

Taxonomic Study of Trees and Shrubs of Zalingei Area West Darfur State- Sudan

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Abstract: The present study forms a checklist on taxonomy of trees and shrubs of Zalingei area Western Sudan. The material examined included freshly collected specimens plus all specimens deposited at various herbaria and those reported for the study area in different sides (publication) (Triag, Abata, Orokam and Shawa). A total number of forty eight plant species that belong to thirty one genera, twenty families and three subfamilies were documented to represent the present taxonomy of trees and shrubs of Zalingei area. The study resulted in identification of a four species not recorded in the study area and nine species have disappeared, in addition to updating names of species.

Keywords: threes and shrubs

1. Interdiction

Studies on the flora of Sudan are few were represented in the works of Broun and Massey (1929), Anderws (1950, 1953, and 1953), Recently El Amin (1990) made valuable attempt to up-date the trees and shrubs of the Sudan.

Studies on regional floras include Crowfoot (1928), Anderws (1948) Obaid and Mohmoud (1968). Over four decades passed since, Harrison and Jackson (1958) had published their work on the ecological classification of the vegetation of the Sudan, definitely, several ecological changes have occurred. These changes are attributed to climatic change and human intervention. Like other Sahelian countries they are under study and have witnessed a period of severe drought, conflict and illegal cutting of trees, Thriakul (1984). For these reasons Zalingei district was specifically selected for this study.

From an ecological point of view Zalingei locality is very important for its great potential resources particularly forests. Although neighboring areas like Jebel Marra received some research work on forestry and flora in general e. g. Wickens (1976) no detailed research was conducted in Zalingei area except the work of Wickens (1964) who described 155 species from Zalingei area.

2. Study Area

The study area is confined to the Zalingei locality western Darfur State Sudan. It lies approximately between latitudes 12°30' North and longitude 23° 30' west.

The climate of the study area is described with respect to two meteorological stations located at Jebel Marra project in Zalingei town for the period 2001-2009 as follows:

Average temperature at Zalingei is up to 25.7 C° in May the temperature is the highest 41.2 C°. The rainy season (April-May) is with mean annual rainfall of 700mm October. Relative humidity is 80% in August.

3. Materials and Methods

Firstly the author collected specimen from the different plant species in the Study area, the fresh specimen were collected via two field trips in rainy season. The collection sites were Abata, Traij, Shawa and Gerye, all specimens were deposited at, and confirmed with the herbarium of Botany Department Herbarium, University of Khartoum, secondly using digital camera to take photos for (whole trees or shrubs, leaves, fruits and flowers).

The synonyms of species identified (where exist) were extracted from references such as Wikens (1976), Andrew (1947, 1948 and 1953), Sahni (1964), El Amin (1983, 1990), Thirkul (1948), Vogt (1995) and Von Maydell (1986).

4. Results and Discussions

Twenty families were identified including 31 genera and 48 species. These include 38 trees and 10 shrubs.

The studied families, genera and species were alphabetically arranged and listed as shown in the table below.

In This study 48 plant species belong to 31 genera and 20 families were identified. Names of species were updated and that include *Celtis integrifolia* to *Celtis toka* (Forssk.) Hepper & J.R.I.Wood, *Xeromphis nilotica* (Stapf) Keay to *Catunaregam nilotica* (Stapf) Tirveng and *Grwia tenax* to *Grewia picta* Baill. var. *picta*.

According to African plant database Family Leguminosae divided into three sub-families: Caesalpinioideae which was Caesalpinaceae, Fabaceae which was Papilionaceae before and Mimosoideae which was Mimosaceae.

Wickens (1976) described 155 species from Zalingei including trees, shrubs and herbs. This study revealed the presence of new species in the area as well as disappearance of other species. The new species are *Acacia laeta*, *Boscia angustifolia*, *Catunaregam nilotica* and *Ziziphus mucronata* which are found for the first time. The species which disappeared are *Cadaba farinose*, *Capparis oblongifolia*, *Cleome nephyeln*, *Crataeva adansonii*, *Maerea pseudopetalosa*, *Combretim microphyllum*, *Euphorbia*

prostrola, *Euphorbia tirucalli* and *Prosopis spp.* *Acacia* species are more dominant in the area. In addition this study included four plant species that were not reported by Wikens these are:

