



Handbook of
**SIDAMA TRADITIONAL
MEDICINAL PLANTS**



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I. BACKGROUND

Names have meaning. If you understand the meaning, names can tell powerful stories in only a few words. Common River is an unassuming name of an NGO that is based in Aleta Wondo, Ethiopia. However, its name is powerful in meaning and has many lessons embedded in it. Before Common River was established, co-founders Tsegaye Bekele and Donna Sillan conducted a feasibility study in 2007 to inform what would become the vision and mission for their NGO. During the study, they met with numerous community members and officials, including a regional parliamentary member who had known Tsegaye's family when they were younger. When asked why he seemed to know Tsegaye so well despite not having been familiar with each other in years, he responded: "We come from the same river."

Tsegaye, Donna, and their staff embraced the Common River name as a reminder of the shared connections and responsibility we have for each other, our communities, and our world. But it also reflects their view of community development. In their own words, "development is a process. It is a moving stream which flows according to changing circumstances." In designing Common River's programs and activities, Tsegaye and Donna believed it was important for the community to identify and own programs that would meet their needs. Rather than impose programs, they instead facilitated processes for the Aleta Wondo community to define their needs and priorities. And through this process, enable community members to build self-reliance and empowerment.

The Common River model that Tsegaye and Donna have built has lessons to teach us all. We first learned about their work in 2012 after reading *Sidama Sustenance*, a book by Donna about the foodways, culture, and traditions of the Sidama tribe. The book also described Common River's positive deviance approach to development, which closely aligned with our global health mission.

Since 2007, faculty, staff and students from the University of Wisconsin-Madison (UW) have engaged in health-related educational and research partnerships in Ethiopia, primarily with medical schools (Addis Ababa University and Hawassa 4University). In 2012, the UW began to explore opportunities to build community-based partnerships to strengthen health systems in communities, rather than only focus on Ethiopian hospitals and academic institutions. We learned about Common River at this time and contacted Tsegaye and Donna because we knew UW students and staff could learn from their experience and leadership.

In June 2013, Common River hosted its first group from the UW (9 students and staff) for a global health field course. The UW students completed a service learning project on the distribution, abundance, and diversity of plants used for medicine at Common River. Our intent was for UW students to engage in a community service project to produce knowledge for the benefit of the community, and to understand the importance of involving community members throughout the process. We wanted to learn from and apply Common River's approach of engaging the community from project concept to implementation, and finally to evaluating and celebrating results. The end result of this process is this handbook, which is a compilation of the field research collected in June 2013.

But this handbook is not the only result of the project. An equally or perhaps more important outcome was the exchange of ideas, information and relationships that were built. We may indeed come from the same river, but as Heraclitus wrote "you cannot step into the same river twice," for as we step into the river we change it and likewise we are changed by it. We hope this handbook will be a valuable resource to the Common River community, now and for future generations. But also that this flow of engagement will continue between Common River and the UW.

Heidi Busse, MPH and Girma Tefera, MD
July 2013



II. ACKNOWLEDGEMENTS

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The patience and openness of those who shared their knowledge made this project possible. Werknesh, who was not only an excellent trilingual translator, but also a repository of herbal knowledge contributed significantly as did Ashenafi, Getahun, Tafesse, Asnakech, "The other women at Asnakech's house", "Everyone on the Senior Council", Adunya, "Adunya's Mother", Chef Asho, and the young people Jamal, Ayallo, Buraka, Mitiku, Berikat, Derribe and Abraham, who know so much and freely shared their knowledge about plants.

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Alex and Werknesh



Alex and Abush ("Getahun")



Tafesse and Selam



Adunya holding *amesa*



Asho, chef at Common River



Derribe next to a banana tree



Hanna, Alex, Liz, Selam, Abby, Heidi, Tsegaye, Tara, and Lennea



Burake, Ashenafi, Yuli, Jamal, and Ayallo

III. INTRODUCTION

The World Health Organization (WHO) defines traditional medicine as “health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illness and maintain well-being” (1). In many developing countries in Asia, Latin America, and Africa (including Ethiopia), it serves to meet the primary health care needs of the people (2). In Ethiopia, traditional medicine plays an important role in the health care system. It is estimated that more than 80% of the population relies upon traditional medicine due to 1) cultural acceptance 2) relatively low cost and 3) lack of access of modern health facilities (3, 4).

The vast majority of Ethiopia’s population lives in rural areas where access to health services is challenging. Moreover, existing health sector resources (health workers, resources, and medicines) are limited. The greatest challenge is to determine how best to narrow the gap between the limited services and the population who needs them (5). In 2003/2004, it was found that at least 30% of the population did not have access to formal health services. A major contributing factor of this problem is the severe shortage of doctors and healthcare professionals. The national average physician to population ratio was 1:51042, with over 35% of the physicians found in three major cities, serving 4.7% of the total population (6).

In recent years, it has been recognized that traditional medicine plays an important role in health systems. Recognizing its importance, governments of many developing countries have made initiatives towards programs to promote safe and effective traditional medicine practices in the health care sector (7). The Sidama people of the Southern Nations, Nationalities, and Peoples’ Region (SNNPR) have relied on plants to treat illnesses and diseases for generations. Spiritual practices play a large part in the healing process and have been integrated with the knowledge of medicinal plants (8). This indigenous knowledge has been passed down through generations, but is facing the threat of being lost due to cultural change and declining resources for natural medicinal products (9).

