
Edible Woody Plants Diversity and Potential Contribution to Food Security in Ethiopia

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Abstract: Edible woody plants are important for household food security and dietary diversification in some rural areas, particularly in the dry lands, to supplement staple foods, fill the gap between seasonal food shortages, and serve as emergency food during famine, prolonged drought, or social unrest. Within traditional farming systems, they provide a set of financial, sociological, and environmental services. This research review aimed to overview the edible woody plants diversity and potential contribution to food security in Ethiopia. Published documents and journal articles were found via keyword searches in relevant literature data banks were used as data sources. About 71% (292) of edible woody plant species have edibility reports from more than one community in Ethiopia. Fruits roots, leaves, stems were the components of plant parts that are used as edible. Cultivated fruit trees that exist on the farmlands are adapted, cultivated, and managed by household members and they are used for food, fodder, shelter, fiber, cloths. Drought, overharvesting, and overgrazing are just some of the most important factors influencing the abundance and density of edible woody plants. Local communities should be encouraged to participate in the conservation and management of plant resources. There must be collaboration between government sectors, NGOs and local communities to raise the local nurseries of edible woody species and sustain promotion of their planting in Ethiopia.

Keywords: Nutritional Status, Edible Woody Plants, Fruit Trees, Food Security, Threat

1. Introduction

Woody edible plants have been source of food demand and contribute toward food security, nutritional health and income generation [20].

Tropical fruit trees are found on every tropical continent, there are about 1000 species of tropical fruit trees in America, 1200 in Africa and 500 in Asia, including 300 in the Indian subcontinent. This diversity is valuable for the livelihoods of local people throughout the tropical region as potential sources of food, nutrition, and income generations [13].

In Ethiopia, local people gathered and consumed about 413 edible woody plant species [27]. Trees with fruits have the largest number of edible woody plant species in the country [38]. These edible woody plants have always been an essential and widespread food source for food-insecure

families living in poverty in developing countries [28].

Edible woody plants have been used for surviving hungry and used as food, medicine, fiber, and other purposes since ancient times. Currently, such plants supplement and fill the food gap during times of food scarcity, ensuring food and livelihood security for countless families and societies all over the world [20].

2. Material and Methods

The materials for this review were published documents, reports of governments and NGOs on natural resource management, collective Edible woody plants, and other important publications (articles) that were searched through keyword searches in relevant literature data banks and downloaded were used to prepare this paper. Literature was searched in the Google, Google Scholar, Research Gate, and Ethiopian Biodiversity Institute library search. Following

these procedures, many articles and documents written in the English language were obtained.

Most of the publications are articles in academic journals. Book chapters and grey literature such as conference papers, working papers, and reports in institutional series were also obtained.

After collecting different scientific sources according to different criteria based on the topic and academic field, a final inventory several articles was reviewed thoroughly and provided in the reference list. The data obtained is critically reviewed and arranged systematically concerning their uses. An Excel spreadsheet was used to analyze data using descriptive statistics to identify the number and percentage of commonly used edible woody plants in Ethiopia.

3. Definition of Terms and Concepts of Edible Woody Plants

Woody species are a very important part of home gardens that contributes to the livelihoods diversification and they are managed to provide shade for coffee and a variety of commercially valuable spices as well as for livestock; to supply communities with fuel wood and timber; to provide other products such as fodder, human and livestock medicine, food and they serve as bee forage; and to play important ecological roles which could contribute to the sustainability of agricultural systems [41].

Edible woody plants (EWPs) comprise roots, shoots, leafy greens, fleshy fruits, nuts, grains, seeds, and other organisms. Traditional knowledge is vital for harvesting and processing those plants [40].

Trees, shrubs, and lianas are all examples of woody plants. These are typically perennial plants with secondary xylem wood protecting their stems and larger roots. A layer of bark typically covers the main stem, larger branches, and roots of these plants.

Many rural areas have trees planted alone or in purposeful combination with annual crops. Through the production of a wide variety of fruits, vegetables, spices, and various tree products, the agroforestry production system has been delivering varied products to households and filling their diverse needs [29]. Different herbaceous and tree crops, as well as trees, are managed in a multispecies agro-ecosystem called a home garden. The diversity of species of crops, trees, and livestock in home gardens has several ecological and socioeconomic benefits.

Nutrition-sensitive agriculture: In the fight against malnutrition and micronutrient deficiencies, it is a food-based approach to agricultural growth that emphasizes nutrient-dense foods, dietary diversity, and food security [30].

Nutrition is the study of foods, as well as the nutrients and other substances found in them, and their effects on the human body (including ingestion, digestion, absorption, transport, meta-bolism, and excretion [3]).

Foods: Any material, primarily protein, carbohydrate, and fat, that is used in an organism's body to support development, repair, and vital processes, as well as to provide energy; often includes supplementary substances (as minerals, vitamins, and condiments).

Nutrition Security: Continuous access to essential aspects of optimal nutrition, such as a balanced diet, a safe environment, clean water, and enough preventive and curative health care, as well as the knowledge needed to care for and promote a healthy and active life for all household members [3].

Fruit: Citrus fruits (oranges, lemons, and mandarins), bananas, papaya, mango, avocado, pineapple, apple, guava, watermelon, grapes, peach, sweet melon, and a variety of other indigenous fruits are among the fruits available. Carbohydrates, vitamins, minerals, and water are the primary nutrients found in fruits [30].



Syzygium guineense subsp *guineense*



Syzygium guineense subsp *afro-montanum*

Figure 1. Some edible woody plants.

3.1. Edible Woody Plants (EWPs) Diversity and Traditional Knowledge

Management practice and biodiversity of those plants are

declined, particularly in an urbanizing world, due to a lack of traditional awareness among the people; this is an important issue that needs more attention [32].

While both developing and developed countries consume those plants to some degree, there are also strong

modifications of a rapid decline in local awareness and management practices [9]. Those EWPs must be systematically recorded, and efforts must be made to develop and educate the new generation about the significance of edible woody plants, otherwise, their knowledge will be lost shortly.

Documenting indigenous knowledge on EWPs will aid in the identification of plant species suitable for domestication and mass production, resulting in more sustainable development and use [9]. As such, in developing countries like Africa and Asia, there is an abundance of traditional information about those plants, but it is still passed down orally.

Studies in Africa have revealed negative sentiments toward plants that are especially considered as "nutrition for women, children, and the weak," natural disaster foods (e.g. flood or drought), and tasteless and unpleasant but required resources during severe food scarcity [2].

3.2. Role of Cultivated Fruit Trees in Agricultural Landscapes

Cultivated fruit trees that exist on the farmlands are adapted, cultivated, and managed by household members and they are used for food, fodder, shelter, fiber, cloths; the indigenous semi-domesticated and widely cultivated fruits are used for food and income generation. *Dacryodes edulis* is an example of widely traded agroforestry tree foods that help farmers' incomes and consumers' choices in Africa [35]. As a result of project investments by Coca-Cola, Del Monte, and others to source produce locally for juice manufacture, as well as to meet rising demand from population growth and increased urbanization, new domestic markets for fruit are emerging in Africa [14]. There are still significant gaps in our understanding and efforts to fully realize the potential of indigenous food trees, particularly in terms of production and trade status, as well as in the operation of value chains [11].

The perishability of many fruits, combined with the geographic distance from larger market centers and the lack of suitable infrastructure, as well as a lack of market knowledge and value chains that are biased towards small producers, are major barriers to market participation; Growing timber and other agroforestry tree products for markets, in addition to foods, provide income for food purchases [7].

3.3. Edible Woody Plants in Ethiopia

Among 413 wild edible plant species, about 292 are edible woody plants found in Ethiopia [27]. The area under fruit trees in Ethiopia is very limited, and it is primarily smallholder-based. Almost 3 million farmers are involved in fruit cultivation, covering approximately 43,500 hectares and producing approximately 261,000 tons per year [30].

Bananas, oranges, and other citrus fruits (tangerines, Clementines, Satsuma, lemons, mangoes, avocado, and papaya) are the main types of fruits for which significant volumes are registered. Papayas (31%) and mangoes (22%), led by avocado and banana, account for the majority of

domestic production in terms of amount 11% each [16].

Overall, production growth has experienced only 1% growth per annum over the last decade, with a decline in per capita terms. Fresh fruit exports represent overall a very small share of domestic production. As a result, exports of the five major goods accounted for just 1.24% of domestic production in 2002 [16].

On agricultural landscapes, there are overlaps of woody and domesticated edible woody plants; *Cordia africana*, *Ficus sur*, *Ficus vasta*, and so on [25].

The use of edible woody plants as a food source is ingrained in the culture of indigenous peoples living in Africa and South America's rain forests, who gather and eat EWPs as snacks and during periods of food shortage [17]. EWPs provide local populations with staple and supplement foods, as well as cash income, thus promoting food protection [36].

Indigenous people are aware of the value and contribution of EWPs to their daily diet based on personal experience [14]. Ethiopia has a diverse biological wealth of plants, animals, and microbial species, particularly crop diversity, due to the nature of diverse farming systems, socio-economics, cultures, and agro-ecologies [19].

