

Herbal Medicines Used in Primary Health Care in ASEAN



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Foreword from the Secretary General of ASEAN



As we move towards an ASEAN Community 2015, there is a need to recall the Declaration of the 7th ASEAN Health Ministers Meeting in April 2004 in Malaysia regarding “Health Without Frontiers”. This Declaration has taken into account the relevant regional health cooperation in ASEAN for traditional medicine/complementary and alternative medicine (TM/CAM). At that time, it was resolved that to ensure health of ASEAN people, there was also a need to include improving the access to health care by promoting safe, effective and quality TM/CAM.

The ASEAN Health Sector have sustained this initial resolution on TM/CAM through the operationalization of the action lines on TM/CAM in the Roadmap for an ASEAN Community (2009-2015) and also in the implementation of the ASEAN Work Plan on Traditional Medicine from 2011 to 2015. These imply that relevant current initiatives and partnerships in the ASEAN Health Cooperation move towards facilitating research and cross-country exchange of experiences in promoting the integration, as appropriate, of safe, effective, and quality TM/CAM into the national health care systems, and across other sectors of ASEAN Member States. In addition, ASEAN people are encouraged to be active participants in their health care and to make informed choices in the rational use of TM/CAM.

The publication of A Book on *Herbal Medicines Used in Primary Health Care in ASEAN* will facilitate the empowerment of ASEAN people as active participants in their health. It is hoped that this book will promote the use of effective and safe herbal medicines for common diseases in the primary health care setting. This book will be most beneficial for those in the rural communities in ASEAN.

A handwritten signature in black ink, appearing to read 'Luoong Minh'.

H.E. Le Luong Minh
Secretary General of ASEAN

Message from Chair of ASEAN Health Ministers Meeting

Located in the tropical region of the world, ASEAN Member States (AMS) are blessed with abundant diversity of flora and fauna. Our ancestors learned from their experiences the health benefits of many indigenous medicinal plants for the treatment and relief of various diseases and symptoms and for health promotion. The knowledge gained over the years was later systematized, codified and developed into different traditional medicine systems and integrated into the cultures of many ASEAN countries. Moreover, traditional Chinese medicine and/or traditional medicine systems from India have also been practiced and utilized by ethnic groups of population in some ASEAN countries. This traditional wisdom of our ancestors has played a major role in the health care of people in ASEAN countries from past till present.

Even though modern medicine has eventually replaced traditional medicine as the mainstream health care in all AMS, the consumption of herbal medicines prepared from medicinal plants, grown in the households or the communities, should still be promoted for primary health care to relieve or treat common and minor diseases or symptoms, as therapeutic efficacy and safety of many medicinal plants are time-tested and scientifically proved. The use of herbal medicines in such cases will not only promote public self-reliance on health care but also can help alleviate hospital burden, workload of medical personnel and country's budget on health care.

Hence, the preparation of the book "Herbal Medicines Used in Primary Health Care in ASEAN" has been an activity to promote the use of traditional medicine in primary health care under the work plan (2011-2015) of the "ASEAN Task Force on Traditional Medicine (ATFTM)". Thailand, by the Department for Development of Thai Traditional and Alternative Medicine (DTAM), Ministry of Public Health, as the lead country, organized the first workshop in 2012 to set up the scope and outline of the book with 27 common and minor diseases and symptoms determined. A total of 65 medicinal plants used for such diseases/symptoms were then selected on the basis that each medicinal plant has been used by at least two ASEAN countries. Each AMS was assigned to contribute information on selected medicinal plants and diseases/symptoms. The second workshop was successfully organized in 2013 to revise the draft content of the book.

ASEAN Health Ministers Meeting (AHMM) was thankful for the contribution of ATFTM, the editorial board for the preparation of the book and DTAM for the financial support of this project and the hard work on the preparation and revision of the draft content as well as editorial work. Thanks also go to the Nippon Foundation for the financial support of the workshop and editorial team.

It is hoped that the focal points of ATFTM can arrange for the translation of this book into each AMS's native language so that ASEAN people will benefit from using recommended medicinal plants as herbal medicines for self-reliance on primary health care.



Narong Sahametapat, M.D.