The preservation of traditional practices is not only important in ensuring the continued access to medicine, but also for the preservation of the Sidama culture.

In addition, the preservation of traditional medicines is vital in reducing the loss of biodiversity and promoting environmental health (9). In efforts to preserve medicinal plant knowledge, in recent years numerous Ethiopian plants have been validated in a scientific empirical framework through phytochemical analysis and subsequent bioassays. This work, largely being undergone at Addis Ababa University and the Ethiopian Health and Nutrition Research Institute, has led to the formulation and distribution of a number of standardized phytopharmaceuticals. This work is one example of ways western medicine can collaborate with indigenous peoples to build common knowledge about plants and their traditional medicinal uses. And, subsequently, may help narrow the gap between limited health resources and the rural indigenous peoples who need improved services.

Common River, a non-profit organization in Aleta Wondo, has recognized the importance of preserving medicinal plant knowledge and the multiple benefits. Students and staff from UW-Madison worked with Common River in 2013 on a service learning project to preserve indigenous knowledge of Sidama medicinal plants. This handbook is the result of that collaboration to document knowledge held among the Sidama in Aleta Wondo. Our shared aim is to preserve indigenous knowledge of Sidama medicinal plants for current and future generations. This handbook serves not only that purpose, but also a record of the friendship between the UW-Madison and Common River.



IV. COMMON RIVER OVERVIEW

Common River is a 501(c)3, California-based nonprofit organization, working to provide sustainable community development in Aleta Wondo, located in the Sidama zone of the SNNPR, Ethiopia. In 2007, Donna Sillan and Tsegaye Bekele started this organization based on the model of Positive Deviance (PD). PD is an asset-based community development model that uses the strengths and assets a community already has to create and motivate change. Common River's mission is to empower the community to become balanced, productive, and self-sustaining for others to witness and replicate, while honoring cultural heritage and biodiversity. They work to help develop the community through education, health, enterprise and infrastructure. Common River works to preserve the Sidama culture and way of life. By growing native crops, cooking local foods and celebrating the heritage of the region, Common River works within the community rather than trying to change it. Using the natural resources, hands and minds of the community; Common River takes possibility and makes it reality for those in Aleta Wondo.



V. HANDBOOK

V.a How to Use This Handbook

This handbook is meant to serve as a repository of cultural knowledge, and not a manual for botanical medical practice. These plants should only be used under the advisement of knowledgeable practitioner of traditional medicine. A number of plants have poisonous look-alikes. Others are toxic when used improperly or in excess dosage and certain plant medicines have dangerous interactions with pharmaceuticals.

'Plants and their uses' are listed alphabetically by their Latin name (Section V.c.). For each plant, the Amharic and Sidama translation, medicinal use, preparations and administration, adverse effects, and pharmacological properties are listed. Additionally, plants can be identified by medicinal use and listed by botanical names (Appendix Section VI).

V.b Sidama Concepts of Disease

The diseases recognized by the Sidama include both conditions acknowledged by scientific medicine and unique to their culture. Some of these illnesses are known to other Ethiopian people while others only to the Sidama. The conditions that are most common and most grave appear to have proportionately more plant cures than those that are minor or rare. For example, the preponderance of stomach illness encountered by the Sidama is reflected in the many herbs used for "stomach ache," a term describing a variety of gastrointestinal diseases.

Causative factors of disease may also diverge from scientific medical thought such as *buda* or evil eye and being circled by bats (*Yeletito Wof*). The diseases mentioned in this handbook can be found below.

Balaamo: A condition where painful swellings or pustules arise on the skin. Herbs are often spit on the sores, while the words "burst" or "spread out" are uttered.

Dingatenia: Stomach ailment resulting from going out into the cold.

M'utch: This disease results from an unclean, greasy, or sweaty part of the body being exposed to the sun. Symptoms include rash and irritation. Scientific medicine has identified it as herpes labialis aggravated by heat.

Yeletito Wof: This illness occurs when a bat circles the head of the afflicted and/or defecates on them. The symptoms include yellowing of the eyes. Scientific medicine identifies this as Hepatitis.



V.c Sidama Plants and Their Uses

Ajuga integrifolia



<i>Ajuga integrifolia</i> (bugleweed)	Amharic: Anamuro
	Sidama: Anamuro
Medicinal use: Stomach ache	Part(s) used: leaves
Adverse Effects (if any):	Preparation: cold water maceration
	Administration: drink
Pharmacological properties	Iridoid glycosides (8-O-acetylharpagide) treat diabetes, hypertension and gastrointestinal disorders (10).

Allium sativum



<i>Allium sativum</i> (garlic)	Amharic: N'ech shunkurt
	Sidama: Tuma
Medicinal use: Common cold; malaria	Part(s) used: cloves
Adverse Effects (if any):	Preparation & Administration: Common cold: cloves ground up and mixed with honey, take first thing in morning on an empty stomach Malaria: peeled and infused in clarified butter and eaten
Pharmacological properties	Allicins: fibrinolytic activity which reduces platelet aggregation by inhibiting prostaglandin E2 (11).

