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 ± 0.14µg/g and 0.62 ± 0.07µg/g) Saponins (1.10 ± 0.03µg/g and 0.99µg/g ± 0.01µg/g) Flavonoids (0.71 ± 0.13µg/g and 0.04 ± 0.02µg/g), Tannins (0.83 ± 0.24% and 0.37± 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 enthnomedicinal 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 it’s 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

<table>
<thead>
<tr>
<th>Phytochemicals</th>
<th>Leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkaloids</td>
<td>+ve</td>
</tr>
<tr>
<td>Saponins</td>
<td>+ve</td>
</tr>
<tr>
<td>Tannins</td>
<td>+ve</td>
</tr>
<tr>
<td>Flavonoids</td>
<td>+ve</td>
</tr>
</tbody>
</table>

Table 2 Quantitative Phytochemical Data of _Anthocleista vogelli_ Leaves Expressed as mg/100g dry and fresh samples

<table>
<thead>
<tr>
<th>Phytochemicals</th>
<th>Dry</th>
<th>Fresh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkaloids</td>
<td>0.72±0.14</td>
<td>0.62±0.07</td>
</tr>
<tr>
<td>Saponins</td>
<td>1.10±0.03</td>
<td>0.99±0.01</td>
</tr>
<tr>
<td>Tannins</td>
<td>0.83±0.24</td>
<td>0.37±0.20</td>
</tr>
<tr>
<td>Flavonoids</td>
<td>0.71±0.13</td>
<td>0.04±0.02</td>
</tr>
</tbody>
</table>
Results are presented as mean ± 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.

References