Many woody plants are used for food as a result of this genetic diversity, particularly during times of food scarcity. Leafy herbs, edible fruits, tubers, and roots make up the bulk of these plants; for example, *Corchorus olitorius*, species that are found in Ethiopia and is collected at a young stage and eaten as a cooked vegetable, particularly in lowland areas such as the Afar Region, and sold in supermarkets, with dried leaves being sent to Djibouti for sale, but none of them are cultivated [27].

Young fruit plants are cooked as vegetables, and seeds are used for porridge and local beer, and it is found as a common weed in some parts of the country [15]. Even though EWPs are the cheapest source of vitamin A, vitamin C, minerals, and fiber, the study found that people do not eat enough to fulfill their nutrient requirements due to a lack of awareness about the nutritional value and the simplest way to produce those vegetables [1].

Fruits and vegetables contributed for 1% of total energy production, resulting in excessive price inflation and insufficient national supply [24]. As a result, the country's intake of fruits and vegetables is poor or nearly non-existent, resulting in 86 deaths per 100,000 people [17].

Studies on EWPs in Ethiopia have not included three regions: Somalia, Harare, and two administrative states. However, more than 365 wild edible plant species have been recorded in Ethiopia's six regions, with 220 (60.3%) registered as fruits, 118 (32.4%) as vegetables, and the rest classified as spices, herbs, berries, and vegetables; there is a resurgence of interest around the world in recording ethnobotanical knowledge on underutilized woody edible food sources [27].

Since traditional knowledge of EWPs is eroding due to acculturation and the loss of plant biodiversity, as well as indigenous peoples and their cultural heritage, it is critical to

promote research on woody food plants in order to preserve this information for future societies [14].

Table 1. Some common edible woody plants in Ethiopia.

Family name	Scientific name	Growth form	parts used	preparation	References
Caricaceae	<i>Carica papaya</i>	Sh	Fr	Raw	[10]
Anacardiaceae	<i>Mangifera indica</i>	T	Fr	Raw	[10]
Anacardiaceae	<i>Rhus glutinosa</i>	Sh	Fr	Raw	[14]
Anacardiaceae	<i>Rhus natalensis</i>	Sh	Fr	Raw	[25]
Apocynaceae	<i>Carissa spinarum</i>	Sh	Fr	Raw	[25]
Balanitaceae	<i>Balanites aegyptiaca</i>	T	Fr	Raw	[4]
Boraginaceae	<i>Cordia Africana</i>	T	Fr	Raw	[25]
Cactaceae	<i>Cactus spp.</i>	Sh	Fr	Raw	[4]
Celstraceae	<i>Maytenus senegalensis</i>	Sh	Fr	Raw	[25]
Celstraceae	<i>Maytenus arbutifolia</i>	Sh	Fr	Raw	[25]
Euphorbiaceae	<i>Flueggea virosa</i>	Sh	Fr	Raw	[25]
Flacourtiaceae	<i>Dovyalis abyssinica</i>	Sh	Fr	Raw	[10]
Moraceae	<i>Ficus sur Forssk</i>	T	Fr	Raw	[14]
Moraceae	<i>Ficus sycomorus</i>	T	Fr	Raw	[4]
Moraceae	<i>Ficus Vasta Forssk</i>	T	Fr	Raw	[25]
Myrtaceae	<i>Syzygium guineense subsp guineense</i>	T	Fr	Raw	[10]
Myrtaceae	<i>Syzygium guineense subsp afromontanum</i>	T	Fr	Raw	[10]
Olacaceae	<i>Ximenia Americana</i>	T	Fr	Raw	[4]
Olacaceae	<i>Ximenia caffra Sond</i>	Sh	Fr	Raw	[4]
Rhamnaceae	<i>Ziziphus abyssinica</i>	T	Fr	Raw	[14]
Rhamnaceae	<i>Ziziphus mucronata</i>	T	Fr	Raw	[25]
Rosaceae	<i>Rosa Abyssinica</i>	Sh	Fr	Raw	[25]
Rosaceae	<i>Rubus apetalus</i>	Cl	Fr	Raw	[4]
Rutaceae	<i>Citrus aurantifolia</i>	Sh	Fr	Raw	[25]
Sapotaceae	<i>Mimusops kummel</i>	T	Fr	Raw	[10]
Rutaceae	<i>Citrus sinensis</i>	Sh	Fr	Raw	[10]
Tiliaceae	<i>Corchorus olitorius</i>	Sh	L	Cook	[27]
Tiliaceae	<i>Grewia bicolor</i>	Sh	Fr	Raw	[14]
Tiliaceae	<i>Grewia villosa</i>	Sh	Fr	Raw	[25]
Verbenaceae	<i>Lantana camara</i>	Sh	Fr	Raw	[14]

Sh = shrub; L= leaf; Fr = Fruit; Cl = climber; T= Tree; Rt = Root.

3.4. Nutrition and Food Security

When communities have “physical and economic access to adequate safe and nutritious food to satisfy their nutritional needs and food preferences for a balanced and active life,” they are said to be food secure. Individuals who are very well were also happier, can work harder, and have more physical reserves, whereas food- and nutrition-secure households are better able to withstand and recover from external shocks. Despite developments in agricultural productivity, one billion people are still chronically hungry, two billion people face periods of food insecurity on a daily basis, and just over a third of humans suffer from micronutrient deficiencies [18].

Sub-Saharan Africa is home to the majority of countries with “alarming” Global Hunger Index ratings, making it a prime target for action; though rates of hunger (lack of access to energy) have decreased in many parts of the world, rates of micronutrient deficiencies have remained stable Iron, vitamin A, iodine, and zinc deficiencies, in particular, are related to poor growth and cognitive development in infants, as well as increased mortality and morbidity in both adults and children [14].

Malnutrition, which involves under nutrition, micronutrient deficiency, and over nutrition (obesity and over-weight, which can contribute to cardiovascular and

chronic respiratory disorders, as well as diabetes), are major developmental difficulties. Obesity is on the rise in almost every part of the planet, affecting 1.4 billion adults worldwide and it can no longer be considered a disease of affluence [18].

The effect of double (over- and under-) nutrition on people's well-being in low-income countries is massive. As a result, there have been demands for “nutrition-sensitive” agriculture and food systems to be given more attention [5].

3.4.1. Nutritional Value of Edible Woody Plants (EWPs)

Many people around the world still eat the leaves, stems, fruits, flowers, tubers, barks, seeds, roots, and other parts of EWPs for their nutritional value. Some of these EWPs are used as primary food sources, while others are used as condiments in dishes made with domesticated cultivars [7]. Highlight the importance of these plants as a source of energy and micronutrients.

EWPs are essential sources of protein and micronutrients, and they can be used as the main source of food for many poor communities around the world [23]. According to recent research in Tanzania, certain plants are used by all informants and contribute 31% of vitamin A, 20% of vitamin C, and nearly 20% of iron; in Tanzania, 38 typical vegetables were found, 63.2% of which were woody species, contributing 35% vitamin A, 26% iron, 23% calcium, and 20% vitamin C [34].

Forests and woody edible items contribute to household food and nutrition protection on a regular basis all over the world because they are conventional foods in comparison to imported and manufactured traditional food products, both cultivated and woody have low fat and refined sugar content, as well as high protein and micronutrient content [3].

3.4.2. Edible Woody Plants' Potential Contribution to Food Security

Food and nutrition security arises when all people have physical, social, and economic access to food in sufficient quantity and quality to meet their dietary needs and food preferences, and is enabled by an atmosphere with adequate sanitation, health facilities, and care, enabling them to live a safe and active life [30].

Woody plant foods are often ignored when opposed to domesticated plant food sources. However, there is significant evidence that woody edibles play an important role in the global food basket. Since EWP are freely accessible within natural habitats, indigenous people have knowledge of how to gather and prepare the foods [27]. About one billion people in the world use woody foods (mostly from plants) on a daily basis. Despite differences in age, sex, time, and season, rural Ethiopians have a greater understanding, practice, and ability to use edible woody plants; as a result, they are an important part of the diet of many communities and thus contribute in a variety of ways [2].

Edible woody plants are important for household food security and dietary diversification in some rural areas, particularly in the dry lands, to supplement staple foods, fill the gap between seasonal food shortages, and serve as emergency food during famine, prolonged drought, or social unrest [7].

Globally, it is estimated that 50% of all fruit eaten by humans comes from trees, the majority of which are cultivated (Powell *et al.*, 2013). And more than 90% of fresh fruits are consumed locally; tropical fruit import demand has been steadily growing over the last decade [13]. A wide variety of tropical tree-based foods have exceptional nutritional properties. Camu-camu (*Myrciaria dubia*), the fruit of a riverine shrub native to the Amazon Basin, has 54 times the vitamin C content of oranges; *Bertholletia excelsa* Brazil nuts have high selenium content, which is an important antioxidant [36].

