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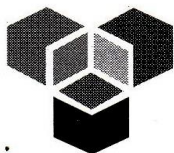


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Ethnic Usage of Mistletoes in Parts of Akwa Ibom State, Nigeria

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ABSTRACT

An investigation of ethnic usage of mistletoes was carried out in 22 Local Government Areas of Akwa Ibom State. A total of 32 respondents were used. They included herbalists, Traditional Birth Attendants (TBAs), farmers, businessmen and teachers. The investigation revealed that in all cases, mistletoe leaves were used in herbal preparations, while the fruits were not used. These herbal preparations were useful in the cure of hypertension, malaria and internal heat. They were also used for treating boils and burns, in the treatment of chest pain and as a cure for epilepsy in children. A total of 6 mistletoe species were identified as commonly used in the formulation of these herbal cures. They include; *Agelanthus bruneus* (Engl.) Tiegh; *Globimetula cupulata*(DC.) Van Tiegh.; *Phragmanthera incana* (Schum) Balle; *Phragmanthera sp.*; *P. talbotiorum* (Schum.) Balle; *Tapinanthus globiferus* (A. Rich.) Van Tiegh. Details of their medicinal uses, mode of preparation and administration as well as the different ailments they cure are documented. A further investigation into the efficacy of these claims is recommended.

Keywords: Ethnic, usage, mistletoes.

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INTRODUCTION

Mistletoes are hemi-parasitic plants that grow on a variety of hosts which are mostly trees. They have leaves that oftentimes tend to resemble that of the host plant. Mistletoes as a result can manufacture their own food. They however depend on their host plants for water and mineral salts. A heavy infestation of mistletoes may reduce the growth of the hosts or lead to their death. According to [12], mistletoes can become so abundant on a tree that most of the foliage is of the parasite and not the host.

Mistletoes have been classified as a type of biological response modifier (a substance that stimulates the body's response to infection and disease) according to [13]. [8] in their work, observed that mistletoes have been used in several cases such as swellings or tumours, epilepsy, diseases of spleen and liver, labour pains, weakness of the heart and oedema, eczema, ulcers of the feet, burns and wounds. Recent scientific research has confirmed that mistletoe extracts may support the immune system by increasing the number and activity of various types of white blood cell among other things [3].

Several people are still dependent on native herbal cures particularly in rural areas. In Akwa Ibom State, the use of mistletoes in traditional medical practice has become increasingly popular. There have been claims of the efficacy of herbal preparations with mistletoes in curing different kinds of illnesses. In an era marked by massive destruction of biodiversity the only way the mistletoes are conserved is the fact that many grow on economic trees which may not be quickly cut down because of their economic value.

Even then the rate of consumption is putting a threat on the existence of these plants that have high potential value.

Little is known about African mistletoes and their uses, however much has been documented about American and European Mistletoes [2, 14, 4, 5]. Akwa Ibom State is found in the rainforest belt of Nigeria and some documentation of these plants was made by [9]. This work attempts a more detailed documentation of the different types of mistletoes used by the people of Akwa Ibom State, their hosts, how they use them and for what purpose.

MATERIALS AND METHOD

A structured questionnaire was used for the survey in a total of 22 Local Government areas out of the 31 that constitutes Akwa Ibom State, Nigeria. Respondents were randomly selected in each of the Local Government Areas visited and they were interviewed using the questionnaire as a guide. Those selected were those who had some prior Knowledge of mistletoes. Collections of the mistletoe were made wherever possible and these were transported to the Botany Laboratory, University of Uyo, for identification and processing for storage in the herbarium. Those collections that were incomplete had to be discarded since their identification could not be authenticated.

Area of Study

Akwa Ibom State is located in the South of South Eastern Nigeria and is in the rainforest belt of Nigeria. It lies between latitudes 4°32'N and 5°33'N North, and Longitudes 7°25' and 8°25' East. It has a total of 31 Local Government Areas and a population of about 2.3 million people.