Aloe vera



<i>Aloe vera</i> (aloe)	Amharic: Erret
	Sidamo: Erret
Medicinal use: Cancer; laxative; wound healing; dandruff	Part(s) used: leaves
	Preparation: spikes removed, ground with some water to make pulp
Adverse Effects (if any):	Administration: Cancer & laxative: mix 1 tablespoon of pulp with honey, eaten 2 times a day Wound healing: apply liquid from pulp to wound Dandruff: message pulp into scalp, sit under sun for 30 min, wash hair
Pharmacological properties	Bradykinase: anti-inflammation when applied to skin Anthroquinones: anti-inflammatory, antibacterial and antiviral (13)

Artemisia afra



<i>Artemisia afra</i> (African wormwood)	Amharic: Ariti
	Sidama: Inare
Medicinal use: Smallpox; stomach ache; infant growth/weight gain; anti-malarial	Part(s) used: leaves
Adverse Effects (if any):	Preparation & Administration: Smallpox: ground leaves and apply topically Stomach ache: wrap leaves in enset leaves and put over fire, squeeze liquid out of bundle, drink on empty stomach Infant growth: decoction of leaves given to infants under six months who are too small
Pharmacological properties	Essential Oils (α -thujone) have antispasmodic, antifungal, antibacterial activity (13)

Bersama abyssinica



<i>Bersama abyssinica</i> (Winged bersama)	Amharic: Teberako Sidama: Hatabicho
Medicinal use: Dingetenia	Part(s) used: stem Preparation: chew stem peelings chewed
Adverse Effects (if any):	
Pharmacological properties	Bufadienolides -cardiac glycosides with anti-tumor activity (14)

Capsicum annum/frutescens



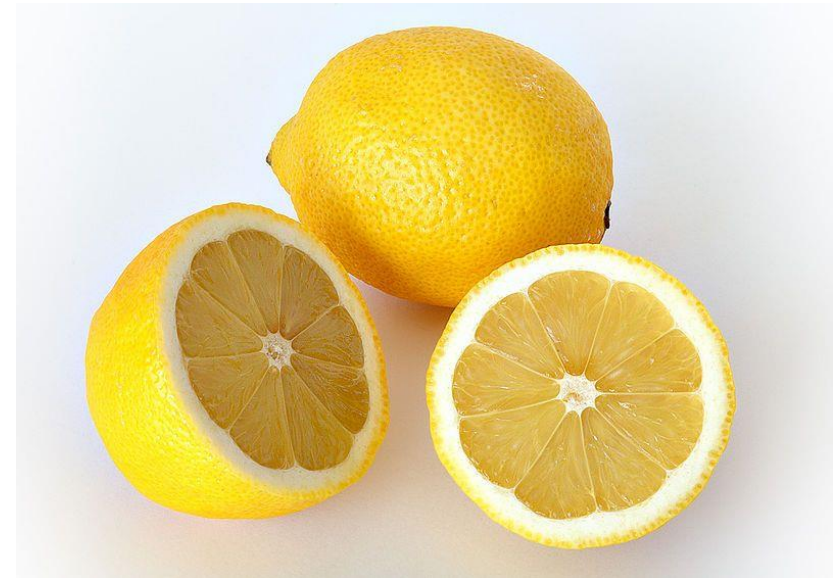
<i>Capsicum annum/frutescens</i> (chili peppers)	Amharic: Berebere/Mitmitta Sidama: Berebere/Mitmitta
Medicinal use: Malaria; swollen lymph nodes; stomach ache	Part(s) used: fruit (peppers) Preparation: used as spice in food Administration: eaten
Adverse Effects (if any):	
Pharmacological properties	Capsaicin -relief of neuropathic pain, protect gastric against ulceration (low dosage), weight loss (15)

Carica papaya



<i>Carica papaya</i> (papaya)	Amharic: Papaya Sidama: Papaya
Medicinal use: Amoebic dysentery; abortion	Part(s) used: seeds Preparation & Administration: Amoebic dysentery: chew 7 seeds three times a day Abortion: maceration of young leaves in cold water
Adverse Effects (if any):	
Pharmacological properties	Quercetin and β-sitosterol (in unripen fruit)-increased antioxidant activities of Glutathione reductase, Glutathione peroxidase. (16)

Citrus x limon



<i>Citrus x limon</i> (lemon)	Amharic: Lomi Sidama: Lome
Medicinal use: Stop vomiting	Part(s) used: fruit Preparation & Administration: Drink fruit juice to stop vomiting
Adverse Effects (if any):	
Pharmacological properties	Citroflavonoids, limonene, coumarins- antidiarrhoeic, diuretic, intestinal mucosa protector , antiseptic, vascular stimulant and protector (17)

Citrus medica



<i>Citrus medica</i> (citron)	Amharic: Tiringo Sidama: Turungo
Medicinal use: High blood pressure	Part(s) used: fruit Preparation & Administration: Fruit eaten for high blood pressure
Adverse Effects (if any):	
Pharmacological properties	Essential oils (limonene): aromatic and tonic (18)

Coffea arabica



<i>Coffea arabica</i> (coffee)	Amharic: Buna Sidama: Buna
Medicinal use: Cease wound bleeding; stomach ache	Part(s) used: coffee bean; leaves Preparation & Administration Cease wound bleeding: apply coffee grounds to wounds Stomach ache: drink tea made of coffee leaves mixed with chili and fennel
Adverse Effects (if any):	
Pharmacological properties	Polyphenols and flavonoids – anti-inflammatory, antioxidant activities (19).