Currently, the global food production system is unable to fulfill dietary intake recommendations due to a lack of fruit [39]. As a result, increased fruit production is a global necessity. Increasing the amount, quality, variety, and productivity of tree-based food production will help to meet dietary recommendations by increasing global fruit production. Fruit imports worldwide grew steadily from 24 million dollars in 1999-2001 to 56 million dollars in 2008; developing countries account for 98% of all production, while developed countries account for 80% of all imports [13].

These fruit markets have a lot of room to expand as

people become more health-conscious about their diets and consume more fruits and vegetables, as well as rural people move to cities and have to buy what they could previously gather from woody-grown fruit trees. In seven developing tropical countries, 90% of foods from trees (including both woody species and other long-lived plants with tree-like properties) were identified; on average, tree-sourced foods produced 11% of daily food intake (in grams), while accounting for 31% of daily vitamin A and C intake [21].

3.4.3. Market Values of Edible Woody Plants.

Income and employment can be obtained from the sale or exchange of edible woody plant fruits, leaves, juice, and local drinks and Income derived from the sale of woody plant species are of particular importance to the poor household. In addition to their use for household consumption, the identified woody edible trees and shrubs are marketable and provide an opportunity to supplement household incomes in the semi-arid lowlands of Southern Ethiopia [5]. Edible woody plants also provide other livelihood options in addition to food value; they provide livelihood options in the form of both income generation and subsistence use from different products such as energy construction, shelter/protection, and fodder. Households generate income by selling products in domestic markets and exporting to neighboring countries, mainly Sudan [38].

Income derived from the sale of woody plants either from wild or domestic is of particular importance to the poorer households, which must supplement food production with cash in order to meet their basic needs [26]. For example, the fruits of *Syzygium guineense*, *Balanites aegyptiaca*, *Boswellia neglecta*, and *Ximenia americana* and the leaves of *Moringa stenopetala* are most commonly sold by women and children and provide the opportunity to supplement household income [25].

Many marketable edible woody plant fruits have considerable contributions to income generation; several edible woody plant fruits are on the local markets and are an important source of income however, the available information on the contribution of indigenous edible woody plant fruit species for both household consumption and annual income is very scarce in Ethiopia [36].



Figure 2. Marketable edible woody plants in Ethiopia.

EWP are a source of income in Ethiopia, and they can be used to supplement staple foods, improve nutrition, and fill the void in food shortages caused by famine, drought,

conflict, and other adversity. *Dovyalis abyssinica*, *Mimusops kummel*, *Ximenia americana*, *Adansonia digitata*, *Annona senegalensis*, *Balanites aegyptiaca*, *Flacourtia indica*, *Oncoba spinosa*, and *Syzygium guineense*, for example, are locally available, whereas *Mimusops kummel* and *Ziziphus spinachristi* are available nationally, used as a source of income generations as well as a food supply edible woody plant species [7].

3.4.4. Threats for Edible Woody Plants and Fruit Trees

Agglomeration of agricultural lands, developmental activities (road construction and urbanization), habitat decay (timber harvest and fuel wood collection), drought, overharvesting, and overgrazing are just some of the most important factors influencing the abundance and density of edible woody plants [14].

Construction, overgrazing, fuel wood collection, and urbanization are the main threats, followed by agricultural activities and drought. Deforestation and human encroachment were ranked first and second, respectively, with drought and firewood collection coming in third and fourth, respectively. In contrast, the drought is the most significant factor, followed by fuel wood harvesting and selective construction cutting [7].

3.4.5. Drivers of Change in the Availability and Use of Edible Woody Plants

(i). Traditional Knowledge and Cultural Value

Traditional or folk knowledge on plants is a relationship between a society and its environment established by the group based on their real-world experience and empirical research, which varies from region to region [15]. EWPs have long been linked to indigenous people's needs, traditions, and culture [2].

These plant resources, as well as the cultural knowledge associated with them, are the responsibility of the indigenous people [39]. Documenting traditional information based on WEP ethno-botany would aid in the identification of species for domestication, as well as the creation of rich and complex production systems for their long-term growth and use through commercialization and conservation [9]. Most elder respondents reported at least one food form that is culturally unacceptable to infants and young children, according to a qualitative study conducted by [10]. Edible plants, on the other hand, are only considered foods for women, infants, and the poor in Africa and Asia; for the identification, selection, and preparation of woody foods, local ecological knowledge is required [27]. Several studies have shown that women have a higher level of food knowledge than men. Women over 35 years old were able to describe the uses of 65% of all edible species in one Nepalese site, whereas young men could only describe 23% [37].

(ii). Socio-economic Factors

The global public health is being challenged by the nutrition transformation associated with industrialization and modernization of diets [33]. The substitution of store-bought

foods for woody foods has been linked to a decrease in dietary diversity, an increase in chronic lifestyle-related diseases such as obesity, type 2 diabetes, and a lack of micronutrient intake [8].

In comparison to lower-income households, higher-income households have no interest in collecting EWPs [31]. Those plants, on the other hand, have the ability to mitigate urban poverty [12]. Since low-income households are more reliant on woody plant sources [22], wealth status influence the household's decision to engage in woody food collection or consumption.

4. Conclusions

Edible woody plants (EWPs) comprise roots, shoots, leafy greens, fleshy fruits, nuts, grains, seeds, and other parts. About 71% (292) of edible woody plant species have edibility reports from more than one community in Ethiopia. Traditional knowledge is vital for harvesting and processing those plants. Edible woody plants have been used for surviving hungry and used as food, medicine, fiber, and other purposes since ancient times. EWPs are essential sources of protein and micronutrients, and they can be used as the main source of food for many poor communities around the world. Construction, overgrazing, fuel wood collection, and urbanization are the main threats, followed by agricultural activities and drought. Deforestation and human encroachment were ranked first and second, respectively, with drought and firewood collection coming in third and fourth, respectively. In contrast, the drought is the most significant factor, followed by fuel wood harvesting and selective construction cutting.

Conflict of Interest

There is no conflict of interest between authors.

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Appendix: Edible Woody Plants of Ethiopia

Growth form (Habit): T=tree, S=shrub and C=Climber.

Local names: A/Oro- Afaan Oromo, Afa-Afar, Amh-Amharic, Anu-Anuak, Awi-Awi, Ben-Bena, Bench-Bench, Ber-Berta, D-Derashe, G-Gamo, Gum-Gumuz, Gur-Gurage, Had-Hadiya, Ham-Hamar KKusume, KA-Kara, Kaf-Kafficho, Kon-Xonso, KW-Kwego, NM-Not mentioned, Maj-Majanjir, Mur-Mursi, Nue-Nuer, She-Sheko, Sid-Sidamo, Som-Somali, Tig-Tigray, Tse-Tsemay, Wel- Welaita, Zay-Zay.

Table A1. List of identified edible woody plants in Ethiopia.