Table-1: Mistletoe species, their host plants and the number of Local Government Areas (LGA) in Akwa Ibom State they were found.

Mistletoe	Host	Number of LGAs
<i>Agelanthus bruneus</i> (Engl) Van Tiegh	<i>Theobroma cacao</i>	1
	<i>Chrysophyllum albidum</i>	1
	<i>Dacryodes edulis</i>	4
	<i>Psidium guajava</i>	1
<i>Globimetula cupulata</i>	<i>Citrus sinensis</i>	1
<i>Phragmanthera incana</i> (Schum.) Balle	<i>Cola nitida</i>	3
	<i>Citrus sp.</i>	4
	<i>Dacryodes edulis</i>	1
	<i>Pentaclethra macrophylla</i>	1
<i>Phragmanthera sp.</i>	<i>Dennettia tripetala</i>	2
<i>P. talbotiorum</i> (Schum.) Balle	<i>D. edulis</i>	1
	<i>Croton zambesicus</i>	4
	<i>Persea americana</i>	4
	<i>Garcinia kola</i>	1
<i>Tapinanthus globiferus</i> (A. Rich.) Tiegh.	<i>Citrus sp.</i>	2
	<i>Croton zambesicus</i>	1
	<i>Dacryodes edulis</i>	3
	<i>Pentaclethra macrophylla</i>	1

Table -2: Ailments, Mistletoe(s) used, Mode of preparation and dosage

Aliments	Mistletoes	Mode of preparation and dosage
Hypertension	<i>Agelanthus bruneus</i>	Leaves are dried 2-3 days. Dried. Leaves are boiled and taken as tea (concoction). Half a tumbler
	<i>Phragmanthera incana</i>	
	<i>P. talbotiorum</i>	
	<i>Tapinanthus globiferus</i>	
Malaria	<i>A. Bruneus</i>	Tinctures of the leaves and stem are boiled in dry gin for 30 minutes. A shot three times daily.
	<i>P. Incana</i>	
	<i>P.talbotiorum</i>	
	<i>Tapinanthus globiferus</i>	
Internal heat	<i>A.bruneus</i>	The infusion is taken as enema with cold water
	<i>P. Incana</i>	
	<i>P. talbotiorum</i>	
Boils and Burns	<i>P. talbotiorum</i>	Stem and leaves are ground and applied as poultices in the affected area.
	<i>T. globiferus</i>	
Chest pains	<i>P. incana</i>	Fresh leaves of the plant are ground, then squeezed into a cup and administered.
Cough in children	<i>A. bruneus</i>	The leaf extract is obtained by squeezing, a teaspoonful is taken three times daily
	<i>P. incana</i>	
	<i>P. talbotiorum</i>	
	<i>T. globiferus</i>	
Diabetes	<i>T. globiferus</i>	The leaves are mixed with the leaves of <i>Vernonia amygdalina</i> and ground. A cup of the mixed juice is given.
	<i>P. incana</i>	
Convulsion and epilepsy in children	<i>A. bruneus</i>	The ground leaves are mixed with local edible clay (ndom) and rubbed all over the body Until it finishes.
	<i>P. incana</i>	
	<i>P. talbotiorum</i>	
Insomnia, heart disease and asthma	<i>Globimetula cupulata</i>	Boil or soak in water and taken two tablespoons three times daily.
	<i>Tapinanthus globiferus</i>	
Fertility and Promotion of menstrual flow	<i>P. incana</i>	Boil or soak the leaves in water or soak in alcohol Taken one tablespoon, three times daily
Hot Flushes	<i>Phragmanthera sp.</i>	Boiled or soaked in water. 2 shots taken once a day
Mental Disease	<i>Phragmanthera sp.</i>	Soak in alcohol and take a shot once a day