Cordia africana



<i>Cordia Africana</i> (in the <i>borage</i> family)	Amharic: Wanza Sidama: Wadicho
Medicinal use: Upset stomach	Part(s) used: branch
Adverse Effects (if any):	Preparation & Administration: branch chewed first thing in morning to induce vomiting, which aids upset stomach
Pharmacological properties	N/A

Croton macrostachyus



<i>Croton macrostachyus</i> (in the <i>croton</i> family)	Amharic: Bisana Sidama: Masincho
Medicinal use: Skin fungus	Part(s) used: sap
Adverse Effects (if any):	Preparation & Administration: leaf stem broken and sap applied topically to skin (sap dries black)
Pharmacological properties	Alkaloids, flavonoids, saponins, tannins, polyphenols - Larvicidal activity against larvae of <i>Anophele arabiensis</i> , a potent malaria vector (20), anticonvulsant and sedative effects (20).

Cupressus lusitanica



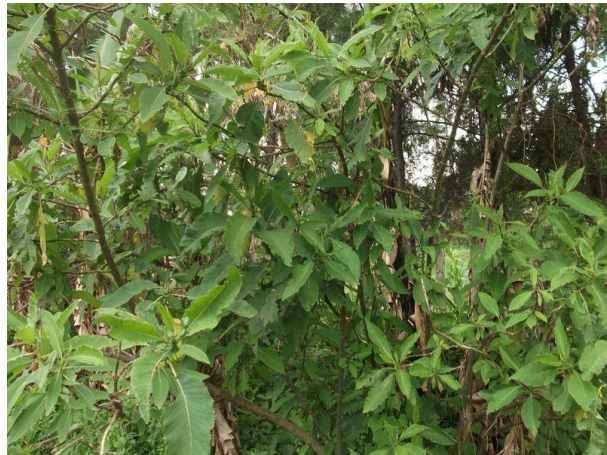
<i>Cupressus lusitanica</i> (White Cedar)	Amharic: Yeferenji T'id
Medicinal use: Diarrhea (animals)	Sidama: Yeferenjicho T'id
Adverse Effects (if any):	Part(s) used: leaves
Pharmacological properties	Preparation & Administration: leaves crushed, juice given to animals for diarrhea
	A-pinene, sesquiterpenes: anti-dermatophytic activity (21).

Dioscorea alata



<i>Dioscorea alata</i> (yam)	Amharic: Boye
Medicinal use: Fungal conditions of the skin	Sidama: Boye
Adverse Effects (if any):	Part(s) used: leaves
Pharmacological properties	Preparation & Administration: leaves rubbed vigorously on skin for fungal conditions
	Phenolic and flavonoid compounds (Hydro-Q chromene, gamma-tocopherol-9...)-anti-diabetic effect (23)

Discopodium peninervum



<i>Discopodium peninervum</i>	Amharic: Ameraro
	Sidama: Rejicho
Medicinal use: Stop bleeding	Part(s) used: stem; leaves
Adverse Effects (if any):	Preparation & Administration: stem juice applied to wounds to stop bleeding; insert leaf into nose to stop nose bleed
Pharmacological properties	N/A

Drynaria volkensis



<i>Drynaria volkensis</i> (basket fern)	Amharic: Tekesbila
	Sidama: Kokoso
Medicinal use: Tooth ache	Part(s) used: rhizome
Adverse Effects (if any):	Preparation & Administration: chew rhizome to relief ache
Pharmacological properties	Morelloflavone-antibacterial activity (23).

Ehretia cymosa



<i>Ehretia cymosa</i>	Amharic: Game
	Sidama: Gidincho
Medicinal use: Stomach ache and rheumatism	Part(s) used: leaves
Adverse Effects (if any):	Preparation & Administration: cold water maceration, drink for stomach aches and rheumatism
Pharmacological properties	N/A

Embelia schimperi



<i>Embelia schimperi</i>	Amharic: Enkoko
	Sidama: Konko
Medicinal use: hookworms	Part(s) used: seeds
Adverse Effects (if any):	Preparation & Administration Seeds dried, powdered and eaten to eliminate hookworms
Pharmacological properties	Embelinone, Aegicerin, protoprimumulagenin A -mild antibacterial activity against <i>Rhodococcus sp.</i> (24).

Ensete ventricosum



<i>Ensete ventricosum</i> (false banana)	Amharic: Enset
	Sidama: Wesse
Medicinal use: Fractures; aiding placental discharge after birth; diarrhea; inducing abortion; wound healing; strength and improve immune health	Part(s) used: root
Adverse Effects (if any):	Preparation & Administration Specific varieties eaten for bone fractures, aiding placental discharge after birth, diarrhea, inducing abortion and wound healing Bulla (made from liquid squeezed from processing) drink as tonic for strength and improved immune function
Pharmacological properties	N/A

Erythrina brucei



<i>Erythrina brucei</i>	Amharic: Welako
	Sidama: Korch
Medicinal use: Stimulate milk flow in cows; treat coughing; stomach problems	Part(s) used: stem
Adverse Effects (if any):	Preparation & Administration: Stimulate milk flow (cows) & treat cough: cold water maceration of stem Stomach problems: chew leaves
Pharmacological properties	N/A