No	Scientific name	Family	Local name	Habit	Parts used	Sources
1	<i>Acacia abyssinica</i> Hochst	Fabaceae	Laaftoo (A/Oro)	T	Gum	[27]
2	<i>Acacia albida</i> Del	Fabaceae	Grar (Amh)	T	Seed	[27]
3	<i>Acacia etbaica</i> Schweinf	Fabaceae	Girar (Amh)	T	seed	[25]
4	<i>Acacia hockii</i> De Wild	Fabaceae	Doddota (A/Oro)	T	Bark	[5]
5	<i>Acacia negrii</i> Pic. Serm	Fabaceae	Tedecha (A/Oro)	T	Bark	[5, 7]
6	<i>Acacia nilotica</i> (L.) Willd	Fabaceae	Grar (Amh)	T	Bark and fruit	[27]
7	<i>Acacia polycantha</i> Willd	Fabaceae	Gnuer (Nue)	T	Gum	[27]
8	<i>Acacia senegal</i> (L.) Wild	Fabaceae	Grara (Amh)	T	Seed	[27]
9	<i>Acacia seyal</i> Del	Fabaceae	Lorkeyuee (Mur)	T	Fruit	[17]
10	<i>Acacia sieberiana</i> var. <i>woodii</i> (BurtDavy) Keay and Brenan	Fabaceae	Nech-girar (Amh)	T	Gum	[27]
11	<i>Acacia tortilis</i> (Forssk.) Hayne	Fabaceae	Timad (Som)	T	Fruit	[6]
12	<i>Acalypha fruticosa</i> Forssk	Euphorbiaceae	Keryaya Hola (Mur)	T	Leaf	[6]
13	<i>Acalypha ornata</i> A. Rich	Euphorbiaceae	Atiyhomerpap (Anu)	S	Leaf	[7]
14	<i>Acanthus sennii</i> Chiov	Acanthaceae	Kusheshilie (Amh)	S	Nectar	[25]
15	<i>Acokanthera schimperii</i> (A. DC.)	Apocynaceae	Merenz (Amh)	S	Fruit	[25]
16	<i>Adansonia digitata</i> L	Malvaceae	Momret (Tig)	T	Fruit	[27]
17	<i>Adenia venenata</i> Forssk	Passifloraceae	Nama (Kon)	C	Leaf	[25]
18	<i>Albizia grandibracteata</i> Taub	Fabaceae	Bamu (Anu)	T	Bark	[5]
19	<i>Albizia schimperiana</i> Oliv	Fabaceae	Sessa (Amh)	T	Gum	[5]
20	<i>Allophylus abyssinicus</i> (Hochst.)	Sapindaceae	Imbis (Amh)	T	Fruit	[5]
21	<i>Allophylus macrobotrys</i> Gilg	Sapindaceae	Athow (Anu)	T	Fruit	[14]
22	<i>Ampelocissus schimperiana</i>	Vitaceae	Omok (Anu)	C	Fruit	[7]
23	<i>Pouteria altissima</i> (A. Chev.)	Sapotaceae	Gomu (Maj)	T	Fruit	[7]
24	<i>Annona senegalensis</i> Pers	Annonaceae	Monoqo (G)	T	Fruit	[17]
25	<i>Arundinaria alpina</i> K. Schum	Poaceae	Kerkeha (Amh)	T	Young shoot	[5]
26	<i>Asparagus africanus</i> Lam	Asparagaceae	Hingarta (Kon)	S	Seed	[5]
27	<i>Asparagus scaberulus</i> A. R	Asparagaceae	Mertediye (Gur)	S	Rhizome	[25]
28	<i>Balanites aegyptiaca</i> (L.) Del	Balanitaceae	Hangala (K)	T	Fruit	[27]
29	<i>Balanites rotundifolia</i>	Balanitaceae	Kurarta (K)	S	Fruit	[27]
30	<i>Barleria acanthoides</i> Vahl	Acanthaceae	Boko (Ham)	S	Flower/ nectar	[27]
31	<i>Barleria eranthemoides</i> R. Br	Acanthaceae	Gaya-Oukunba (Ham)	S	Flower/ nectar	[7]
32	<i>Barleria longissima</i> Lindau	Acanthaceae	Bichbichat (Kon)	S	Flower/ nectar	[17]
33	<i>Becium grandiflorum</i> (Lam.) Pic. Serm.	Lamiaceae	Tabab (Tig)	S	Fruit	[17]
34	<i>Berchemia discolor</i> (Klotzsch)	Rhamnaceae	Qanantab (Kon)	T	Fruit	[7]
35	<i>Blyttia fruticosum</i> (Decne.)	Asclepiadaceae	Lamtta (Kon)	S	Fruit	[25]
36	<i>Borassus aethiopicum</i> Mart.	Arecaceae	Thuwa (Anu)	T	Fruit and root	[5]
37	<i>Boscia coriacea</i> Pax	Capparidaceae	Geri (Som)	S	Fruit	[25]
38	<i>Boscia salicifolia</i> Oliv.	Capparidaceae	Mudaqelle (Ham)	T	Leaf	[5]
39	<i>Boscia senegalensis</i> Lam. ex Poir.	Capparidaceae	Tubaqe (Tse)	S	Fruit	[27]
40	<i>Boswellia papyrifera</i> (Del.)	Burseraceae	Meker (Amh)	T	Gum	[27]
41	<i>Bridelia micrantha</i> (Hochst.)	Euphorbiaceae	Welakoo (Sid)	S	Fruit	[17]
42	<i>Bridelia scleroneura</i> Muell. Arg	Euphorbiaceae	Haragjello (Ber)	S	Fruit	[5, 7]
43	<i>Buddleja polystachya</i> Fresen.	Loganiaceae	Madera (Afa)	S	Fruit	[7]
44	<i>Butyrospermum paradoxum</i>	Sapotaceae	Wado (Anu)	T	Fruit	[25]
45	<i>Cadaba farinosa</i> Forssk.	Capparidaceae	Anaedo (Anu)	S	Fruit	[5, 7]
46	<i>Canthium bogosense</i> (Martelli)	Rubiaceae	Ajarse (Som)	S	Fruit	[7]
47	<i>Canthium pseudosetiflorum</i>	Rubiaceae	Timir Lojir (Som)	S	Fruit	[17]
48	<i>Capparis decidua</i> (Forssk.)	Capparidaceae	Gumero (Amh)	S	Fruit	[14]
49	<i>Capparis erythrocarpos</i> Isert	Capparidaceae	Omono (Anu)	S	Fruit	[14]
50	<i>Capparis fascicularis</i> DC.	Capparidaceae	Qawisa (Oro)	S	Fruit	[17]
51	<i>Capparis tomentosa</i> Lam.	Capparidaceae	Ungiero (Anu)	S	Fruit	[5]
52	<i>Caralluma sprengeri</i> N. E. Br.	Asclepiadaceae	Baqibaqa (Kon)	S	Leaf	[25]
53	<i>Carissa spinarum</i> L.	Apocynaceae	Agam (Amh)	S	Fruit	[25]
54	<i>Catunaregam nilotica</i> (Stapf)	Rubiaceae	Ondorko (Tse)	T	Fruit	[17]
55	<i>Celtis africana</i> Burm. F	Ulmaceae	Dhawashya (D)	T	Fruit	[5]
56	<i>Celtis toka</i> (Forssk.)	Ulmaceae	Laere (Anu)	S	Fruit	[17]
57	<i>Celtis zenkeri</i> Engl.	Ulmaceae	Bado (Anu)	S	Fruit	[14]
58	<i>Cephalopentandra ecirrhosa</i>	Cucurbitaceae	NM	S	Fruit	[17]
59	<i>Chasmanthera dependens</i>	Menispermaceae	Tsatsa (Ham)	C	Fruit	[14]
60	<i>Cissus cornifolia</i> (Bak.) Planch.	Vitaceae	Asinsidhi (Ber)	C	Fruit	[14]
61	<i>Cissus populnea</i> Guill. & Perr	Vitaceae	Gniallo (Anu)	C	Stem	[14]
62	<i>Citrullus lanatus</i> (Thunb.)	Cucurbitaceae	Blass (Kon)	C	Fruit	[27]
63	<i>Clausena anisata</i> (Willd.) Benth.	Rutaceae	Funata (K)	S	Fruit	[27]
64	<i>Cleome allamanii</i> Chiov.	Capparidaceae	Erreso (Kon)	C	Leaf	[27]