Permanent Secretary
and Acting Minister of Public Health
Ministry of Public Health, Thailand
Chair of AHMM

August 2014

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**Instructions on How to Use the Book
on “Herbal Medicines Used in
Primary Health Care in ASEAN”**

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Instructions on How to Use the Book on “Herbal Medicines Used in Primary Health Care in ASEAN”

The information of this book can be divided into three main chapters and an annex:

Chapter 1: General information on how to use medicinal plants in the primary health care

Chapter 2: Symptoms and conditions for which herbal medicines can be used

Chapter 3: Herbal medicines for selected symptoms and conditions

Annex – Illustrated glossary of botanical terms

For a reader with no prior experience in using herbal medicines, it is recommended that he/she reads Chapter 1 of the book to familiarize oneself with the subject matter first. The information in Chapter 1 can also help users to maximize health benefit from herbal medicines and minimize potential risks from possible side effects that herbal medicines may cause.

If a reader would like to know whether there are any herbal medicines capable of alleviating certain symptoms and conditions, he/she can refer to Chapter 2 of the book.

From the list of medicinal plants given under each symptom specified in Chapter 2, one can then look for more information on each medicinal plant and how to use and prepare herbal medicines in Chapter 3. Furthermore, if a reader is interested in learning more about a particular plant, he/she can also directly look for such information in Chapter 3 of the book.

The contents covered in each chapter of the book are summarized as follows:

Chapter 1 – General information on how to use medicinal plants in the primary health care

This chapter is meant to familiarize the readers with general instructions on how to use medicinal plants and herbal medicines in order to obtain maximum benefits and minimize the risk or adverse effects caused by incorrect use of herbal medicines. The contents of this chapter include general instructions on how to prepare herbal medicines from medicinal plants covering:

- *Collection or harvesting of herbal materials*
- *Processing or post-harvest handling of herbal materials*
- *Storage of dried herbal materials or herbal medicines*
- *Methods for the preparation of herbal medicines, and*
- *Glossary of terms commonly used in herbal medicine preparations*

In addition, this chapter also provides information on “*Advice on safe use of herbal medicines*” concerning:

- *Allergic reactions or adverse effects from herbal medicines.* This information is meant to create awareness among users of the potential harmful effects that herbal medicines may cause. If such side effects do occur, informed consumers can then discontinue the use of herbal

medicines promptly to avoid any possible serious adverse drug reactions.

• *Symptoms or diseases that patients should not self-medicate with either modern or herbal medicines.* Such symptoms and diseases are serious health conditions and some are life-threatening situations that require medical attention from nearby health service facilities. In such cases, patients should not treat themselves with regular household remedies or herbal medicines, but should see doctors in nearby hospitals the soonest possible.

Chapter 2 – Symptoms and conditions for which herbal medicines can be used

This chapter of the book provides information on 27 symptoms and conditions that can be treated or relieved by herbal medicines prepared from selected medicinal plants. It also covers some physiological conditions that medicinal plants can be used for, e.g. promoting lactation in nursing mothers or strengthening the immune system.

The information given in this chapter is as follows:

• *Definition and causes of symptoms or conditions* which describe each symptom or condition and its probable causes. It is for a reader to compare the symptom(s) or condition(s) he/she is experiencing with those described in the book before deciding to use the herbal medicines recommended in Chapter 3.

• *Health tips* give some instructions on how to alleviate the symptoms and to avoid the recurrence of such symptom or condition.

• *The list of herbal medicines for particular symptom or condition* is provided with corresponding page number for convenience.

Chapter 3 – Herbal medicines for selected symptoms and conditions

This chapter provides information on medicinal plants recommended to provide relief for 27 symptoms and conditions described in Chapter 2 and the preparation of herbal medicines by each ASEAN member state (AMS). The information of each medicinal plant covered in this chapter is:

• *Scientific name.* The most up-to-date scientific name according to binomial system with accepted abbreviated authors' name(s) are given.

• *Synonyms* are accepted illegitimate name(s) of the plants which may be used in older literature.

• *Family* is an immediate higher rank of plant taxonomic hierarchy indicating the particular group that the plant belongs to. Knowing plant family may enable one to understand pattern of chemical constituents, and thus biological activities may be predicted. This information may also be helpful in case of allergy or hypersensitivity to certain kind of plant, cross-reaction to other plants in the same family may occur.

• *Common names* of the plant are generally the frequently used name in English.

• *Local or vernacular names*, are name(s) commonly known in each AMS.

