

AN ETHNOBOTANICAL AND PHYTOCHEMICAL STUDY OF
THE MEDICINAL PLANTS OF MAKUENI DISTRICT, KENYA."

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ABSTRACT

Of all the uses of African plants, the aspect of medical use has probably attracted the most attention and has also been the most complex and varied. Nearly 70,000 species of higher plants have been used for medical purposes world wide.

Medicinal plants form the key component to traditional medicine which remains the major source of health care for over 70% of the Kenyan population. Over 90% of the population use medicinal plants at one time or another.

The increasing need to develop drugs from indigenous medicinal plants after their approval as potential sources of therapeutics justifies the current area of research.

The study which was carried out in Makueni district, a semi-arid region in the South Eastern part of Kenya reveals 208 plant species in 157 genera and 60 families of ethnomedical interest. Interviews were conducted on open-ended technique in at least 14 divisions of the 7,440 km² district. A preference ranking system was used to identify the most authentic and articulate herbalists in every administrative division visited.

Plant collections were made through out the field study and assembled at Nairobi University herbarium (NAI) for confirmation and identification. Those which could not be identified were done at the East African herbarium (EA) where some voucher specimens have been deposited.

88 diseases and conditions in 24 major categories have been documented. The most common category of diseases affecting the population in the study area is skin conditions followed by diseases of the head and gastro-intestinal conditions. Chest complaints, gynaecological and cardiovascular conditions rank fourth. Featuring also is livestock and poultry diseases.

The most prevalent diseases contributing to the high morbidity levels in the area are Malaria, Oedema, Diarrhoea, Stomachache, Gonorrhoea (Urithritis) and Rheumatism/Arthritis in that order.

The plant families with the highest number of remedies are Leguminosae (25), Compositae (17), Euphorbiaceae (17) and Labiatae (15). The leaves were the most used parts of the herbal remedies; then the bark (stem), roots, whole plant and seeds, fruits and/or flowers respectively. Most herbal remedies are prepared by crushing or pounding. They are then boiled or soaked in water to form decoctions or infusions before being dispensed. Alternatively, they are dried in sun, burnt, chewed or roasted depending on the conditions for which they are used as a remedy.

The concept of cause of diseases in human has been briefly explained and possible implications of doctrine of signatures or similitudes in the conventional medicine mentioned. An attempt to determine the conservation status or threat categories of 10 herbal remedies has been done. *Ex-situ* conservation of herbal remedies realized in the home gardens of the herbalists is also highlighted.

A preliminary phytochemical analysis to test presence or absence of secondary components in 13 plant species was carried out. Results show that sterols are the most abundant group of compounds in the 13 species screened. A general characteristic is the absence of Anthraquinones, Triterpenes and Cardiac glycosides.

A two-way classified log linear model was used to evaluate the likely efficacy of each of the remedy screened. The likely efficacy was expressed in terms of quantitative interaction effects (τ_{ij}) as a measure of consensus or degree of confirmation whose values are arranged in a descending order. Some final conclusions and recommendations on the current area of research and its pertinence to development of science have been put down.