Eucalyptus globulus



<i>Eucalyptus globulus</i> (Blue Gum)	Amharic: (N'ech) Bahar Zafe
	Sidama: (N'ech) Bahar Zaf
Medicinal use: Stomach ache; fever; common cold	Part(s) used: fruit; leaves
Adverse Effects (if any):	Preparation & Administration: Stomach ache: chew top part of fruit Fever: rub leaves on skin to reduce fever Common cold: boil Eucalyptus and Damakasse in water and inhaled
Pharmacological properties	Borneol, Euglobal-III, Hexane extracts- antitumor, anthelmintic activity, antihistaminic (25).
Other	Other local Eucalypti not used medicinally

Foeniculum vulgare



<i>Foeniculum vulgare</i> (fennel)	Amharic: Insilal
	Sidama: Insilal
Medicinal use: Diuretic; clean stomach	Part(s) used: leaves
Adverse Effects (if any):	Preparation & Administration: Diuretic: added to soup Clean stomach: chew
Pharmacological properties	Trans-anethole, estragole, fenchone- antifungal, antibacterial, antioxidant, antithrombotic (26).

Hagenia abyssinica



<i>Hagenia abyssinica</i> (hagenia)	Amharic: Kosso
	Sidama: So'icho
Medicinal use: Tapeworms	Part(s) used: female flowers
Adverse Effects (if any): commonly overdosed	Preparation & Administration: infusion of the female flowers
Pharmacological properties	quercetin 3-O-β-glucuronide, quercetin 3-O-β-glucoside and rutin-anthelmintic property (27)

Heterotheca canescens



<i>Heterotheca canescens</i> (Yellow/Golden Aster)	Amharic: Entil
	Sidama: Kokericho or Be'to
Medicinal use: Swollen tonsils/lymph nodes	Part(s) used: flowers
Adverse Effects (if any):	Preparation & Administration: mix 7 flowers of Yellow Aster with young leaves of gesho chewed in a quid wrapped with cloth or enset leaves. Juice swallowed for swollen tonsils/lymph nodes
Pharmacological properties	N/A

Honey



Honey (honey)	Amharic: Mar
	Sidama: N/A
Medicinal use: Asthma; “balaamo” sores	Part(s) used: white honey
Adverse Effects (if any):	Preparation & Administration: Asthma: eaten Balaamo sores: applied directly to sores
Pharmacological properties	Hydrogen peroxide, Methylglyoxal- antioxidants, antibacterial activity, soothing agent for coughs, antimicrobial activity (28).

Lactuca spp



<i>Lactuca sp</i> (lettuce)	Amharic: Amesa
	Sidama: Commomela
Medicinal use: Facilitate fontanelle closure in babies; tight chedness; add weight	Part(s) used: leaves
Adverse Effects (if any):	Preparation & Administration: decoction used to wash babies to facilitate fontanelle closure, treat tight chedness, and add weight
Pharmacological properties	N/A

Lepidium sativum



<i>Lepidium sativum</i> (cress)	Amharic: Feto Sidama: Feto
Medicinal use: Stomach problems; M'utch	Part(s) used: seeds Preparation & Administration: small seeds ground into paste-like mustard, eaten for stomach issues and M'utch. Can also be applied topically for M'utch
Adverse Effects (if any):	
Pharmacological properties	Glucotropaeolin, 2-phenyl ethyl glucosinolate, 2-ethyl butyl glucosinolate - antiinflammatory, antipyretic, analgesic, coagulant activities (39).

Leucas martinicensis



<i>Leucas martinicensis</i>	Amharic: Raskamer Sidama: Burdicho
Medicinal use: cataracts	Part(s) used: leaves Preparation & Administration: leaves crushed and squeeze juice into eyes; one drop in each eye in the morning and evening
Adverse Effects (if any):	
Pharmacological properties	Flavonoids, alkanoids, volatile oil (from leave extracts) – mosquito repellent (30).

Linum usitatissimum



<i>Linum usitatissimum</i> (flax)	Amharic: Telba
	Sidama: Telba
Medicinal use: gastritis	Part(s) used: seed
Adverse Effects (if any):	Preparation & Administration: seed soaked in water and drink for gastritis
Pharmacological properties	Phenolic compounds -antioxidant activity (31)

Millettia ferruginea



<i>Millettia ferruginea</i>	Amharic: Birbira
	Sidama: Birbira
Medicinal use: Abortion	Part(s) used: pod
Adverse Effects (if any):	Preparation & Administration: cold water maceration of pod, drink to induce abortion
Pharmacological properties	N/A

Musa acuminata



<i>Musa acuminata</i> (wild banana)	Amharic: Muze Sidama: Muz
Medicinal use: Cease wound bleeding	Part(s) used: petiole (leaf stem) Preparation & Administration: broken petiole juice applied to wounds
Adverse Effects (if any):	
Pharmacological properties	Glycosides, tannins, saponin, steroids, phenols (banana blossom)-antioxidant, antimicrobial (32).

Nigella sativa



<i>Nigella sativa</i> (black cumin)	Amharic: Tikur Azmud Sidama: Tikur Azmud
Medicinal use: Asthma; runny nose; common cold	Part(s) used: seed Preparation & Administration: Asthma: chewed Runny nose & common cold: wrap in small leaf, stick up nose
Adverse Effects (if any):	
Pharmacological properties	Terpene alcohols, thymoquinone-antimicrobial, hepatoprotective, anti-diabetic, anti-inflammatory activities (33).