• *Description of the plant* explains the characteristics of the plant (its habit, i.e. tree, herb, vine, climber, etc., and the size) as well as characteristics of the leaf, flower, fruit, and

seed, or underground part (if used as herbal material). The characteristics of the plant described will help identifying the plant. To keep description of the plant concise, botanical terminologies are used to explain the characteristics. The meanings of most frequently used terminologies are given in line drawings in the annex -- “Illustrated Glossary of Botanical Terms”

- *Part(s) used* defines part(s) of the plant, either fresh or dried, used as herbal medicines.

- *Crude drug* refers to dried herbal materials or prepared (processed) plant materials.

- *Preparation of crude drug* explains how to prepare dried herbal material or processed plant materials.

- *Characteristic of crude drug* describes the perception of the shape, colour, odour, texture, and taste of the crude drug, whichever distinctive.

- *Indication(s)* specify the symptoms, diseases or conditions that herbal medicines can be applied.

- *Preparation of herbal medicines & dosage* describes how AMS prepare herbal medicines and the dosage recommended.

- *Contra-indications* provide information on health conditions that such herbal medicines cannot be used as it will be harmful to the patients.

- *Warnings & Precautions*. **Warnings** are information that consumers or doctors should know before using or prescribing herbal medicines, particularly pre-existing diseases or conditions that require special caution, e.g. diabetic patients, or patients with impaired liver or kidney function. **Precautions** are things that could happen while using an herbal medicine that consumers and doctors should be aware of, e.g. “Prolonged use may require regular check-up of liver or kidney function” or “This herb may change the colour of urine or feces”.

- *Side effects* are adverse events that each herbal medicine may cause. Most are minor side effects, e.g. nausea, vomiting, diarrhoea, skin rash. These usually do not need medical attention and will stop when the use of herbal medicine is discontinued. However, there are some side effects that should be noted and require special attention, as continued use of herbal medicines may lead to more serious adverse effects. For example, after a prolonged use of a herbal medicine, if the patient’s eyes and skin turn yellow suggesting of drug-induced liver toxicity, the causative herbal medicine must be discontinued immediately; otherwise the liver failure may occur. More details of possible side effects of herbal medicines are covered in Chapter 1 under the topic “Allergic reactions or adverse effects that may occur from the use of herbal medicines”.

- The topics *Contra-indications*, *Warnings & Precautions* and *Side effects* will not appear in some monographs since no reliable information is obtained.

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Chapter 1
General Information on
How to Use Medicinal Plants in the
Primary Health Care

The role of, and the degree and competence of the use of herbal medicines varies among the ASEAN member states. Users should follow the information provided in this book before self-medicating with herbal medicines. Patients should seek medical attention from qualified practitioners, if symptoms persist.

General Information on How to Use Medicinal Plants in the Primary Health Care

The use of medicinal plants or herbal medicines for the treatment of common and minor diseases and symptoms has been a part of culture and way of life of people in most ASEAN countries. Nowadays, even though modern medicine has become the mainstream health care, many people still use medicinal plants and herbal medicines for common and minor ailments. The reason is that more than 50% of commonly found symptoms or diseases are minor and self-limiting and our ancestors have used herbal medicines to effectively treat such illnesses for a long time and passed on this traditional medical knowledge from generation to generation. Hence, the therapeutic efficacy of such natural medicines stands the test of time. In addition, the growing scientific evidences backing therapeutic claims of most of the medicinal plants and their availability in the rural communities also support their uses as an alternative treatment option for certain common minor ailments. The use of herbal medicines for primary health care should therefore be continued and promoted to increase self-reliance on health care and to decrease the health care burden of each country.

Health benefits and therapeutic efficacy of herbal medicines are due to the active constituents of medicinal plants. Such compounds can be chemically divided into various groups such as alkaloids, glycosides, flavonoids, steroids, essential oils, latex, gum, resin, and balsam. The contents of these phytochemicals may vary not only in different parts of the plants but also at different ages of the plants and are also influenced by the way the herbs are handled after collecting or harvesting and the way the herbs are prepared for the patients.

In order to obtain maximum benefits from medicinal plants and herbal medicines, the following general instructions should be followed¹:

1. Use the right plant One herb may have different local names and one local name may mean different herbs in different regions of the country. Therefore, the user must make sure that the right plant is used. In contrast to local names, the scientific name refers to one plant; and hence, this book uses the scientific name of each medicinal plant as the title of each monograph. The information on the characteristics of the plant and its crude drug provided should help identify the right medicinal plant and herbal materials.

