

Plants from Kori Region in Sudan North

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Abstract

The study gave an idea about the vegetation in Kori region, which is located in the northern state in northern Sudan. The study monitored 102 plant samples belonging to 37 different families. The study reflected the type of vegetation in the area, as the samples varied between trees, shrubs, and herbs. The study also gave a general idea of the region's environment, as well as the gradient in climatic and natural factors and their impact on vegetation. The study also clarified the most important crops and main crafts of the people of the region. As the results included 102 plant samples belonging to; 88 species, 73 genera, 37 families. 78 of these samples belong to dicotyledonous plants, and the rest of the samples (24 samples) belong to monocotyledonous plants. In terms of plant habitat, the samples varied between trees, shrubs, and herbs. Where about 44 trees, 48 herbs and 10 shrubs were found. The family with the largest representation in plant specimens was the family Fabaceae (18 specimens).

Keywords: Kori - Northern State - northern sudan- sudan- vegetation cover

Introduction

Phytogeography is a branch of biological geography, concerned with the geographical distribution of plant species, their areas of cultivation and spread, and their impact on the surface of the Earth (Alshihabe, 2003) [1]. Muhammad's study in 2006 reflected the human relationship with the environment and its impact in several aspects, such as grazing, agriculture, and the natural environment. Sudan's native and aliens' plants are documented in a book "The Plants of Sudan and South Sudan" (Darbyshire *et al.* 2015) [5]. Ali and Ahmed study 2020 [4] of vegetation in the Jabal Awliya area, south of Khartoum, resulted in the documentation of 117 plant species belonging to 100 genera and 45 plant families.

About Kori

Kori is located between latitude 18 north and longitude 32 east. The village of Kori is located on the eastern bank of the Nile as shown in Fig. 1. It is bordered to the north by the Mora and Al-Haw area in the regions of Al-Rikabiya and Al-Barsa. It is about 46 kilometers away from Karima from the nearest transportation route, and from Omdurman by approximately 346 kilometers. The village of Kori extends on the eastern bank of the Nile for a length of approximately 6 km. The village of Kori consists of a number of among the areas, including a Rihlat Saga, Ala Al-Manqola and Al-Nasrat. Karima locality belongs to Merowe Governorate in the Northern State

Population

The population of the Kori area is estimated at about 8-9 thousand people, after many young people and some families emigrated from the region. The people of Kori have strong kinship and in-law ties, as well as the surrounding areas

Main character

The people of Kori work in agriculture and trade in the region. Among the most important crops grown in winter are Egyptian beans (*Vicia faba*), then wheat (*Triticum*

aestivum), which are the two main crops, in addition to the palm crop known as dates (*Phoenix dactylifera* L.), which is harvested in December every year and is an estimated wealth alongside the previous two crops. In addition to these crops, we also find corn (*Zea mays*) in the summer and vegetables that the people of the region need, as well as Fodder such as alfalfa (*Medicago sativa*) and others as food for the animals of the area.

Natural factors affecting vegetation

Climate in Sudan ranged from arid in the north to tropical wet and dry in the southwest (Metz 1991) [8]. The study area is affected by several environmental factors, the most important of which is the type of soil and its water content, in addition to climatic factors that include temperature, relative humidity, rain, wind, and light. A relationship results from the interaction of these factors with each other to give the current vegetation cover.

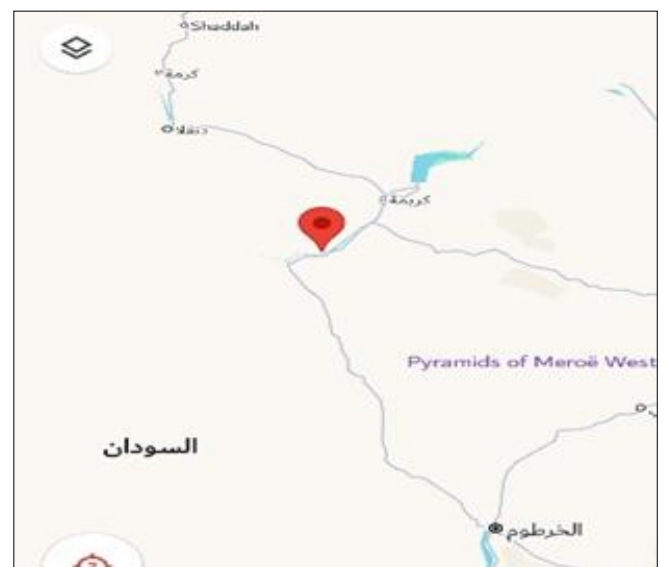


Fig 1: Map showing the location of Kori

Method

In a field study of the Kori region, located in the northern state near the city of Moree, a number of different plant specimens belonging to grasses, herbs, or trees and shrubs were identified. These samples were monitored, the local and scientific names were recorded, and each family to which these plants belong was explained alphabetically. The samples were identified through direct examination, communication with local residents, data collection, and comparison with accredited sources. Results supported by

some photos for the region in Fig. 3.