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65	<i>Cleome gallaensis</i> Gilg	Capparidaceae	Armagussa (Amh)	S	Leaf	[14]
66	<i>Coccinia abyssinica</i> (Lam.) Cogn	Cucurbitaceae	Ancootee (A/Oro)	C	shoots, tubers and fruits	[5]
67	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	Buta (KA)	C	Fruit	[14]
68	<i>Combretum aculeatum</i> Vent.	Combretaceae	Kalawuri (Mur)	S	Seed	[5]
69	<i>Combretum molle</i> R. Br ex G. Don	Combretaceae	Sebe (Ham)	T	Gum	[27]
70	<i>Commiphora africana</i> (A. Rich.)	Burseraceae	Qahitta (Kon)	S	Leaf, fruit and root	[27]
71	<i>Commiphora baluensis</i> Engl.	Burseraceae	Hagar madow (Som)	T	Fruit	[27]
72	<i>Commiphora boiviniana</i> Engl.	Burseraceae	Elawa (Kon)	S	Fruit	[14]
73	<i>Commiphora confusa</i> Vollesen	Burseraceae	Qeyi (Ham)	T	Root	[14]
74	<i>Commiphora habessinica</i> (Berg)	Burseraceae	Mesh-Qeyi (Ham)	T	Root, stem	[14]
75	<i>Commiphora kataf</i> (Forssk.) Engl.	Burseraceae	Kahatta-ata (Kon)	T	Leaf	[5]
76	<i>Commiphora rostrata</i> Engl.	Burseraceae	Dirraa (A/Or)	S	Root	[5]
77	<i>Commiphora schimperi</i>	Burseraceae	Qeyi (Ham)	T	Root	[27]
78	<i>Commiphora terebinthina</i> Vollesen	Burseraceae	Kahatta-tima (Kon)	T	Root	[14]
79	<i>Corallocarpus schimperi</i>	Cucurbitaceae	Danqesha (Ham)	C	Leaf	[25]
80	<i>Cordeauxia edulis</i> Hems l.	Fabaceae	Yeheb (Som)	S	Seed	[25]
81	<i>Cordia africana</i> Lam.	Boraginaceae	Waddeessa (A/Or)	T	Fruit	[27]
82	<i>Cordia monoica</i> Roxb.	Boraginaceae	Adebot (Afa)	T	Fruit	[5]
83	<i>Cordia ovalis</i> R. Br. ex DC.	Boraginaceae	Luketa (D)	S	Fruit	[5]
84	<i>Cordia sinensis</i> Lam	Boraginaceae	Maderra (A/Or)	T	Fruit	[14]
85	<i>Crateva adansonii</i> DC.	Capparidaceae	Bado (Anu)	S	Fruit	[17]
86	<i>Cucumella kelleri</i> (Cogn.) C.	Cucurbitaceae	Uneexo (Som)	C	Fruit	[5]
87	<i>Cucumis dipsaceus</i> Ehrenb ex.	Cucurbitaceae	Bequnba (Ham)	C	Leaf	[5]
88	<i>Cucumis jeffreyanus</i> Thulin	Cucurbitaceae	Qalfon (Som)	S	Fruit	[27]
89	<i>Cucumis pustulatus</i> Naud.	Cucurbitaceae	Qalfoon (Som)	C	Fruit	[27]
90	<i>Datura stramonium</i> L.	Solanaceae	Astenagir (Amh)	S	Nectar	[27]
91	<i>Delonix regia</i> (Boj. ex. Hook)	Fabaceae	Merqaya (Ham)	T	Seed	[14]
92	<i>Dioscorea abyssinica</i> Hochst	Dioscoreaceae	Boye (Sid)	C	Tuber	[5]
93	<i>Dioscorea bulbifera</i> L	Dioscoreaceae	Muwana (Anu)	C	Tubers	[27]
94	<i>Dioscorea praeheensis</i> Benth	Dioscoreaceae	Modo (Anu)	C	Tubers	[17]
95	<i>Dioscorea quartinana</i> A. Rich	Dioscoreaceae	Kuba (A/Oro)	C	Tubers	[7]
96	<i>Dioscorea schimperiana</i> Kunth	Dioscoreaceae	Ankorumbaa (A/Oro)	C	Root	[7]
97	<i>Diospyros abyssinica</i> (Hiern)	Ebenaceae	Dul'o (G)	T	Fruit	[5]
98	<i>Diospyros mespiliformis</i>	Ebenaceae	Betre Musie (Amh)	T	Fruit	[27]
99	<i>Dobera glabra</i> (Forssk.) Poir	Salvadoraceae	Kerseta (K)	T	Seed	[7]
100	<i>Dombeya longibracteolata</i> Seyani	Sterculiaceae	Kamil (Ham)	S	Fruit	[5]
101	<i>Dombeya torrida</i> (G. F. Gmel.)	Sterculiaceae	Akota (K)	T	Fruit	[17]
102	<i>Dovyalis abyssinica</i> (A. Rich.)	Flacourtiaceae	Koshim (Amh)	S	Fruit	[17]
103	<i>Dracaena afromontana</i> Mildbr.	Dracaenaceae	Shuda (Kaf)	S	Young shoot	[5]
104	<i>Ehretia cymosa</i> Thonn.	Boraginaceae	Borborta (K)	T	Fruit	[27]
105	<i>Ekebergia capensis</i> (Sparrm.)	Meliaceae	Sheru (Bench)	T	Fruit	[7]
106	<i>Elaeodendron buchananii</i>	Celastraceae	Chogaey (Maj)	T	Fruit	[10]
107	<i>Embelia schimperi</i> Vatke	Myrsinaceae	Inqoko (D)	S	Fruit	[10]
108	<i>Eriobotrya japonica</i> (Thunb.)	Rosaceae	Woshimela (Amh)	T	Fruit	[10]
109	<i>Erythrina Brucei</i> Schweinf	Fabaceae	Korch (Amh)	T	Root	[17]
110	<i>Erythrococca abyssinica</i> Pax	Euphorbiaceae	Beskwi (Ham)	S	Fruit	[5]
111	<i>Euclea divinorum</i> Hiern	Ebenaceae	Unsi (Ben)	T	Fruit	[27]
112	<i>Euclea racemosa</i> Murr.	Ebenaceae	Dedaho (Amh)	T	Fruit	[27]
113	<i>Ficus abutilifolia</i> (Miq.) Miq.	Moraceae	Hobanhobata (Kon)	T	Fruit	[14]
114	<i>Ficus capreaefolia</i> Del.	Moraceae	Ageta (Anu)	T	Fruit	[14]
115	<i>Ficus glumosa</i> Del.	Moraceae	Kilta (Oro)	T	Fruit	[25]
116	<i>Ficus ingens</i> (Miq.) Miq	Moraceae	Lugo (Som)	T	Fruit	[25]
117	<i>Ficus mucoso</i> Ficalho	Moraceae	Shola (Bench)	T	Fruit	[25]
118	<i>Ficus ovata</i> Vahl.	Moraceae	Warka (Amh)	T	Fruit	[27]
119	<i>Ficus palmata</i> Forssk.	Moraceae	ekola-Beles (Amh)	T	Fruit	[27]
120	<i>Ficus platyphylla</i> Del.	Moraceae	Leiya (Kon)	T	Fruit	[14]
121	<i>Ficus sur</i> Forssk.	Moraceae	Harbuu (A/Oro)	T	Fruit	[25]
122	<i>Ficus sycomorus</i> L	Moraceae	Wola (Wel)	T	Fruit	[5]
123	<i>Ficus thonningii</i> Blume	Moraceae	Ata (Ham)	T	Fruit	[5]
124	<i>Ficus vallis-choudae</i> Del.	Moraceae	Boba (Zay)	T	Fruit	[14]
125	<i>Ficus vasta</i> Forssk.	Moraceae	Qilxuu (A/Oro)	T	Fruit	[14]
126	<i>Flacourtia indica</i> (Burm. f.) Merr	Flacourtiaceae	Toleta (Kon)	T	Fruit	[14]
127	<i>Flueggea leucopyrus</i> Willd.	Euphorbiaceae	Rarata (K)	S	Seed	[17]
128	<i>Flueggea virosa</i> (Willd.) Voigt	Euphorbiaceae	Tanta (KA)	T	Fruit	[17]
129	<i>Garcinia livingstonei</i> T. Anders	Clusiaceae	Shamper (Ham)	S	Fruit	[7]
130	<i>Garcinia ovalifolia</i> Oliver	Clusiaceae	Karawwayyuu (Maj)	T	Fruit	[7]
131	<i>Gardenia fiorii</i> Chiov	Rubiaceae	Himir (Som)	S	Fruit	[7]