Ocimum gratissimum



<i>Ocimum gratissimum</i> (clover basil, African basil)	Amharic: Damakese Sidama: Damakese
Medicinal use: M'utch	Part(s) used: leaves
Adverse Effects (if any):	Preparation: cold water maceration
Pharmacological properties	Administration: drink
	Eugenol, phenylpropanoid, 1,8-cinole-antimicrobial, antifungal, Ovicidal, Leishmanicidal activities, gastro intestinal protectant (34).

Pentas lanceolata



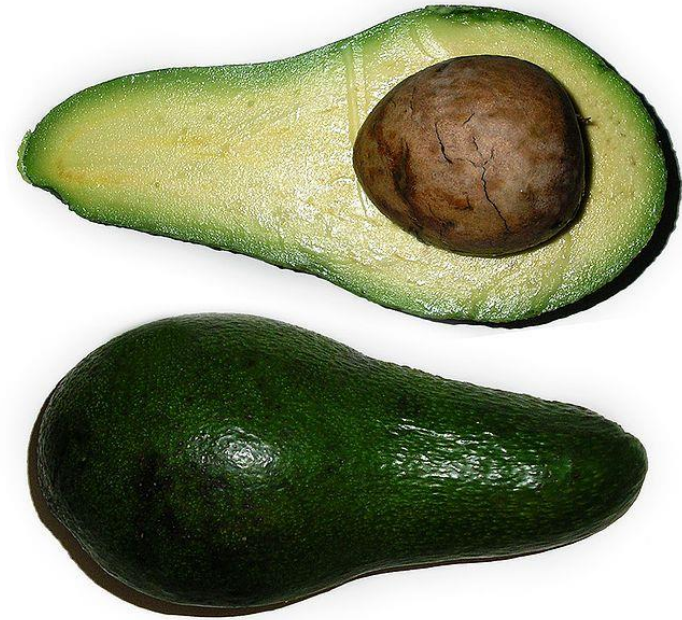
<i>Pentas lanceolata</i> (Egyptian Starcluster)	Amharic: l'bach or Tabatem
Medicinal use: "Balaamo" disease	Sidama: Balaamo or Finchami
Adverse Effects (if any):	Part(s) used: roots
	Preparation: root washed and chewed, then split on pustules.
	Ceremony: A ceremony is performed to aid healing. The word "burst" is said to "pop" the painful swellings. Next, the word "spread" is repeated to disperse the pain. Nourishing food is given for recovery.
Pharmacological properties	Ethanol extract-wound healing activity (35).

Peponium vogelii



<i>Peponium vogelii</i>	Amharic: Hareg
	Sidama: Surupa
Medicinal use: Stomach trouble	Part(s) used: inside of ripe fruit
Adverse Effects (if any):	Preparation: none
	Administration: eaten
Pharmacological properties	N/A

Persea americana



<i>Persea americana</i> (avocado)	Amharic: Avocado
	Sidama: Avocado
Medicinal use: Cease bleeding; dandruff	Part(s) used: fruit
	Preparation: flesh of fresh fruit
Adverse Effects (if any):	Administration: Cease bleeding: apply to wound Dandruff: apply to scalp
Pharmacological properties	Alkanols, terpenoid glycosides, flavonoids, coumarin- vasorelaxant, analgesic, anti-inflammatory, hypotensive, antiviral, antioxidant activities (36).

Podocarpus gracilior



<i>Podocarpus gracilior</i>	Amharic: Zigba
	Sidama: Dagucho
Medicinal use: Yellelito	Part(s) used: leaves
	Preparation: combined with Dokuma (<i>Syzygium guineense</i> , listed next) in cold maceration
Adverse Effects (if any):	Administration: drink on an empty stomach first thing in the morning, this induces vomiting which is thought to help treat Yellelito
Pharmacological properties	N/A

Rhamnus prinoides



<i>Rhamnus prinoides</i> (shiny-leaf buckthorn)	Amharic: Gesho
	Sidama: Ta'do
Medicinal use: Swollen tonsils/lymph nodes	Part(s) used: young leaves
	Preparation & Administration: mix 7 flowers of Yellow Aster with young leaves of gesho chewed in a quid wrapped with cloth or enset leaves. Juice swallowed for swollen tonsils/lymph nodes
Adverse Effects (if any):	
Pharmacological properties	N/A

Rumex abyssinicus



<i>Rumex abyssinicus</i>	Amharic: Mekmeko
	Sidama: Shishone
Medicinal use: Balaamo; Yelelito Wof	Part(s) used: roots
Adverse Effects (if any):	Preparation & Administration: root decocted, drink or chewed for Balaamo or Yelelito Wof
Pharmacological properties	N/A

Rumex crispus



<i>Rumex crispus</i> (Curly Dock, Yellow Dock)	Amharic: N/A
	Sidama: N/A
Medicinal use: Balaamo	Part(s) used: roots
Adverse Effects (if any):	Preparation & Administration: roots chewed and juice swallowed for Balaamo
Pharmacological properties	N/A

Ruta chalepensis



<i>Ruta chalepensis</i> (fringed rue)	Amharic: Tenadam
	Sidama: Senkurta
Medicinal use: Stomach ache	Part(s) used: leaves
Adverse Effects (if any): (ONLY for pregnant women)	Preparation & Administration: cold water maceration and drink to relieve stomach ache
Pharmacological properties	Rutin, quercetin, psoralen, methoxypsoralen- antibacterial, analgesic, anti-inflammatory, antidiabetic (37)

Schinus molle



<i>Schinus molle</i>	Amharic: Qundo berebere
	Sidama: Qundo
Medicinal use: Sore throat	Part(s) used: leaves
Adverse Effects (if any):	Preparation & Administration: fruit chewed for sore throat
Pharmacological properties	Miquelianin, quercetin- radical scavenging properties (38).

