

Phytochemical Compositions of Dry and Fresh Samples Of *Anthocleista vogelli*

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Abstract: The qualitative and quantitative phytochemical analyses of *anthocleista vogelli* (cabbage tree) which are commonly used as medicinal plant in Nigeria were carried out on both dry and fresh samples. The results revealed the presence of bioactive constituents comprising alkaloids ($0.72 \pm 0.14\mu\text{g/g}$ and $0.62 \pm 0.07\mu\text{g/g}$) Saponins ($1.10 \pm 0.03\mu\text{g/g}$ and $0.99\mu\text{g/g} \pm 0.01\mu\text{g/g}$) Flavonoids ($0.71 \pm 0.13\mu\text{g/g}$ and $0.04 \pm 0.02\mu\text{g/g}$), Tannins ($0.83 \pm 0.24\%$ and $0.37 \pm 0.20\%$) for both dry and fresh samples respectively. This indicated that *anthocleista vogelli* leaf is a good anti-nutrient and as well explain the role of the plant in ethnomedicinal practice in Nigeria.

Keywords: *Anthocleista vogelli*, bioactive compounds, quantitative, qualitative, phytochemicals.

I. Introduction

Anthocleista vogelli is a medicinal plant that is used to treat diseases and swelling in the body. *Anthocleista vogelli* belongs to the family of *Gentianaceae* an erect, cylindrical tube of about 20m tall (Eram, 2009). It is reproduced from its fruit and seeds. *Anthocleista vogelli* flowers from October to February and from March to May in Nigeria; it fruits from November to March. *Anthocleista vogelli* occurs in moist localities, in swamps, river banks, rainforest, from sea-level up to 1500m attitudes (Karam et al., 2005). In Nigeria the bark and seed are used as a strong purgative and diuretic. Also, used in treatment of constipation, regulate menstrual cycle, leprosy, oedema and scrotal elephantiasis (Hasler, 2009). *Anthocleista vogelli* contains secologanic acid, vogeloside, and sweroside. The stem bark contains the alkaloid fagaramide (Chanda, 2007). Tests with aqueous, hexane, acetone and methanol extracts of the stem bark in rats showed potent anti-ulcer properties, which could explain the traditional use in the treatment of stomach-ache (Chitta, 2013).

This study was designed to investigate the phytochemical composition of *Anthocleista vogelli* leaves in dry and fresh samples.

II. Materials And Methods

The leaves of *Anthocleista vogelli* were collected from Abakaliki near Presco Campus in Ebonyi State, Nigeria. The leaves of *Anthocleista vogelli* were identified by a taxonomist Prof. Onyekwelu in the Department of Applied Biology Ebonyi State University, Abakaliki, Nigeria. The leaves were destalked, washed and dried at room temperature. The dried and fresh leaves were pulverized with electric blender. The pulverized samples were used for analysis.

Qualitative and Quantitative Phytochemical Screening of *Anthocleista Vogelli*.

Phytochemical screening of the plant was done using (AOAC, 1990).

III. Results And Discussion

Table 1 Qualitative Phytochemical Data of *Anthocleista vogelli* Leaves

Phytochemicals	Leaves
Alkaloids	+ve
Saponins	+ve
Tannins	+ve
Flavonoids	+ve

Table 2 Quantitative Phytochemical Data of *Anthocleista vogelli* Leaves Expressed as mg/100g dry and fresh samples

Phytochemicals	Dry	Fresh
Alkaloids	0.72 ± 0.14	0.62 ± 0.07
Saponins	1.10 ± 0.03	0.99 ± 0.01
Tannins	0.83 ± 0.24	0.37 ± 0.20
Flavonoids	0.71 ± 0.13	0.04 ± 0.02

Results are presented as mean \pm standard deviation of the triplicates determination of both dry and fresh samples.

Table 1: Shows the qualitative phytochemicals of *Anthocleista vogelli*. The results show the presence of Alkaloids, Saponins, Tannins and Flavonoids. The results of quantitative phytochemical constituents of *Anthocleista vogelli* is shown in table 2. High quantity of Saponins and tannins were found on *Anthocleista vogelli*.

IV. Discussion

A phytochemical analysis is very vital in the evaluation of some active biological compound of some medicinal plants. The qualitative and quantitative analyses of *Anthocleista vogelli* were carried out in both dry and fresh samples. Alkaloids, Saponins, Tannins and Flavonoids were revealed to be present in *Anthocleista vogelli* (table 1 and 2). This indicates it's possible medicinal values (Ojezele, 2013). This high Saponins content of *Anthocleista vogelli* shows that the extract from this plant could be used to stop bleeding and as a result used in treating wounds (Okwu, 2004). Some of the properties of Saponins include hemolytic activity, cholesterol binding properties and bitterness (Okwu 2004). The presence of flavonoids in the plant extract may have a link with anti oxidant properties (Okwu, 2006). As antioxidants, Flavonoids from this plant provide anti-inflammatory activity (Okwu, 2004). And this justifies the reason why *Anthocleista vogelli* is used for the treatment of wounds, swelling and ulcer in herbal medicine. Tannins with astringent properties hasten the healing of wound and swellings (Aghoha, 1974). The level of Alkaloids in the plant justifies it's use as a powerful pain reliever (Stray, 1998).

This study has provided some biological basis for the ethnomedical use of extract from *Anthocleista vogelli* in the treatment and prevention of infections.

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