RESULTS AND DISCUSSION

A total of 32 men and women in 23 villages were interviewed. They included 10 (30%) herbalists, 10 (30%) traditional birth attendants, 6 (20%) farmers, 4(15%) business men and 3(5%) teachers. The age of respondents was between 30 and 60.5 years and 60% of the respondents were male while 40% were female. All the respondents agreed that all mistletoes are referred to as "ndoro-enyong" in the native language with slight dialectical differences depending on the tribe. They all agreed as well that all mistletoes are shrub-like, are parasitic, they are not edible, that collection is by cutting it from the host and that the fruit had no known usage in compounding the herbal drugs. 95% of the respondents said the plants can be collected any time while 5% said they must be collected in the morning.

The different species of mistletoes commonly encountered in the investigation are as listed in Table 1. The 6 species were found on different hosts with *Agelanthus bruneus*, *Phragmanthera incana*, *P. talbotiorum* and *Tapinanthus globiferus* being found on 4 different hosts each. *A. Bruneus* occurred more on *Dacryodes edulis*, *P. incana* on Citrus spp., *Tapinanthus globiferus* on *Pentaclethra macrophylla* while *P. talbotiorum* occurred more frequently on *Persea americana* or *Croton zambesicus* than on other hosts. All the hosts encountered in this work were trees of economic value. This is corroborated by work done by [7]. Their large girths sometimes made it difficult to climb and collect the mistletoe samples. [11] in his work observed that the level of mistletoe infestation depended on girth size. This according to him had wider crowns which encouraged a high population of birds.

In Table 2, the ailments most Akwa Ibom State indigenes use mistletoes as herbal cure for include , hypertension (65%), malaria (25%) , internal heat (29%), boils and burns (15%), chest pain(10%), cough in children(3%), diabetes(6%), convulsion and epilepsy in children(10%), insomnia(6%), heart disease and asthma(6%), fertility and promotion of menstrual flow (3%), hot flushes and mental disease(6%). *P. incana* featured in the cure of 8 out of 12 ailments listed. [11] in his work also stated that mistletoes have been used for centuries for conditions so diverse as high blood pressure, epilepsy, exhaustion, anxiety, arthritis, vertigo and degenerative inflammation of the joints.

In most of the cases, the leaves of the plant were boiled or soaked in water before administration. According to [6], herbs are usually made into preparations in order to ease their administration, increase the concentration of active ingredients and possibly aid in the preservation. It was only in the cure for malaria and mental disease that the leaves were soaked in alcohol. In some other cases, the leaves were soaked in water and used as described in Table 2. For internal heat, the infusion is used in administering enema. In convulsion, it is mixed with local clay/chalk and rubbed on the body. In 3 cases the mistletoe leaves are not soaked but crushed fresh and used as poultice on boils and burns, in chest pains and in cough in children according to the dosage. [1] in their work, stated that dependence on medicine derived from indigenous plants is predominant in developing countries.

Apart from medicinal uses of mistletoes, 10% of the respondents stated the use of the stem as firewood. 25% of the respondents associated the plants with spiritual powers stating that when the leaves are boiled and the water used in bathing, it drives away evil spirits, witchcraft and bad luck. Referring to the Native American Indians, [10] observed that spiritual beliefs also played a part in healing rituals which often involved the use of corn. According to 12% of them, the plants can also be used as fodder for goats and pigs.

CONCLUSION

Akwa Ibom State indigenes in Nigeria refer to all mistletoes as 'ndoro-enyong', and use them mainly as herbal drugs. Both literate and illiterate members of the society use the herbal drug mostly for hypertension. Only 6 different species of mistletoes were identified as being commonly used for the herbal drugs. 4 out of the 6 species had multiple hosts all of which are economic trees. They however occurred more frequently on particular hosts. *Phragmanthera incana* was the most frequently used mistletoe since it was reportedly used to address 8 out of the 12 ailments listed in this work (Table 2). More investigation needs to be done to know if this was due to availability or due to efficacy.

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