



# *Handbook of* **SIDAMA TRADITIONAL MEDICINAL PLANTS**



University of Wisconsin  
**SCHOOL OF MEDICINE  
AND PUBLIC HEALTH**  
A SERVICE LEARNING PROJECT

## TABLE OF CONTENTS

I.	BACKGROUND.....	2
II.	ACKNOWLEDGEMENTS.....	4
III.	INTRODUCTION .....	6
IV.	COMMON RIVER OVERVIEW.....	8
V.	HANDBOOK.....	10
	a. How to use this handbook.....	11
	b. Sidama concepts of disease.....	12
	c. Sidama plants and their uses.....	15
VI.	APPENDICES.....	64
	a. Plants by medicinal use.....	66
	b. Plants by Latin name.....	70
VII.	REFERENCES.....	72

# 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 University). 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  
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Hanna, Alex, Liz, Selam, Abby, Heidi, Tsegaye, Tara, and Lennea



Burake, Ashenafi, Yuli, Jamal, and Ayallo



Alex and Werknesh



Alex and Abush ("Getahun")



Tafesse and Selam



Adunya holding *amesa*



Asho, chef at Common River



Derrike next to a banana tree

### 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*



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

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

## *Aloe vera*



## *Artemisia afra*



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

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

## *Bersama abyssinica*



## *Capsicum annuum/frutescens*



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

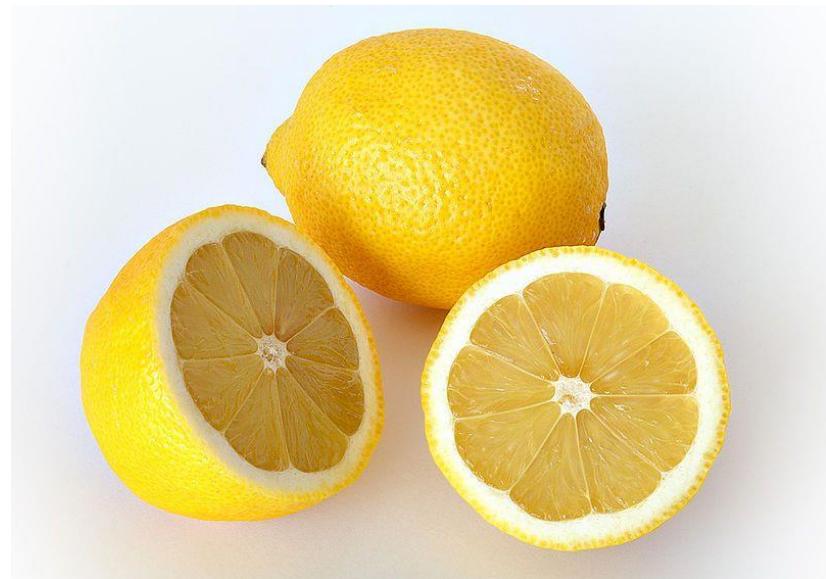
<b><i>Capsicum annuum/frutescens</i></b> (chili peppers)	<b>Amharic:</b> Berebere/Mitmitta <b>Sidama:</b> Berebere/Mitmitta
<b>Medicinal use:</b> Malaria; swollen lymph nodes; stomach ache <b>Adverse Effects</b> (if any):	<b>Part(s) used:</b> fruit (peppers) <b>Preparation:</b> used as spice in food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

## *Carica papaya*



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

## *Citrus x limon*



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

## *Citrus medica*



## *Coffea arabica*



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

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

## *Cordia africana*



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

## *Croton macrostachyus*



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

## *Cupressus lusitanica*



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

## *Dioscorea alata*



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

## *Discopodium peninervum*



## *Drynaria volkensii*



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

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

## *Ehretia cymosa*



## *Embelia schimperi*



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

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

## *Ensete ventricosum*



## *Erythrina brucei*



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

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

## *Eucalyptus globulus*



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

## *Foeniculum vulgare*



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

## *Hagenia abyssinica*



## *Heterotheca canescens*



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

<b><i>Heterotheca canescens</i></b> (Yellow/Golden Aster)	<b>Amharic:</b> Entil <b>Sidama:</b> Kokericho or Be'to
<b>Medicinal use:</b> Swollen tonsils/lymph nodes	<b>Part(s) used:</b> flowers
<b>Adverse Effects (if any):</b>	<b>Preparation &amp; Administration:</b> 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
<b>Pharmacological properties</b>	N/A

## Honey



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

## *Lactuca spp*



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

## *Lepidium sativum*



## *Leucas martinicensis*



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

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

## *Linum usitatissimum*



## *Millettia ferruginea*



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

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

## *Musa acuminata*



## *Nigella sativa*



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

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

## *Ocimum gratissimum*



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

## *Pentas lanceolata*



<b><i>Pentas lanceolata</i></b> (Egyptian Starcluster)	<b>Amharic:</b> l'bach or Tabatem <b>Sidama:</b> Balaamo or Finchami
<b>Medicinal use:</b> “Balaamo” disease	<b>Part(s) used:</b> roots <b>Preparation:</b> root washed and chewed, then split on pustules.
<b>Adverse Effects (if any):</b>	<b>Ceremony:</b> 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.
<b>Pharmacological properties</b>	<b>Ethanol extract-wound healing activity</b> (35).