2. Use the right part of the plant Different parts of a medicinal plant (e.g. root, rhizome, leaf, flower, fruit, stem, or bark) contain different phytochemical constituents at varying amount, thus differing in their potency and therapeutic efficacy. Therefore, one must make sure that the correct part of the plant collected at the right stage is used to make the herbal medicine. Usually, the plant parts recommended in traditional textbooks are used as their health benefits

¹Wamanont M, Subcharoen P, editors. Herbal Medicines in Primary Health Care. 2nd ed. Bangkok: War Veterans Administration Printing House. 1997.

have been proved by a long history of use.

3. Use at the right dose Medicinal plants should be prepared properly (fresh or dried, decoction or tincture, etc.) and taken at the right dose in order to avoid toxic effects due to overdose or lack of therapeutic effect due to sub-optimal dose.

4. Use the right method of preparation It is necessary to know whether the herb should be used fresh or in dried form, to be taken orally or used externally, or whether it should be prepared first as a decoction or an infusion, or immersed in alcohol or liquor to make an elixir or tincture, etc.

5. Know contra-indications, warnings and precautions of herbal medicine For safe use of each herbal medicine, it is suggested that the user should learn whether he/she has any health condition for which a particular herbal medicine is contra-indicated or used with caution. It is also important to observe for signs of potential side effects so that the herbal medicine can be discontinued at once to avoid possible serious adverse events.

Collection or harvesting of herbal materials from medicinal plants

Most of medicinal plants recommended in this book are used as foods, spices or herbal medicines in the household and some are plants grown naturally and generally found in the rural communities. The followings are general instructions on how to collect or harvest different parts of medicinal plants for the preparation of herbal medicines.

- **Underground part** (e.g. root, rhizome, stolon) should be harvested by digging out after the plant stops growing as shown by the withering of the leaves. This is the time when the root and the rhizome accumulate the highest content of the active constituents.

- **Stem bark, root bark** should be harvested before the vegetative stage and not during the rainy season.

- **Leaf or aerial part** should be collected before the flowering period or at the recommended period of time.

- **Flower** should be collected before pollination. Some flowers should be collected young before blooming, e.g. clove.

- **Fruit** should be harvested at the recommended period of time, e.g. young fruit, mature unripe fruit or ripe fruit.

- **Seed** should be collected when fully mature.

Processing or post-harvest handling of herbal materials

Most herbs can be used fresh or in dried form, e.g. turmeric, ginger, or *Tinospora crispa* vine. Fresh herbs are convenient to use if they are available. However, the fresh parts used of several medicinal plants, e.g. flower, fruit, seed, or mature rhizome, might not be accessible when needed. Therefore, the herbs collected are usually washed clean and dried under proper conditions, i.e. in the sun, or in an oven set at appropriate temperature, or air dried in the shade, so that they can be kept for a long period of time and will be available whenever needed.

The followings are general methods for post-harvest handling of collected or harvested medicinal plant materials based on different plant parts:

- **Underground part (e.g. roots, rhizomes, stolon)** Wash away the soil and foreign matters and remove small roots. If the whole part is hard to dry, it should be cut or sliced into smaller pieces first. Rhizomes or roots of some medicinal plants may need to be steamed first before cutting into small slices and later dried.

- **Bark** Cut into proper size before drying.

- **Leaf, whole plant or aerial part** Usually wash, clean, some may be cut before drying in the sun or in an oven. Those with volatile oil should be dried in the shade. Dried whole plant or aerial part may be bundled before completely dried for ease of handling.

- **Flower** Wash, clean and dry in the sun or in an oven.

- **Fruit** Usually cleaned whole fruits can be dried in the sun or in an oven right after collected. Large size fruits should be sliced into smaller pieces before drying.

- **Seed** Different methods are used depending on each medicinal plant. For example, for *Senna tora*, the pods are collected, dried in the sun and then the seeds are collected from dried pods. Some seeds, for example, sugar apple and pumpkin are collected from mature fresh fruits and the seeds are later dried, while others are collected from dried fruits.