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132	<i>Gardenia ternifolia</i> Schumach	Rubiaceae	Duwong (Anu)	S	Fruit	[17]
133	<i>Grewia arborea</i> (Forssk.) Lam.	Tiliaceae	Wideir (Som)	T	Fruit	[25]
134	<i>Grewia balensis</i> Sebsebe	Tiliaceae	Bereza (K)	T	Fruit	[27]
135	<i>Grewia bicolor</i> Juss.	Tiliaceae	Bereza (K)	T	Fruit	[5]
136	<i>Grewia erythraea</i> Schweinfurth	Tiliaceae	Midho-Cas (Som)	S	Fruit	[5]
137	<i>Grewia ferruginea</i> Hochst.	Tiliaceae	Lenkwata (Am)	T	Fruit	[7]
138	<i>Grewia flavescens</i> A. Juss.	Tiliaceae	Dhabi-Qurquraale	S	Fruit	[14]
139	<i>Grewia kakothamnus</i> K. Schum.	Tiliaceae	(Som)	S	Fruit	[27]
140	<i>Grewia lilacina</i> K. Schum.	Tiliaceae	Demak (KA)	S	Fruit	[27]
141	<i>Grewia mollis</i> A. Juss.	Tiliaceae	Kocheta (Kon)	T	Fruit	[27]
142	<i>Grewia schweinfurthii</i> Burret	Tiliaceae	Qorawaqo (K)	S	Fruit	[27]
143	<i>Grewia tenax</i> (Forssk.) Fiori	Tiliaceae	Kanatol (Tig)	S	Fruit	[7]
144	<i>Grewia trichocarpa</i> Hochst. ex A. Rich	Tiliaceae	Roboy (Tig)	T	Fruit	[5]
145	<i>Grewia velutina</i> (Forssk.) Vahl	Tiliaceae	Dhayita (Kon)	T	Fruit	[7]
146	<i>Grewia villosa</i> Willd.	Tiliaceae	Rug (KA)	S	Fruit	[27]
147	<i>Heliotropium steudneri</i> Vatke	Boraginaceae	Gabo (KA)	T	Fruit	[25]
148	<i>Hoslundia opposita</i> Vahl	Lamiaceae	Kabushuie (Mur)	S	Fruit	[27]
149	<i>Almeida</i>	Acanthaceae	Utiwaello (Anu)	S	Leaf and	[5]
150	<i>Hyphaene compressa</i> H. Wendl.	Arecaceae	Annui (Mur)	T	Fruit	[14]
151	<i>Hyphaene thebaica</i> (L.) Mart.	Arecaceae	Bar (Som)	T	Fruit	[7]
152	<i>Ipomoea marmorata</i> Britt. & Rendle	Convolvulaceae	Omborooke (A/Oro)	S	Root	[14]
153	<i>Ipomoea plebeia</i> R. Br.	Convolvulaceae	Boloko (KA)	S	Leaf	[5]
154	<i>Ipomoea sinensis</i> (Desr.) Choisy	Convolvulaceae	Kamiwi (Ham)	S	Leaf	[7]
155	<i>Justicia schimperiana</i> (Hochst. ex Nees)	Acanthaceae	Dhummuugaa (A/Oro)	S	Nectar	[25]
156	<i>Kedrostis foetidissima</i> (Jacq.) Cogn.	Cucurbitaceae	Shunto (KA)	C	Leaf	[27]
157	<i>Kedrostis leloja</i> (Forssk.) C. Jeffrey	Cucurbitaceae	Garto (Ham)	C	Fruit and leaf	[27]
158	<i>Kedrostis pseudogijef</i> (Gilg) C. Jeffrey	Cucurbitaceae	Naja (Ham)	C	Leaf	[14]
159	<i>Lagenaria siceraria</i> (Molina).	Cucurbitaceae	Khil (Kaf)	C	Fruit	[10]
160	<i>Landolphia buchananii</i> (Hall. f.) Stapf	Apocynaceae	Yemo (Kaf)	C	Fruit	[10]
161	<i>Lantana rhodesiensis</i> Mold.	Verbenaceae	Untaorayitate	S	Seed	[17]
162	<i>Lannea humilis</i> (Oliv.) Engl.	Anacardiaceae	Gumedaa	T	Root	[5]
163	<i>Lannea malifolia</i> (Chiov.) Sacl.	Anacardiaceae	Wuh-Andri (Som)	T	Fruit and	[7]
164	<i>Lannea schimperi</i> (A. Rich.	Anacardiaceae	Dobbe (Zay)	T	Seed	[5]
165	<i>Lannea schweinfurthii</i> (Engl.) Engl.	Anacardiaceae	Kiringenni (Mur)	T	Fruit and	[14]
166	<i>Lannea triphylla</i> (A. Rich.) Engl.	Anacardiaceae	Waanri (Som)	S	Seed	[25]
167	<i>Lannea welwitschii</i> (Hiern) Engl.	Anacardiaceae	Arim (Anu)	T	Fruit	[27]
168	<i>Lantana camara</i> L.	Verbenaceae	Yeregna genfo	S	Root	[25]
169	<i>Lantana ukambensis</i> (Vatke) Verdc.	Verbenaceae	Untaorayitate (Der)	S	Leaf	[27]
170	<i>Lecaniodiscus fraxinifolius</i> Bak.	Sapindaceae	Choro (KA)	T	Fruit	[5]
171	<i>Lepidotrichillia volkensii</i> (Gurke)	Meliaceae	Kijang (Anu)	T	Fruit	[27]
172	<i>Lepisanthes senegalensis</i> (Juss.	Sapindaceae	Sembo (Amh)	T	Fruit	[27]
173	<i>Leptadenia hastata</i> (Pers.) Decne	Asclepiadaceae	Haila (Kus)	C	Leaf	[5]
174	<i>Leucas glabrata</i> (Vahl) Sm. In Rees	Lamiaceae	Ountingama (Ham)	S	Leaf	[14]
175	<i>Luffa cylindrica</i> (L.) M. J. Roem.	Cucurbitaceae	Lipa (Anu)	C	Fruit and leaf	[17]
176	<i>Lycium shawii</i> Roem. & Schult.	Solanaceae	Doreda (KA)	T	Leaf	[27]
177	<i>Maerua angolensis</i> DC.	Capparidaceae	Kadhii (Ben)	S	Leaf	[25]
178	<i>Maerua oblongifolia</i> (Forssk.) A. Rich.	Capparidaceae	Lecho (KA)	S	Leaf	[7]
179	<i>Maerua subcordata</i> (Gilg) De Wolf	Capparidaceae	Kulup (KA)	T	Fruit	[27]
180	<i>Maerua triphylla</i> A. Rich.	Capparidaceae	Anaedo (Anu)	S	Leaf	[7]
181	<i>Manilkara butugi</i> Chiov.	Sapotaceae	Wonni (Maj)	T	Fruit	[5]
182	<i>Maytenus senegalensis</i> (Lam.) Exell	Celastraceae	Lele (KW)	S	Leaf	[7]
183	<i>Mimusops kummel</i> Bruce ex A. DC.	Sapotaceae	Isho (Amh)	T	Fruit	[14]
184	<i>Mimusops laurifolia</i> (Forssk.) Friis	Sapotaceae	Geza (Gur)	S	Fruit	[25]
185	<i>Momordica foetida</i> Schumach.	Cucurbitaceae	Ye'kurra areg (Amh)	S	Fruit and	[14]
186	<i>Momordica rostrata</i> A. Zimm.	Cucurbitaceae	Kulo (Ham)	C	Tuber	[10]
187	<i>Moringa stenopetala</i>	Moringaceae	Haleko (KA)	T	Leaf	[10]
188	<i>Morus alba</i> L.	Moraceae	Injori (Amh)	S	Leaf	[10]
189	<i>Morus mesozygia</i> Stapf	Moraceae	Ochik (Anu)	T	Fruit	[14]
190	<i>Mussaenda arcuata</i> Poir.	Rubiaceae	Mixaro (G)	C	Fruit	[14]
191	<i>Myrsine africana</i> L.	Myrsinaceae	Xinqitata (D)	T	Fruit and	[17]
192	<i>Ochna leucophloeos</i> Hochst. ex A.	Ochnaceae	Anddha (Gum)	S	Tuber	[25]
193	<i>Olea europaea</i> subsp. <i>cuspidata</i>	Oleaceae	Shemaho (G)	T	Leaf	[27]
194	<i>Olea capensis</i> subsp. <i>Macrocarpa</i>	Oleaceae	Bulumtsee (Ber)	T	Nectar	[27]
195	<i>Oncoba spinosa</i> Forssk.	Flacourtiaceae	Hagile (G)	S	Leaf	[7]
196	<i>Opuntia stricta</i> (Haworth) Haworth	Cactaceae	Shibde (Tse)	S	Fruit	[25]
197	<i>Ormocarpum trichocarpum</i> (Taub.)	Fabaceae	Xinqitata (D)	S	Fruit	[14]
198	<i>Osyris quadripartita</i> Decn.	Santalaceae	Waattoo (A/Oro)	S	Fruit	[27]