## *Peponium vogelii*



## *Persea americana*



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

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

## *Podocarpus gracilior*



## *Rhamnus prinoides*



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

<i>Rhamnus prinoides</i> (shiny-leaf buckthorn)	<b>Amharic:</b> Gesho <b>Sidama:</b> Ta'do
<b>Medicinal use:</b> Swollen tonsils/lymph nodes	<b>Part(s) used:</b> young leaves <b>Preparation &amp; Administration:</b> 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
<b>Adverse Effects (if any):</b>	
<b>Pharmacological properties</b>	N/A

## *Rumex abyssinicus*



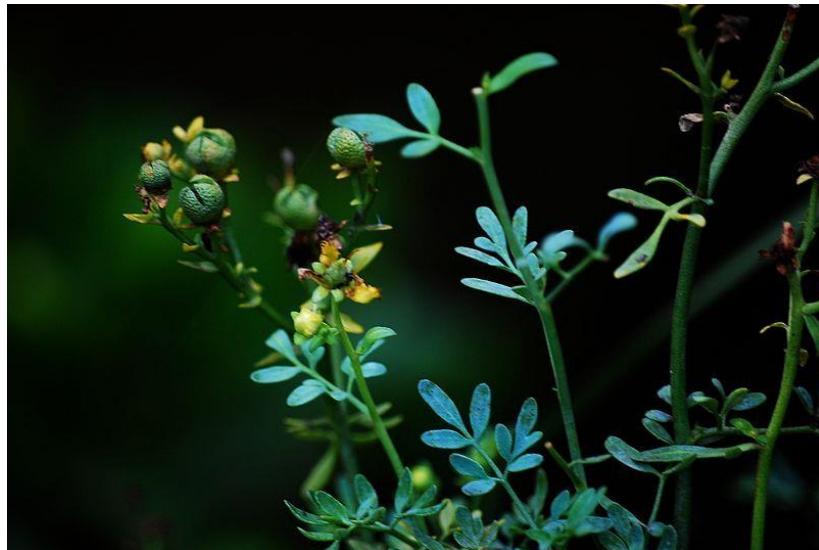
## *Rumex crispus*



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

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

## *Ruta chalepensis*



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

## *Schinus molle*



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

## *Solanum nigrum*



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

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

## *Teclea nobilis*



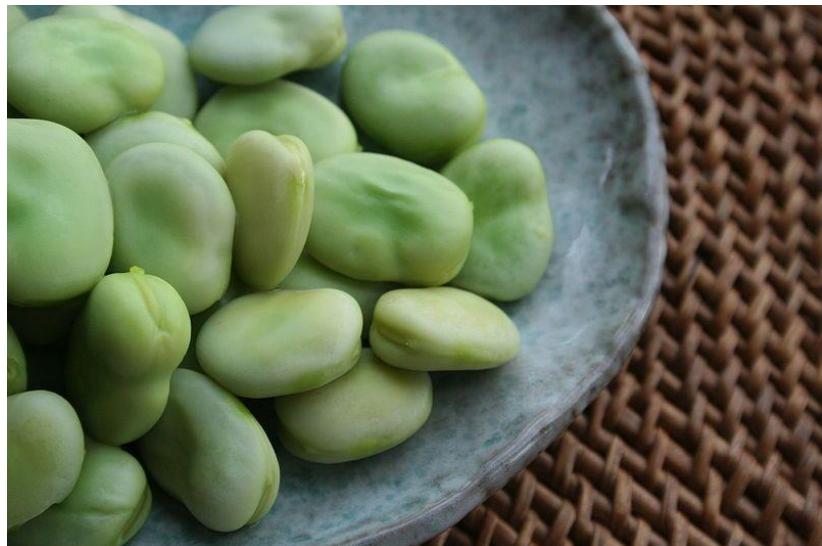
## *Vernonia amygdalina*



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

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

## *Vicia faba*



## *Zingiber officinale*



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

<b><i>Zingiber officinale</i></b> (ginger)	<b>Amharic:</b> Zengibil <b>Sidama:</b> N/A
<b>Medicinal use:</b> Stomach ache	<b>Part(s) used:</b> roots <b>Preparation &amp; Administration:</b> roots chewed for stomach ache
<b>Adverse Effects (if any):</b>	
<b>Pharmacological properties</b>	<b>Monoterpenoids, gingerols, shogaols-</b> 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>
	Asthma	<i>Nigella sativa</i>
	Kidney disease	<i>Solanum nigrum</i>
Eye Health	Cataracts	<i>Leucas martinicensis</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>
	Abortion	<i>Carica papaya</i> <i>Ensete ventricosum</i> <i>Millettia 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>Stomach/gastritis</i>
	Ajuga integrifolia	<i>Ajuga integrifolia</i>
Pregnancy-related/fetal	Artemisia afra	<i>Artemisia afra</i>
	Capsicum annuum/frutescens	<i>Capsicum annuum/frutescens</i>
	Coffea arabica	<i>Coffea arabica</i>
	Cordia africana	<i>Cordia africana</i>
	Cymbopogon citratus	<i>Cymbopogon citratus</i>
	Ehretia cymosa	<i>Ehretia cymosa</i>
	Erythrina brucei	<i>Erythrina brucei</i>
	Eucalyptus globulus	<i>Eucalyptus globulus</i>
	Foeniculum vulgare	<i>Foeniculum vulgare</i>
	Lepidium sativum	<i>Lepidium sativum</i>
	Linum usitatissimum	<i>Linum usitatissimum</i>
	Peponium vogelii	<i>Peponium vogelii</i>
	Persea americana	<i>Persea americana</i>
	Solanum nigrum	<i>Solanum nigrum</i>