The usual temperature for drying is 40°-60°C (WHO recommended that the drying temperature should be kept below 60°C.) as the activities of enzymes in the herbs are inhibited and active constituents such as glycosides and alkaloids are not degraded.

Some herbs must be “processed” after collection in order to obtain herbal materials for herbal medicine preparations, for example, the processing of *Acacia catechu* by boiling the heartwood to obtain cutch or black catechu. The processing methods of each medicinal plant material may vary between different regions of each ASEAN Member State (AMS) or between AMS.

Storage of dried herbal materials or herbal medicines

Each type of dried herbal materials or pills made from powdered herbs should be separately and properly kept in an air-tight container, away from exposure to heat, direct sunlight and moisture, and re-dried every few months to prevent mould and insect infestation.

Methods for the preparation of herbal medicines

Fresh herbs or dried herbal materials are usually prepared in appropriate dosage forms of herbal medicines. Fresh herbs can be taken as such or made into herbal juice by crushing the herb or using an electric blender. Some dried herbal materials are cut and ground and taken as powder or pills. Some herbs are extracted with water by boiling as a decoction or brewing in hot water as herbal tea or an infusion, while some are extracted with alcohol by macerating in alcohol or liquor to make a tincture.

The followings are general methods for the preparation of different dosage forms of herbal medicines:

- **Decoction** is prepared by putting small pieces of dried or fresh medicinal plant materials in a pot and adding water to cover the herbal materials. Heat until boil and then simmer with low heat for about 10-30 minutes or until the volume is reduced to one-third ($\frac{1}{3}$) of the

initial volume. Drink the recommended dose of decanted decoction when it is still warm.

- **Maceration** is prepared by placing the herbal materials with sufficient alcohol in a closed vessel and allowing standing for a week or as specified in monograph, shaking occasionally. Strain, press the herbal residue and mix the liquids obtained. Clarify by subsidence or filtration.

- **Infusion** is the dosage form that is prepared similar to making tea. First, the fresh part used is cut or sliced into thin pieces and dried. The infusion is prepared by pouring a recommended volume of hot or boiling water on dried herb in a cup. Close the lid and allow brewing for 5-10 minutes before drinking. If the dried herb was ground into powder or cut into very small pieces, it may be put into a paper tea bag first before adding hot or boiling water in order to obtain a clear infusion.

- **Tincture** is an alcoholic preparation made by placing whole pieces or coarse powder of herbal materials, which may be wrapped in a piece of white cloth, in a glass jar. Then add alcohol or liquor to cover the herbal materials, close the lid and keep for at least about a week or more. Tincture is taken orally, usually in small amount, or used for topical application.

- **Powder** is prepared by grinding dried herbal material into powder.

- **Pills** are prepared by cutting herbal materials into small pieces or thin slices to ease drying and later grinding into powder. The powder is then mixed with honey or syrup at a ratio of about 2:1. Allow the mixture to settle for 2-3 hours and then roll small pieces of the mixture by hand to make pills about 1 cm in diameter. Alternatively, roll portions of the mixture into long strands, cut in small pieces before rolling to make smaller pills about 3 mm in diameter. Dry the pills in the sun and keep in an air-tight container. Re-dry the pills frequently to prevent fungal infestation.

- **Squeezed juice** is prepared by pounding fresh herbal materials with a mortar and pestle with or without water added. Then squeeze to obtain the juice to be taken orally or topically applied on the affected areas. If available, an electric blender may be used.

- **Paste** is made by pounding fresh herbal materials with a mortar and pestle with or without water or liquor added; or mixing powdered herbs with water to make a thick mixture or slurry. It may be applied externally on the affected area of the skin or used as poultice.

- **Poultice** is made by pounding fresh herbal materials with a mortar and pestle with or without water or liquor added, and applying the herbal paste over the affected areas. It is also prepared from ground dried herb by adding water to obtain creamy texture and then spreading on a piece of cloth or wax paper. Apply over the affected area and taped in place.