Solanum nigrum



<i>Solanum nigrum</i> (Black Nightshade)	Amharic: Tut'naye
	Sidama: Tut'naye
Medicinal use: Stomach ache, difficult urination, a tonic for high blood pressure, malaria, and kidney disease	Part(s) used: leaves
Adverse Effects (if any):	Preparation & Administration: leaves boiled thoroughly and eaten
Pharmacological properties	Acetic acid, solanine, solanidine- antioxidant, hepatoprotective, anti-tumor cytostatic, anti-convulsant (39).

Syzygium guineense



<i>Syzygium guineense</i> (waterberry)	Amharic: Dokuma
	Sidama: Duwancho
Medicinal use: Yellelito	Part(s) used: fruits
Adverse Effects (if any):	Preparation: combined with Ziba (<i>Podocarpus gracilior</i> , in previous listing) in cold maceration
	Administration: drink on an empty stomach first thing in the morning, this induces vomiting which is thought to help treat Yellelito
Pharmacological properties	Triterpenes (betulinic acid, oleanolic acid)- antibacterial (40).

Teclea nobilis



<i>Teclea nobilis</i>	Amharic: Atesa Sidama: Ha'dessa
Medicinal use: Stomach issues	Part(s) used: leaves Preparation & Administration: cold water macerate, drink for stomach issues
Adverse Effects (if any):	
Pharmacological properties	Germacrene-d, ocimene, guaiol- antipyretic, sedative (41).

Vernonia amygdalina



<i>Vernonia amygdalina</i> (bitter leaf)	Amharic: Grawa Sidama: He'cho
Medicinal use: Stomach ache, worms, and malaria; abortion	Part(s) used: leaves; tender shoots Preparation & Administration: Stomach ache, worms, and malaria: tender shoots pounded in a mortar and pestle, squeeze juice from pulp, and drink Abortion: young leaves eaten to induce abortion
Adverse Effects (if any):	
Pharmacological properties	Sequiterpene lactones, flavonoids (luteolin), coumarins, phenolic acids- cancer chemoprevention, free radical scavenging, induce detoxification (42).

Vicia faba



<i>Vicia faba</i> (fava bean)	Amharic: Bakella
	Sidama: Bakella
Medicinal use: gastritis	Part(s) used: seeds
Adverse Effects (if any):	Preparation & Administration: raw seed chewed for gastritis
Pharmacological properties	Vicine, divicine -antioxidant activities (reducing power, free radical-, hydrogen peroxide-, hydroxyl radical scavenging activities) (43).

Zingiber officinale



<i>Zingiber officinale</i> (ginger)	Amharic: Zengibil
	Sidama: N/A
Medicinal use: Stomach ache	Part(s) used: roots
Adverse Effects (if any):	Preparation & Administration: roots chewed for stomach ache
Pharmacological properties	Monoterpenoids, gingerols, shogaols -immuno-modulatory, anti-tumorigenic, anti-inflammatory, anti-apoptotic (44).

VI. APPENDICES



VI.a Plants by Medicinal Use

MEDICAL CATEGORY	ILLNESS/MEDICAL CONDITION	PLANT LATIN NAME
Cutaneous conditions	Dandruff	<i>Artemisia afra</i>
		<i>Persea americana</i>
	Fungus	<i>Croton macrostachyus</i>
		<i>Dioscorea alata</i>
Endocrine	Asthma	<i>Nigella sativa</i>
	Kidney disease	<i>Solanum nigrum</i>
Eye Health	Cataracts	<i>Leucas martincensis</i>
Infectious diseases	Common Cold	<i>Allium sativum</i>
		<i>Eucalyptus globulus</i>
		<i>Nigella sativa</i>
	Malaria	<i>Allium sativum</i>
		<i>Artemisia afra</i>
		<i>Solanum nigrum</i>
		<i>Vernonia amygdalina</i>
	Rabies	<i>Cucumis</i>
Smallpox	<i>Artemisia afra</i>	
Pregnancy-related/fetal	Abortion	<i>Carica papaya</i>
		<i>Ensete ventricosum</i>
		<i>Milletia ferruginea</i>
		<i>Phytolacca dodecandra</i>
		<i>Vernonia amygdalina</i>
	Fontanelle closure	<i>fontanelle closure</i>
	Lactation	<i>Erythrina brucei</i>
	Placental discharge	<i>Ensete ventricosum</i>

VI.a Plants by Medicinal Use, continued

MEDICAL CATEGORY	ILLNESS/MEDICAL CONDITION	PLANT LATIN NAME	
Intestinal	Amoebic dysentery	<i>Carica papaya</i>	
	Diarrhea	<i>Cupressus lusitanica</i>	
		<i>Ensete ventricosum</i>	
	Sore throat	<i>Cucumis</i>	
		<i>Schinus molle</i>	
	Stomach/gastritis	Stomach/gastritis	
			<i>Ajuga integrifolia</i>
			<i>Artemisia afra</i>
			<i>Artemisia afra</i>
			<i>Capsicum annuum/frutescens</i>
			<i>Coffea arabica</i>
			<i>Cordia africana</i>
			<i>Cymbopogon citratus</i>
		<i>Ehretia cymosa</i>	
		<i>Erythrina brucei</i>	
		<i>Eucalyptus globulus</i>	
		<i>Foeniculum vulgare</i>	
	<i>Lepidium sativum</i>		
	<i>Linum usitatissimum</i>		
	<i>Peponium vogelii</i>		
	<i>Persea americana</i>		
	<i>Solanum nigrum</i>		
	<i>Teclea nobilis</i>		
	<i>Vernonia amygdalina</i>		
	<i>Vicia faba</i>		
	<i>Zingiber officinale</i>		
	Vomiting (stop)	<i>Citrus × limon</i>	