Results and Discussion

Through the field survey of Kori region, the study monitored the scientific and local names of the specimens in the region, where 102 plant specimens were identified, with an explanation of each family to which they belong, as in the following table.

Table for plant list of Kori region

Plant habitat	Family	Plant taxonomy	Scientific name	Local name Var.	No.
Herb	Alliaceae	Monocots	<i>Allium cepa</i>	Albasal	1
Herb	Alliaceae	Monocots	<i>Allium sativum</i>	Altoom	2
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Baladia, kitshiner	3
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Bizra	4
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Galb Altoor	5
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Alsinaria	6
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Ganoob Afrigia	7
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Abosamaka	8
Tree	Anacardiaceae	Dicots	<i>Mangifera indica</i>	Manga, Altofaha	9
Herb	Apiaceae	Dicots	<i>Coriandrum sativum</i>	Alkasbara	10
Herb	Apiaceae	Dicots	<i>Daucus carota</i>	Algazar	11
Herb	Apiaceae	Dicot	<i>Anethum graveolens</i>	Alshabat	12
Shrub	Apocynaceae	Dicots	<i>Calotropis procera</i>	Aloshar	13
Herb	Apocynaceae	Monocots	<i>Solenostemma argel</i>	Alhargal	14
Herb	Araliaceae	Dicots	<i>Hedera helix</i>	Allablab, Alaweer	15
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Gawa Balah	16
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Barakawy Balah	17
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Gondeel Balah	18
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Wad lagai Balah	19
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Alkorsh Balah	20
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Agwa Balah	21
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Alborhe Balah	22
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Hasaya Balah	23
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	kolma Balah	24
Tree	Arecaceae (Palmae)	Monocots	<i>Phoenix dactylifera</i> L.	Tamoda Balah	25
Tree	Arecaceae (Palmae)	Monocots	<i>Hyphaena thebaica</i>	Al Doom	26
Herb	Asteraceae	Dicot	<i>Echinops</i> sp.	Alhaskaneet	27
Shrub	Asphodelaceae	Diocot	<i>Aloe vera</i>	Alovera, Sabar	28
Herb	Asteraceae	Dicot	<i>Ambrosia</i> sp.	Aldamseesa	29
Herb	Asteraceae	Dicots	<i>Helianthus annuus</i>	Dawar alshams	30
Tree	Balanitaceae	Dicots	<i>Balanites</i> sp.	Allalooob, Higlig	31
Herb	Brassicaceae	Dicots	<i>Eruca sativa</i>	Algirgir	32
Herb	Brassicaceae	Dicots	<i>Raphanus sativus</i>	Alfigil	33
Shrub	Cactaceae	Diocot	<i>Cactus</i> sp.	Alsabar	34
Shrub	Capparidaceae	Dicots	<i>Capparis decidua</i>	Altondob	35
Shrub	Combretaceae	Dicots	<i>Conocarpus lancifolius</i>	Aldamas	36
Shrub	Crassulaceae	Diocot	<i>Kalanchoe</i> sp.	Om Takasho	37
Herb	Cucurbitaceae	Dicots	<i>Cucurbita</i> sp.	Algaraa	38
Herb	Cucurbitaceae	Dicots	<i>Citrullus</i> sp.	Alhanzal	39
Herb	Cucurbitaceae	Dicots	<i>Citrullus</i> sp.	Algorom, Hanzal hilo	40
Herb	Cucurbitaceae	Dicots	<i>Citrullus lanatus</i>	Albatekh	41
Herb	Cucurbitaceae	Dicots	<i>Luffa</i> sp.	Alleef	42
Herb	Cucurbitaceae	Dicots	<i>Cucumis melo</i>	Alshamam	43
Herb	Cucurbitaceae	Monocots	<i>Cucumis melo flexuosus</i>	Alagoor	44
Herb	Cyperaceae	Monocots	<i>Cyperus</i> sp.	Alsidaa	45
Tree	Fabaceae	Dicots	<i>Ceratonia siliqua</i>	Al Kharoob	46
Tree	Fabaceae	Dicots	<i>Prosopis juliflora</i>	Almeskeat	47
Herb	Fabaceae	Dicots	<i>Vicia faba</i>	Alfool Almasry	48
Herb	Fabaceae	Dicots	<i>Trigonella foenum-graecum</i>	Alhilba	49
Shrub	Fabaceae	Dicots	<i>Cajanus cajan</i>	Aladasia	50
Tree	Fabaceae	Dicots	<i>Tamarindus indica</i>	Altamr Hindi	51
Herb	Fabaceae	Dicots	<i>Vigna unguiculata</i>	Allobia	52
Tree	Fabaceae	Dicots	<i>Sesbania sesban</i>	Sesaban	53
Tree	Fabaceae	Dicots	<i>Vachellia mellifera</i>	Alkitir	54
Tree	Fabaceae	Dicots	<i>Vachellia nubica</i>	Allaoot	55