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199	<i>Oxygonum sinuatum</i> (Meisn.) Dammer	Polygonaceae	Chew-mirahut (Tig)	S	flower and	[7]
200	<i>Oxytenanthera abyssinica</i> (A. Rich.)	Poaceae	Enta (Gum)	T	Seed	[17]
201	<i>Pappea capensis</i> Eckl. & Zeyh.	Sapindaceae	Defi (Ham)	T	Young	[25]
202	<i>Pavetta abyssinica</i> Fresen.	Rubiaceae	Maduginata (K)	S	shoots,	[27]
203	<i>Pavetta crassipes</i> K. Schum.	Rubiaceae	Yetsewuha (Gum)	T	Fruits	[25]
204	<i>Pavetta gardenifolia</i> A. Rich.	Rubiaceae	Shambulo (Ham)	S	Seeds	[14]
205	<i>Pentarrhinum inspidum</i> E. Mey	Asclepiadaceae	Kokorpha (D)	C	Leaf	[17]
206	<i>Pentarrhinum somaliense</i> N. E.	Asclepiadaceae	Guriso (Tig)	S	Fruit and	[7]
207	<i>Peponium vogelii</i> (Hook. f.)	Cucurbitaceae	Tojo (Kaf)	C	Seed	[5]
208	<i>Pergularia daemia</i> (Forssk.)	Asclepiadaceae	Korroda (Kon)	C	Fruit	[25]
209	<i>Phoenix reclinata</i> Jacq.	Arecaceae	Zamba (D)	S	Leaf	[14]
210	<i>Phyllanthus limmuensis</i> Cufod.	Euphorbiaceae	Karacho (Mur)	S	Leaves and	[14]
211	<i>Physalis juliflora</i> Link	Solanaceae	Yefereng Awit (Amh)	S	young shoots	[7]
212	<i>Phytolaca dodecandra</i> L. H'erit.	Phytolacaceae	Indod (Amh)	S	Fruit	[5]
213	<i>Piliostigma thonningii</i>	Fabaceae	Qalqala (Gam)	T	Fruit	[27]
214	<i>Podocarpus falcatus</i> (Thunb.)	Podocarpaceae	Dagucho (Sid)	T	Leaves	[27]
215	<i>Pouteria altissima</i> (A. Chev.) Baehni	Sapotaceae	Gomu (Maj)	T	Fruit	[14]
216	<i>Premna resinosa</i> (Hochst.)	Lamiaceae	Mermer (Ham)	S	Fruit	[27]
217	<i>Prosopis juliflora</i> (Sw.) DC.	Fabaceae	Woyane Zaf (Amh)	T	Fruit	[7]
218	<i>Prunus africana</i> (Hook. f.)	Rosaceae	Chachu (Bench)	T	Fruit	[14]
219	<i>Psydrax schimperiana</i>	Rubiaceae	Kaheltta (Kon)	S	Fruit	[7]
220	<i>Pycnostachys abyssinica</i>	Lamiaceae	Fanfua (Gur)	S	Leaf	[14]
221	<i>Pyrenacantha kaurabassana</i>	Icacinaceae	Appel (Anu)	C	Tubers	[27]
222	<i>Pyrostria phyllanthoidea</i> (Baill.)	Rubiaceae	Qoodho-Orgi (Som)	S	Fruit	[17]
223	<i>Rhamnus prinoides</i> L'Herit.	Rhamnaceae	Gesho (Amh)	T	Leaf	[14]
224	<i>Rhamnus staddo</i> A. Rich.	Rhamnaceae	Teddo (A/Oro)	T	Stem	[5]
225	<i>Rhoicissus revouilii</i> Planch.	Vitaceae	Daga-Cebsa (A/Oro)	C	Leaf and	[5]
226	<i>Rhoicissus tridentata</i> (L. f.) Wild	Vitaceae	Qashro (Tig)	C	Stem	[7]
227	<i>Rhus glutinosa</i> A. Rich.	Anacardiaceae	Letata (D)	T	Fruit	[7]
228	<i>Rhus longipes</i> Engl.	Anacardiaceae	Ungafree (G)	S	Fruit	[17]
229	<i>Rhus natalensis</i> Krauss	Anacardiaceae	Ongaprie (Wel)	T	Fruit	[7]
230	<i>Rhus retinorrhoea</i> Oliv.	Anacardiaceae	Debeluca (A/Oro)	T	Seed	[17]
231	<i>Rhus ruspolii</i> Engl.	Anacardiaceae	Qacawuleteta (D)	S	Fruit	[14]
232	<i>Rhus tenuinervis</i> Engl.	Anacardiaceae	Dadaraiya (G)	S	Fruit	[27]
233	<i>Rhus vulgaris</i> Meikle	Anacardiaceae	Kemmo (A/Oro)	S	Seed	[14]
234	<i>Rhynchosia allaudii</i> Sacl.	Fabaceae	Holla (Kon)	S	Fruit	[7]
235	<i>Ritchiea albersii</i> Gilg	Capparidaceae	Gabo (Kaf)	S	flower	[27]
236	<i>Rosa abyssinica</i> Lindley	Rosaceae	Kega (Amh)	S	Seed	[7]
237	<i>Rubus aethiopicus</i> R. A. Grah.	Rosaceae	Hinjaro (Had)	S	Fruit	[5]
238	<i>Rubus apetalus</i> Poir.	Rosaceae	Goraa (A/Oro)	S	Fruit	[14]
239	<i>Rubus erlangeri</i> Engl.	Rosaceae	Henjoriya (Wel)	S	Fruit	[14]
240	<i>Rubus steudneri</i> Schweinf.	Rosaceae	Garó (Kaf)	S	Fruit	[17]
241	<i>Rubus volkensii</i> Engl.	Rosaceae	Yedega Injorii (Amh)	S	Fruit	[5]
242	<i>Rumex nervosus</i> Vahl	Polygonaceae	Abiche (Awi)	S	Fruit	[25]
243	<i>Rytigynia neglecta</i> (Hiern)	Rubiaceae	Mixoo (A/Oro)	T	Fruit	[27]
244	<i>Saba comorensis</i> (Boj.) Pichon	Apocynaceae	Goriza (KA)	T	Fruit	[27]
245	<i>Sacrocephalus latifolius</i> (Smith)	Rubiaceae	Moyo (Anu)	S	Fruit	[17]
246	<i>Sageretia thea</i> (Osbeck)	Rhamnaceae	Kichil agam T	S	Fruit	[7]
247	<i>Salvadora persica</i> L.	Salvadoraceae	Mero (Amh)	S	Fruit	[5]
248	<i>Satureja punctata</i> (Benth.) Briq.	Lamiaceae	Gemuri (Ben)	S	Leaf	[17]
249	<i>Schinus molle</i> L.	Anacardiaceae	Qundo (Amh)	S	Fruit	[17]
250	<i>Schlechterella abyssinica</i>	Asclepiadaceae	Potoro (Ham)	C	Root	[27]
251	<i>Sclerocarya birrea</i> subsp. <i>Birrea</i>	Anacardiaceae	Pasha (D)	T	Fruit	[27]
252	<i>Scolopia theifolia</i> Gilg	Flacourtiaceae	Kokofla (A/Or)	T	Fruit	[25]
253	<i>Scutia myrtina</i> (Burm. f.) Kurz	Rhamnaceae	Haraang (A/Oro)	T	Fruit	[27]
254	<i>Senna obtusifolia</i> (L.) Irwin	Fabaceae	Ajada (Anu)	S	Leaf	[17]
255	<i>Senna singueana</i> (Del.) Lock	Fabaceae	Hanqarar (Kon)	S	Seed	[17]
256	<i>Sideroxylon oxyacanthum</i> Baill.	Sapotaceae	Davesa (Tig)	S	Young Shoot	[14]
257	<i>Solanum americanum</i> Miller	Solanaceae	NM	S	Fruit	[14]
258	<i>Solanum amphitricum</i> Gmel.	Solanaceae	NM	S	Fruit and leaf	[5]
259	<i>Solanum nigrum</i> L.	Solanaceae	Tsepo (Kaf)	S	Fruit	[25]
260	<i>Solanum tarderemotum</i> Bitter	Solanaceae	NM	S	Leaf	[27]
261	<i>Sparmannia ricinocarpa</i>	Tiliaceae	Wulkifa (Amh)	S	Bark	[27]
262	<i>Sterculia africana</i> (Lour.) Fiori	Sterculiaceae	Girole (G)	T	Seed	[7]
263	<i>Sterculia rhynchocarpa</i>	Sterculiaceae	Ourae (Ben)	S	Seed	[27]
264	<i>Strychnos innocua</i> Del.	Loganiaceae	Qeytso (Ben)	S	Seed	[27]
265	<i>Strychnos mittis</i> S. Moore	Loganiaceae	Ugugee (G)	T	Fruit	[14]

No	Scientific name	Family	Local name	Habit	Parts used	Sources
266	<i>Syzygium guineense</i> (Willd.)	Myrtaceae	Chatto (She)	T	Fruit	[17]
267	<i>Tamarindus indica</i> L.	Fabaceae	Kore (G)	T	Fruit	[5]
268	<i>Tarenna graveolens</i> (S. Moore)	Rubiaceae	Bela (Ham)	S	Fruit	[25]
269	<i>Teclea nobilis</i> Del.	Rutaceae	Tsaki (Ham)	T	Fruit	[5]
270	<i>Toddalia asiatica</i> (L.) Lam.	Rutaceae	(Amh)	S	Fruit	[14]
271	<i>Trichilia dregeana</i> Sond.	Meliaceae	(Som)	T	Seed	[10]
272	<i>Trilepisium madagascariense</i>	Moraceae	Qumputia	T	Fruit	[5]
273	<i>Tristemma mauritanum</i> J. F.	Melastomaceae	Gereche (Anu)	S	Fruit	[27]
274	<i>Tylosema fassoglensis</i>	Fabaceae	Weeo (Anu)	S	Fruit	[25]
275	<i>Uvaria angolensis</i> Oliv.	Annonaceae	Boyinya (Wel)	S	Fruit	[17]
276	<i>Uvaria leptoclados</i> Oliv.	Annonaceae	Chochum (KW)	T	Fruit	[14]
277	<i>Vangueria apiculata</i> K. Schum.	Rubiaceae	Gurmase (G)	S	Fruit	[17]
278	<i>Vangueria madagascariensis</i>	Rubiaceae	Mesho (Kaf)	S	Fruit	[14]
279	<i>Vatovaea pseudolablab</i> (Harms)	Fabaceae	Kullayya (Kon)	C	Tuber&Seed	[25]
280	<i>Vepris eugenifolia</i> (Engl.)	Rutaceae	Tsaki (Ham)	S	Flower	[25]
281	<i>Vepris glomerata</i> (F. Hoffm.)	Rutaceae	Kena (Ham)	C	Leaf	[25]
282	<i>Vitellaria paradoxa</i> Gaertn. f.	Sapotaceae	Wado (Anu)	T	Tuber	[27]
283	<i>Vitex doniana</i> Sweet	Lamiaceae	Jwelo (Anu)	T	Fruit	[27]
284	<i>Whitfieldia elongata</i>	Acanthaceae	Adebuch (G)	S	Nectar	[17]
285	<i>Ximenia americana</i> L.	Olcaceae	Inkoy (Amh)	T	Fruit	[14]
286	<i>Ximenia caffra</i> Sond.	Olcaceae	Inginkada (Kon)	T	Fruit	[27]
287	<i>Zanthoxylum chalybeum</i>	Rutaceae	Ketata (K)	T	Seed	[25]
288	<i>Ziziphus abyssinica</i> Hochst.	Rhamnaceae	Lang (Anu)	S	Leaf	[5]
289	<i>Ziziphus hamur</i> Engl.	Rhamnaceae	Haamud (Som)	S	Fruit	[7]
290	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Gusura (Afa)	T	Fruit	[27]
291	<i>Ziziphus mucronata</i> Willd.	Rhamnaceae	Kobta (K)	T	Fruit	[25]
292	<i>Ziziphus spina-christi</i> (L.)	Rhamnaceae	Bow (Nue)	T	Fruit	[27]

