Objective

- To investigate the phytochemical properties of *Piper guineense* (Uziza leave) plant at Osaa-Oke in Obingwa L.G.A, Aba, Abia State.

MATERIALS AND METHODS**Sample collection**

The fresh samples of the leaves of *Piper guineense* (Uziza leave) were collected from Osaa-Oke village in Obingwa L.G.A, Aba, Abia State. The plants were identified and authenticated by a taxonomist, Microbiology section, Abia State Polytechnic, Aba.

Sample preparation

The leaves of the plants were separately detached from the stem and sorted by removing extraneous materials and cleaned by washing with deionized water and sun dried by constant exposing of leaves to sunlight for 6 days and the dried samples were ground into fine powder with an electric blender.

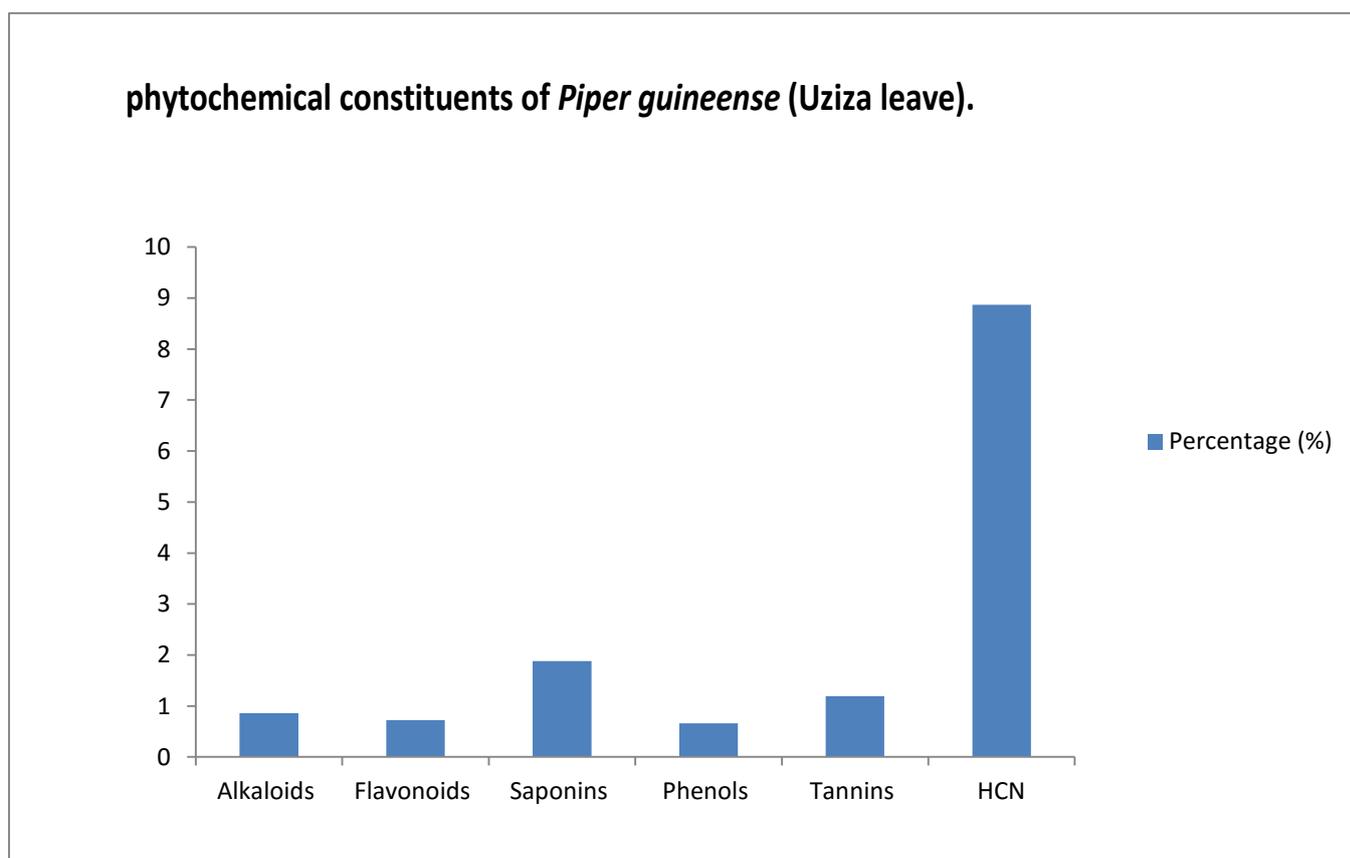
PHYTOCHEMICAL ANALYSIS

The percentage compositions of saponins, tannins, alkaloids, flavonoids were determined according to the methods described by (Harbone, 1973) and Trease and Evans (1989). The amount of total phenols in the samples was determined using soxhlet extraction method (Harbone, 1973).

RESULTS AND DISCUSSION

Table 1 shows the phytochemical constituents of *Piper guineense* (Uziza leave).

Parameters	Percentage (%)
Alkaloids	0.86
Flavonoids	0.72
Saponins	1.88
Phenols	0.66
Tannins	1.19
HCN	8.87



DISCUSSION

The quantitative estimate of the percentage crude chemical constituents in *Piper guineense* (Uziza leave) studied is summarized in Table & Fig 1. The results show that the *Piper guineense* (Uziza leave) are rich in saponins (1.88%), flavonoids (0.72%), phenols (0.66%) and Tannins (1.19%), alkaloids (0.86%). The presence of saponins supports the opinion of (Ijeh *et al.*, 2003) who said that there is average presence of saponins. Saponins are sugar derivatives may be steroidal or triterpenoids. Steroidal nucleus of glycosides has been confirmed in the leaves of *Piper guineense* (Uziza leave). This can attributed to the fact why it is an ingredient of a medicine for hookworm (Haedi, 1964). Saponins prevent disease invasion of plants by parasitic fungi and has shown to affect body and liver weight, urine, plasma, fecal output and liver cholesterol concentration. The presence of tannins are useful in medicine because of their astringent properties (Harbone, 1988). Thus, the presence of tannins and alkaloids in medicinal plants could be serving as a deterrent to grazers (Edeoga and Eriata, 2001). The flavours are related to flavonoids and they promote particular tastes to prepared foods, isoflavanones, isoflavans, isoflavanones are extremely fungal pathogens (Dakoro, 1995). They act as allelochemicals widely used in insecticides and in treating certain physiological disorders and disease control.

CONCLUSION

The phytochemical analysis of *Piper guineense* (Uziza leave) serves as a good complement for food and also contains some considerable amount of anti-nutrient alkaloids, tannins, spaoins which could also have some health benefit to its consumers, and also help to reduce the intake of starchy foods, enhances nourishment and protection, prevent constipation. Thus it is also noticed that *Piper guineense* (Uziza leave) is cheap vegetables that can help in our nutritive values.

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