Tree	Fabaceae	Dicot	<i>Vachellia nilotica</i>	Alquarad	56
Tree	Fabaceae	Dicot	<i>Tamarindus sp.</i>	Alaradeab	57
Herb	Fabaceae	Dicot	<i>Medicago sativa</i>	Alalfa alfa, alberseem alhegaze	58
Tree	Fabaceae	Dicot	<i>Acacia ehrenbergiana</i>	Alsalam	59
Tree	Fabaceae	Dicot	<i>Vachellia tortilis</i>	Altaleh	60
Tree	Fabaceae	Dicot	<i>Senna alexandrina</i>	Alsanamaka	61
Tree	Fabaceae	Dicots	<i>Albizia lebbek</i>	Dign Albasha	62
Herb	Fabaceae	Dicots	<i>Cicer arietinum</i>	Alkabkabe, homos	
Herb	Lamiaceae	Dicot	<i>Ocimum basilicum</i>	Alrayhan	63
Herb	Lamiaceae	Dicots	<i>Mentha pamiroalaica</i>	Alnaanaa	64
Shrub	Lythraceae	Dicots	<i>Lawsonia inermis L</i>	Alhenna	65
Shrub	Malvaceae	Dicots	<i>Hibiscus sabdariffa</i>	Alkarkade	66
Herb	Malvaceae	Dicots	<i>Corchorus olitorius</i>	Almolokhia	67
Herb	Malvaceae	Dicots	<i>Abelmoschus esculentus</i>	Albamia	68
Tree	Meliaceae	Dicots	<i>Azadirachta indica</i>	Alneem	69
Tree	Moringaceae	Dicots	<i>Moringa olifera</i>	Alban	70
Shrub	Musaceae	Monocot	<i>Musa sp.</i>	Almooz	71
Tree	Myrtaceae	Dicots	<i>Psidium guajava</i>	Algawafa	72
Tree	Nyctaginaceae	Dicots	<i>Bougainvillea sp.</i>	Algahanameya	73
Herb	Orobanchaceae	Dicot	<i>Striga sp.</i>	Albooda	74
Herb	Orobanchaceae	Dicot	<i>Cistanche Tubulosa</i>	Alamayog	75
Herb	Orobanchaceae	Dicot	<i>Striga hermonthica</i>	Aladar	76
Herb	Poaceae	Monocots	<i>Cynodon dactylon</i>	Alnageela	77
Herb	Poaceae	Monocots	<i>Triticum aestivum</i>	Algameh	78
Herb	Poaceae	Monocots	<i>Sorghum bicolor</i>	Alzora Alrafeea	79
Herb	Poaceae	Monocots	<i>Zea mays</i>	Alzora Alshamia	80
Herb	Poaceae	Monocots	<i>Cymbopogon citratus</i>	Almahareeb	81
Herb	Poaceae	Monocots	<i>Pennisetum setaceum</i>	Alhalfa	82
Herb	Poaceae	Monocot	<i>Sorghum vulgare</i>	Alzora	83
Herb	Portulacaceae	Dicots	<i>Portulaca oleracea</i>	Rigla Barya	84
Herb	Portulacaceae	Dicot	<i>Portulaca grandiflora</i>	Sabah Alkhair	85
Tree	Rhamnaceae	Dicots	<i>Ziziphus spina-christi</i>	Nabak, Sidir	86
Tree	Rutaceae	Dicots	<i>Citrus limon</i>	Allemon	87
Tree	Rutaceae	Dicots	<i>Cirtus reticulate</i>	Alyousifi	88
Tree	Rutaceae	Dicots	<i>Citrus paradise</i>	Algreeb	89
Tree	Rutaceae	Dicot	<i>Citrus aurantium</i>	Allaringa	90
Tree	Salvadoraceae	Dicots	<i>Salvadora persica</i>	Alarak	91
Tree	Sapotaceae	Dicots	<i>Mimusops laurifolia</i>	Allabakh	92
Tree	Simaroubaceae	Dicots	<i>Ailanthus altissima</i>	Lisan Altair	93
Herb	Solanaceae	Dicots	<i>Solanum tuberosum</i>	Albatates	94
Herb	Solanaceae	Dicots	<i>Solanum melongena</i>	Alaswad, Bazingan	95
Herb	Solanaceae	Dicots	<i>Capsicum annuum</i>	Alfilfil	96
Herb	Solanaceae	Dicots	<i>Capsicum sp.</i>	Alshata	97
Herb	Solanaceae	Dicots	<i>Solanum lycopersicum</i>	Altamatim	98
Herb	Solanaceae	Dicots	<i>Hyoscyamus</i>	Alsakaran	99
Tree	Tamaricaceae	Dicots	<i>Tamarix sp</i>	Altorfa	100
Tree	Vitaceae	Dicots	<i>Vitis vinifera</i>	Alinab	101
Herb	Zygophyllaceae	Dicots	<i>Tribulus terrestris</i>	Alderesa	102