	Teclea nobilis	<i>Teclea nobilis</i>
Vomiting (stop)	Vernonia amygdalina	<i>Vernonia amygdalina</i>
	Vicia faba	<i>Vicia faba</i>
	Zingiber officinale	<i>Zingiber officinale</i>
	Citrus × limon	<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 annuum/frutescens</i>
		<i>Heterotheca canescens</i>
Parasites	Worms	<i>Embelia schimperi</i>
		<i>Hagenia abyssinica</i>
		<i>Vernonia amygdalina</i>
		<i>Capsicum annuum/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 martinicensis</i>
M'utch		<i>Lepidium sativum</i>
		<i>Ocimum gratissimum</i>
Yellelito Wof		<i>Podocarpus gracilior</i>
		<i>Rumex abyssinicus</i>
Others	Add weight	<i>Lactuca spp.</i>
	Cataracts	<i>Leucas martinicensis</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
<i>Allium sativum</i> (Garlic).....	17
<i>Aloe vera</i> (Aloe).....	18
<i>Artemisia afra</i> (African wormwood) .....	19
<i>Bersama abyssinica</i> (Winged bersama).....	20
<i>Capsicum annuum/frutescens</i> (Chili peppers).....	21
<i>Carica papaya</i> (Papaya).....	22
<i>Citrus x limon</i> (Lemon).....	23
<i>Citrus medica</i> (Citron).....	24
<i>Coffea arabic</i> (Coffee).....	25
<i>Cordia africana</i> .....	26
<i>Croton macrostachyus</i> .....	27
<i>Cupressus lusitanica</i> (White Cedar).....	28
<i>Dioscorea alata</i> (Yam).....	29
<i>Discopodium peninervum</i> .....	30
<i>Drynaria volkensii</i> (Basket fern).....	31
<i>Ehretia cymosa</i> .....	32
<i>Embelia schimperi</i> .....	33
<i>Ensete ventricosum</i> (False banana).....	34
<i>Erythrina brucei</i> .....	35
<i>Eucalyptus globulus</i> (Blue Gum).....	36
<i>Foeniculum vulgare</i> (Fennel).....	37
<i>Hagenia abyssinica</i> (Hagenia).....	38
<i>Heterotheca canescens</i> (Yellow/Golden aster).....	39

<i>Honey</i> .....	40
<i>Lactuca spp</i> (Lettuce).....	41
<i>Lepidium sativum</i> (Cress).....	42
<i>Leucas martinicensis</i> .....	43
<i>Linum usitatissimum</i> (Flax).....	44
<i>Millettia ferruginea</i> .....	45
<i>Musa acuminata</i> (Wild banana).....	46
<i>Nigella sativa</i> (Black cumin).....	47
<i>Ocimum gratissimum</i> (African/clover basil).....	48
<i>Pentas lanceolata</i> (Egyptian Starcluster).....	49
<i>Peponium vogelii</i> .....	50
<i>Persea Americana</i> (Avocado).....	51
<i>Podocarpus gracilior</i> .....	52
<i>Rhamnus prinoides</i> (Shiny-leaf buckthorn).....	53
<i>Rumex abyssinicus</i> .....	54
<i>Rumex crispus</i> (Curly/yellow dock).....	55
<i>Ruta chalepensis</i> (Fringed rue).....	56
<i>Schinus molle</i> .....	57
<i>Solanum nigrum</i> (Black Nightshade).....	58
<i>Syzygium guineense</i> (Waterberry).....	59
<i>Teclea nobilis</i> .....	60
<i>Vernonia amygdalina</i> (Bitter leaf).....	61
<i>Vicia faba</i> (Fava bean).....	62
<i>Zingiber officinale</i> (Ginger).....	63

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