VI.a Plants by Medicinal Use, continued

MEDICAL CATEGORY	ILLNESS/MEDICAL CONDITION	PLANT LATIN NAME
Bone & Connective Tissue	Bone fractures	<i>Ensete ventricosum</i>
	Child growth	<i>Artemisia afra</i>
	Rheumatism	<i>Ehretia cymosa</i>
	Tooth ache	<i>Drynaria volkensii</i>
Blood & Lymphatics	high blood pressure	<i>Citrus medica</i>
		<i>Solanum nigrum</i>
	Immunity	<i>Ensete ventricosum</i>
	Stop bleeding	<i>Artemisia afra</i>
		<i>Coffea arabica</i>
		<i>Discopodium peninervum</i>
		<i>Musa acuminata</i>
Swollen lymph nodes	<i>Capsicum annum/frutescens</i>	
	<i>Heterotheca canescens</i>	
Parasites	Worms	<i>Embelia schimperii</i>
		<i>Hagenia abyssinica</i>
		<i>Vernonia amygdalina</i>
		<i>Capsicum annum/frutescens</i>

VI.a Plants by Medicinal Use, continued

MEDICAL CATEGORY	ILLNESS/MEDICAL CONDITION	PLANT LATIN NAME
Cultural	Balaamo	Honey
		<i>Pentas lanceolata</i>
		<i>Rumex crispus</i>
	Dingetenia	<i>Artemisia afra</i>
		<i>Leucas martincensis</i>
	M'utch	<i>Lepidium sativum</i>
		<i>Ocimum grattissimum</i>
	Yellelito Wof	<i>Podocarpus gracilior</i>
		<i>Rumex abyssinicus</i>
	Others	Add weight
Cataracts		<i>Leucas martincensis</i>
Cough		<i>Erythrina brucei</i>
Diuretic		<i>Foeniculum vulgare</i>
		<i>Solanum nigrum</i>
Fever	<i>Eucalyptus globulus</i>	

VI.b Plants by Latin Name

<i>Ajuga integrifolia</i> (Bugleweed).....	16	Honey.....	40
<i>Allium sativum</i> (Garlic).....	17	<i>Lactuca spp</i> (Lettuce).....	41
<i>Aloe vera</i> (Aloe).....	18	<i>Lepidium sativum</i> (Cress).....	42
<i>Artemisia afra</i> (African wormwood)	19	<i>Leucas martinicensis</i>	43
<i>Bersama abyssinica</i> (Winged bersama).....	20	<i>Linum usitatissimum</i> (Flax).....	44
<i>Capsicum annum/frutescens</i> (Chili peppers).....	21	<i>Millettia ferruginea</i>	45
<i>Carica papaya</i> (Papaya).....	22	<i>Musa acuminata</i> (Wild banana).....	46
<i>Citrus x limon</i> (Lemon).....	23	<i>Nigella sativa</i> (Black cumin).....	47
<i>Citrus medica</i> (Citron).....	24	<i>Ocimum gratissimum</i> (African/clover basil).....	48
<i>Coffea arabic</i> (Coffee).....	25	<i>Pentas lanceolata</i> (Egyptian Starcluster).....	49
<i>Cordia africana</i>	26	<i>Peponium vogelii</i>	50
<i>Croton macrostachyus</i>	27	<i>Persea Americana</i> (Avocado).....	51
<i>Cupressus lusitanica</i> (White Cedar).....	28	<i>Podocarpus gracilior</i>	52
<i>Dioscorea alata</i> (Yam).....	29	<i>Rhamnus prinoides</i> (Shiny-leaf buckthorn).....	53
<i>Discopodium peninervum</i>	30	<i>Rumex abyssinicus</i>	54
<i>Drynaria volkensii</i> (Basket fern).....	31	<i>Rumex crispus</i> (Curly/yellow dock).....	55
<i>Ehretia cymosa</i>	32	<i>Ruta chalepensis</i> (Fringed rue).....	56
<i>Embelia schimperi</i>	33	<i>Schinus molle</i>	57
<i>Ensete ventricosum</i> (False banana).....	34	<i>Solanum nigrum</i> (Black Nightshade).....	58
<i>Erythrina brucei</i>	35	<i>Syzygium guineense</i> (Waterberry)...	59
<i>Eucalyptus globulus</i> (Blue Gum).....	36	<i>Teclea nobilis</i>	60
<i>Foeniculum vulgare</i> (Fennel).....	37	<i>Vernonia amygdalina</i> (Bitter leaf).....	61
<i>Hagenia abyssinica</i> (Hagenia).....	38	<i>Vicia faba</i> (Fava bean).....	62
<i>Heterotheca canescens</i> (Yellow/Golden aster).....	39	<i>Zingiber officinale</i> (Ginger).....	63

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