According to the results mentioned in the table above, it includes a list of 102 plants from Kori region belonging to 88 species of 73 genera from 37 different families.

One sample contains 10 varieties of palm trees. Another sample contains seven varieties of mango trees.

Based on plant habitat, the samples included 48 herbs, 44 trees and 10 shrubs, distributed among 78 dicotyledonous plants and 24 monocotyledonous plants. According to the results; the family with the most samples was Fabaceae (18 plant samples), followed by Arecaceae (11 samples) as shown in Fig. 2.

In recent study of El-Tahir *et al.* 2024 [6], which shows that the legume family (Fabaceae) is most abundant in Algeoreer region, which is about one hour away from the study area (Kori). In addition, many of samples were found in both regions. This can be attributed to the geographical and environmental proximity of the two areas.

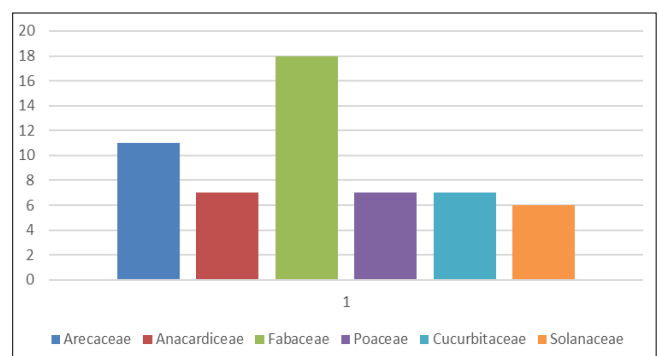


Fig 2: A comparison between the largest families according to the number of plant samples

Also, the results of Ahmad *et al.* 2020 in their study of Jabal Mara region mentioned 19 plant species that according to the family Fabaceae, that is consistent with this study.

The study of Joseph *et al.* 2020^[7] mentioned 27 traditional plants of South Sudan but no one from the family Fabaceae, this is due to geographical and climatic differences.

A study of Mohammed 2006 in the Kosti and Jabalain localities of White Nile State showed that the dominant plants in the region are; Sidir, Higlig, Alhaskaneet, Alkitir and Allaoot. These plants were also mentioned in the study area (Kori).

According to Darbyshire *et al.* 2015^[5] two tree species *Prosopis glandulosa* and *Prosopis juliflora* are considered to be highly invasive in the Sudan, while the species *Prosopis juliflora* are also found in Kori region.

The study of El-Tahir *et al.* 2024^[6] in Agoreer area in the Northern State revealed a large number of shared samples between the two areas of Kori and Agoreer.



Fig 3: Photos from Kori

Conclusion

The study provided insight into the vegetation cover of the Kori area in the Northern State by founding 102 different plant specimens in the area. The specimens varied between trees, shrubs, and grasses, with the majority being grasses and trees. 76% of plant samples were dicots, while the remaining 24% were monocots. The families to which the samples belonged were diverse, while the legume family having the largest number of plant samples. The region has rich soil, and this is reflected in the diversity of different species and families.

Recommendations

- The importance of utilizing the region for agricultural investment
- Attention to agricultural extension is essential to increase the productivity of grain and vegetable crops.

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