References

- [1] Abate, D. (1999). *Agaricus campestris* in upland Ethiopia. *Mycologist*, 13: 28.
- [2] Addis, G. Asfaw, Z. and Woldu, Z. 2013. The role of woody and semi-edible woody plants to household food sovereignty in Hamar and Konso communities, South Ethiopia. 4 (5). 124-254.
- [3] Andersen, 2009, Food security: definition and measurement. *Food Sec.* 1: 5–7.
- [4] Asfaw, Z. (1999). Ethnobotany of Nations, Nationalities and Peoples in Gambella, Benishangul-Gumuz and southern regions of Ethiopia. Research and Publication Office, Addis Ababa University.
- [5] Assefa, A. and Abebe, T., 2011, "Wild edible trees and shrubs in the semi-arid lowlands of southern Ethiopia," *Journal of Science and Development*. 1 (1). 5–19.
- [6] Awas, T. (2007). Plant diversity in Western Ethiopia: ecology, ethnobotany and conservation. PhD thesis, University of Oslo.
- [7] Balemie, K and Kebebew, F., 2006a, 2015b, "Ethnobotanical study of wild edible plants in Derashe and Kucha Districts, South Ethiopia," *Journal of Ethnobiology and Ethnomedicine*, 2 (3) 3-53.
- [8] Batal, M. and Hunter, E., 2007. Traditional Lebanese recipes based on wild plants: an answer to diet simplification? *Food and Nutrition Bulletin*, 28 (2). 303-311.
- [9] Biswakarma, S., Sarkar, B. C., Shukla, G., Pala, N. A. and Chakravarty, S., 2015. Traditional application of ethnomedicinal plants in Naxalbari area of West Bengal, India. *Int J Usufruct Manag*, 1 (6). 36-42.
- [10] CARE. H. 2016. Potential Contribution of Neglected and Underutilized Edible woody plants to Pregnant, Lactating Women's & Under Two Children Diet in CARE-Ethiopia Project Areas of South Gender. Bahirdar University. Final report. 14-52.
- [11] CFSVA ETHIOPA. 2019. Food security analysis report. Comprehensive Food Security and Vulnerability Analysis.
- [12] Davenport, N. A., Gambiza, J., Shackleton, C. M., 2011. Use and users of municipal commonage around three small towns in the Eastern Cape, South Africa. *Journal of Environmental Management* 92 (5). 1449–1460.
- [13] Duarte, O. and Paull, R. E. 2011. *Tropical fruits* Vol. 1. CABI.
- [14] Duguma, H. 2020. Edible woody plant Nutritional Contribution and Consumer Perception in Ethiopia. *International Journal of Food Science*, 2020.
- [15] EBI, 2014. Ethiopia's Fifth National Report to the Convention on Biological Diversity.
- [16] EHDA. 2011. Assessment of development potentials and investment options in the export. Oriented fruit and vegetable sector, Addis Abeba, Ethiopia.
- [17] Ermias, L.; Zemedu, A., Ensermu, K. and Damme. 2011. Edible woody plants in Ethiopia: a review on their potential to combat food insecurity, 2 (1). 71-73.
- [18] FAO, WFP and IFAD, 2012. The state of food insecurity in the world 2012. Economic growth is necessary but not sufficient to accelerate reduction Food and Agricultural Organization of the United States, Rome, Italy. 63-112.
- [19] FAO. 2020. News Article. www.fao.org/story/en/item/1200484/icode/ Food and Agricultural.

- [20] Farooq, T. H.; Nawaz, M. F., Khan, M. W., Gilani, M. M., Buajan, S., Iftikhar, J., Tunon, N. and Wu, P. 2017. Potentials of agroforestry and constraints faced by the farmers in its adoption in District Nankana Sahib, Pakistan. *Int. J. Dev. Sustain*, 6. 586-593.
- [21] Jansen, M., Guariguata, M. R., Raneri, J. E., Ickowitz, A., Chiriboga-Arroyo, F., Quaadvlieg, J. and Kettle, C. J., (2020). Food for thought: The underutilized potential of tropical tree-sourced foods for 21st-century sustainable food systems. *People and Nature*, 2 (4).1006-1020.
- [22] Kaoma, H. and Shackleton, C. M., 2015. The direct-use value of urban tree non-timber forest products to household income in poorer suburbs in South African towns. *Forest Policy and Economics*, 61. 104-112.
- [23] Kim, S.; Sung, J., Foo, M., Jin, Y.-S., and Kim, P. J. 2015. Uncovering the nutritional landscape of food. *PLoS ONE*, 10: 118-697.
- [24] Kumar, D., Kumar, S., Ahmed, F., Bhardwaj, R. K., Thakur, K. S. and Thakur, P., 2014. Potential and biodiversity conservation strategies of underutilized or indigenous vegetables in Himahal Pradesh. *International Journal of Agricultural Sciences*, 10 (1).
- [25] Leta, G., 2016. Wild Edible Plant Bio-diversity and Utilization System in Nech Sar National Park, Ethiopia. *International Journal of Bio-Resource & Stress Management*, 7 (4).
- [26] Lulekal, Z., Asfaw, E., Kelbessa, and Damme, P. 2011. "Wild edible plants in Ethiopia: a review on their potential to combat food insecurity," *Afrika focus*. 24 (2). 71-122.
- [27] Lulekal, E., Asfaw, Z and Kelbessa, E., 2011. Wild edible plants in Ethiopia: a review on their potential to combat food insecurity. *Afrika focus — Volume 24, Nr. 2, 2011 — pp. 71-121*.
- [28] Mavengahama, S. M. McLachlan, and W. De Clercq, 2013. "The role of wild vegetable species in household food security in maize based subsistence cropping systems," *Food Security*, 5, (2). 227-233.
- [29] Miah, M. D.; Kabir, R. R. M. S., Koike, M., Akther, S. and Shin, M. Y., 2002. Rural household energy consumption pattern in the disregarded villages of Bangladesh. *Energy Policy*, 38: 997-1003.
- [30] MoARD., 2017. Vegetables and Fruits Production and Marketing Plan (Amharic Version), Ministry of Agriculture and Rural Development, Addis Ababa, Ethiopia.
- [31] Ndayambaje, J. D., Heijman, W. J. M., and Mohren G. M. J. 2012. Household Determinants of Tree Planting on Farms in Rural Rwanda. *Small-scale Forestry*, 11: 1-32.
- [32] Penafiel, D. D.; Lachat, C. C., Espinel, R., Van Damme, P. P. and Kolsteren, P. P. 2011. A systematic Review on the Contributions of Edible Plant and Animal Biodiversity to Human Diets. *Eco Health* 8 (2). 381-399.
- [33] Popkin, B. M. 1998. The nutrition transition and its health implications in lower-income countries. *Publ. Health Nutr.* 1, 5-21.
- [34] Powell, B., Ickowitz, A., McMullin, S., Jamnadass, R., Padoch, C., Pinedo-Vasquez, M. and Sunderland, T., 2012. The role of forests, trees and woody biodiversity for nutrition-sensitive food systems and landscapes. In Expert background paper for the International Conference on Nutrition.
- [35] Purugganan, M. D., 2019. Evolutionary insights into the nature of plant domestication. *Current Biology*, 29 (14). 705-714.
- [36] Seyoum, D. Teketay, G. Shumi, and Wodafirash, M., 2015 "Edible wild fruit trees and shrubs and their socioeconomic significance in central Ethiopia," *Ethnobotany Research and Applications*. 1 (4). 183-197.
- [37] Styger, E., Rakotoarimanana, J. E. M., Rabevohitra, R. and Fernandes, E. C. M. 1999 Indigenous fruit trees of Madagascar. *Agroforest. Syst.* 4 (6). 289-310.
- [38] Tebkew. T. Gebremariam, Y. Mucheye, T. Alemu, A. Abich, A. and Fikir, D., 2018. "Uses of wild edible plants in Quara district, northwest Ethiopia: implication for forest management," *Agriculture & Food Securit.* 7 (2).1-12.
- [39] Teketay, D. and Eshete, A., 2004. Status of indigenous fruits in Ethiopia. Review and Appraisal on the Status of Indigenous Fruits in Eastern Africa: A Report Prepared for IPGRI-SAFORGEN in the Framework of AFRENA/FORENESSA, Kenya Forestry Research Institute, Nairobi, Kenya, pp. 3-35.
- [40] Turner, N. C.; Li, F. M., Xiong, Y. C. and Siddique, K. H., 2011. Agricultural ecosystem management in dry areas: challenges and solutions. *Plant and soil*, 347: 1-6.
- [41] Yakob, G., Asfaw, Z. and Zewdie, S., 2014. Wood production and management of woody species in homegardens agroforestry: south west Ethiopia. *International Journal of Natural Sciences Research*, 2 (10). 165-175.