Table 1: List of the plant species (indigenous) in Zalingei

No	Family	Species	Vern names
1	Anacardiaceae	<i>Lannea fruticosa</i> (Hochst. ex A. Rich.) Engl	Leyun-Ghallub
		<i>Lannea schimperi</i> (Hochst. exA. Rich.) Engl.	Leyun-Amzag-Suda
		<i>Sclerocarya birrea</i> (A. Rich.) Hochst.	Humeid
2	Asclepiadaceae	<i>Calotropis procera</i> (Aiton.)W.T. Aiton	Usher
3	Balanitaceae	<i>Balanites aegyptiaca</i> (L.) Delile.	Hegleeg (Laloub)
4	Bignoniaceae	<i>Kigelia africana</i> (lam.) Benth.	Um shutur
5	Boraginaceae	<i>Cordia africana</i> Lam.	Gmbil
6	Bursaceae	<i>Commiphora africana</i> (A.Rich) Engl	Gafal
		<i>Boswellia papyrifera</i> (Del.) Hochst.	Trag Trag
7	Capparaceae	<i>Boscia angustifolia</i> A. Rich.	Sraih
		<i>Boscia senegalensis</i> (Pers.) lam. ex Poir.	Mukheit
8	Combretaceae	<i>Anogeissus leiocarpus</i> (DC.) Guill. & Perr.	Sahab – seilk
		<i>Combretum aculeatum</i> Vent., Choix.	Habeel Shehait
		<i>Combretum collinum</i> Fresen. Subsp.	Habeel
		<i>Guiera senegalensis</i> J.F. Gmel.	Gobaish
		<i>Terminalia brownii</i> Fresen.	Subagh – Shaf
9	Ebenaceae	<i>Diospyros mespiliformis</i> Hochst.ex. A. DC.	Gughan, Jokhan
10	Euphorbiaceae	<i>Ricinus communis</i> L.	Khirwa
11	1. Leguminosaeae- Caesalpinaceae	<i>Bauhinia rufescens</i> Lam	Kulkul
		<i>Piliostigma thonningii</i> (Schumach.) Milne-Redh.	Kharub
		<i>Tamarindus indica</i> L.	Aradeib
12	Leguminosaeae- sub Fabaceae	<i>Dalbergia melanoxylon</i> Guill &per	Babanous
13	Leguminosaeae- sub family Mimosaceae	<i>Acacia ataxacantha</i> DC.	
		<i>Acacia gerrardii</i> Benth.	Salgam
		<i>Acacia laeta</i> R.Br. ex Benth.	Subahi ,Kitir achbash
		<i>Acacia mellifera</i> (vahl) Benth.	Kitir
		<i>Acacia nilotica</i> . (L.) Willd ex De subsp. <i>Tomentosa</i>	Sunt
		<i>Acacia oerfota</i> (forssk.) Schweinf.	Laut
		<i>Acacia polyacantha</i> subsp. <i>campylacantha</i> (Hochst. ex A.Rich.) Brenan	Kakamut, Um siniena
		<i>Acacia senegal</i> (L.) Willd.	Hashab
		<i>Acacia seyal</i> var. <i>seyal</i> Delile.	Talih Ahmar – Talih
		<i>Acacia sieberiana</i> DC.	Kuok
		<i>Albizia amara</i> (Roxb) Boiv. Subsp <i>sericocephala</i> (Benth) Bren	Arad
		<i>Albizia anthelmintica</i> Brongn.	Girfat ad dud
		<i>Dichrostachys cinerea</i> (L.) Wight & Arn.	Kaddad
<i>Faidherbia albida</i> (Delile) A.Chev.	Haraz		
14	Meliaceae	<i>Khaya senegalensis</i> (Desr.) A. Juss	Mahogoni
15	Moraceae	<i>Ficus platyphylla</i> Delile	
16	Rhamnaceae	<i>Ziziphus mauritiana</i> Lam.	Sidr
		<i>Ziziphus mucronata</i> willd.	
		<i>Ziziphus spina-christi</i> (L.) Desf.	Sidr
17	Rubiaceae	<i>Catunaregam nilotica</i> (Stapf) Tirveng.	
		<i>Gardenia ternifolia</i> Schumach. & Thonn.	Abu guei
18	Sterculiaceae	<i>Sterculia setigera</i> Del.	Tartar, Faider
19	Tiliaceae	<i>Grewia flavescens</i> Juss,	Khelisan
		<i>Grewia picta</i> Baill. var. <i>picta</i>	Guddiem
		<i>Grewia villosa</i> Willd	Gregdan, Tikko
20	Ulmaceae	<i>Celtis toka</i> (Forssk.) Hepper & J.R.I.Wood	Mohagria, Lipingo

Table 3: the species which disappeared are:

No	The species
1	<i>Cadaba farinose</i>
2	<i>Capparis oblongfolia</i>
3	<i>Cleome nephyeln</i>
4	<i>Crataeva adansonii</i>
5	<i>Maerea pseudopetalosa</i>
6	<i>Combretim microphyllum</i>
7	<i>Euphorbia prostrata</i>
8	<i>Euphorbia tirucalli</i>
9	<i>Prosopis spp</i>

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Table 2: The new species recorded for the first time in the study area:

No	The species
1	<i>Acacia laeta</i> R.Br. ex Benth.
2	<i>Boscia angustifolia</i> A. Rich.
3	<i>Catunaregam nilotica</i> (Stapf) Tirveng.
4	<i>Ziziphus mucronata</i> willd.

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