Glossary of terms commonly used in herbal medicine preparation

1 handful	= Amount of herbal materials in the palm of one hand
1 fistful	= Amount of herbal materials in loose fist
1 pinch	= Amount of herbal materials picked up by the tips of five fingers
1 finger length	= the length of forefinger
1 glass	= 250 ml

1 cup	= 75 ml
1 tablespoon	= 15 ml (in case of liquid only)
1 teaspoon	= 5 ml (in case of liquid only)
Alcohol	= Alcohol or ethanol for medicine preparation, not the type used as fuel to make fire, or the rubbing alcohol with blue colour
Lime water	= Solution made by dissolving slaked lime paste in water. Allow to stand, decant and use only the clear fluid.
Lime paste or slaked lime paste	= Calcium hydroxide paste that turned pinkish red by adding turmeric powder. It is an ingredient in betel quid used by spreading the paste on a betel leaf and chewing with a piece of areca nut.
Lime juice	= Juice squeezed from lime
Water	= Drinking water or water which is safe to drink
Liquor	= Strong alcoholic drinks or spirits
Sun-dry	= Dry in the sun suitable for crude drugs that are undesirable to be dried at a high temperature. Sun-dry temperature is generally not exceeding 60°C.
Shade-dry	= Dry in the shade
Heat-dry	= Dry in an oven at a specified temperature
Air-dry	= Dry in the air or dry in the shade suitable for crude drugs that are undesirable to be dried by baking or by exposure to sunlight.
Well-closed container	= The container which is able to protect the contents from extraneous matters or loss of contents on normal handling condition.
Air-tight container	= The container which is able to protect the contents from dissolving and becoming liquid by absorbing moisture from the air, from volatilization or interference of extraneous matters.
Cool place	= The storage temperature not exceeding 20°C.

Advice on safe use of herbal medicines

Herbal medicines from selected medicinal plants should be used for suggested common and minor diseases and symptoms and discontinued when the diseases are cured or symptoms are resolved. However, if the symptoms worsen or do not resolve within a few days, patient should seek medical attention from nearby health centre or hospital.

In addition, some phytochemical constituents in herbal medicines can interact with other medicines being used by altering the absorption from the digestive tract or the rate of degradation of other medicines in the body. This “*herb-drug interaction*” will result in an increase or a decrease of blood concentrations and therapeutic efficacy of the other concomitantly taken medications. Therefore, if you are taking any medications daily for chronic diseases, such as anti-diabetics, anti-hypertensives, etc., and you plan to use any herbal medicine for a considerable

period of time, you should consult your doctor or a pharmacist about a possible herb-drug interaction.

Allergic reactions or adverse effects from herbal medicines

Similar to modern medicines, herbal medicines can also cause side effects, allergic or hypersensitivity reactions, though generally less frequent and less serious. The susceptibility to adverse effect of a particular herbal medicine also varies from person to person. In general, if any side effects or allergic reactions occur, the suspected herbal medicine should be discontinued.

After stop taking herbal medicine, if the adverse effect subsides, it is suggestive that the herbal medicine may possibly be the cause. If the same adverse effect occurs again upon re-challenge with the suspected herbal medicine, it is the definite proof of the causal relationship. Therefore, susceptible person should avoid taking that particular herbal medicine again.

The followings are adverse reactions or allergic reactions that may occur in some susceptible persons after taking herbal medicine:

1. Skin rash, hives, or, in severe case, blister
2. Loss of appetite, nausea, vomiting
3. Tinnitus (ringing or buzzing in the ears), blurred vision, numbness of the tongue or skin
4. Hypersensitivity of the sensory nerve, e.g. pain upon light touch of the skin
5. Palpitation (rapid or irregular heartbeat)
6. Yellowing of skin and eyes, dark yellow urine (signs of jaundice)

If side effect caused by an herbal medicine is a serious one, the patient should stop taking that particular herbal medicine and immediately seek medical attention from nearby health centre or hospital.

Symptoms or diseases that patients should not self-medicate with either modern or herbal medicines

Patients with serious medical conditions, such as venomous snake bites, rabies, tetanus, broken bone, tuberculosis, sexually-transmitted diseases, leprosy, jaundice, pneumonia, all eye diseases, as well as, chronic diseases like hypertension, diabetes and cancer should not self-medicate with herbal medicines. There is no evidence so far proving that herbal medicines are efficacious in such medical conditions or chronic diseases.

Other serious medical conditions that require immediate medical attention in a hospital and for which self-medication with modern or herbal medicines should be avoided include but not limited to:

1. High fever, red eyes, severe muscle ache, fatigue, delirium (possible influenza, cerebral malaria).
2. High fever and jaundice (yellowish skin and eyes), fatigue, severe and steady pain in the upper right part of the abdomen.
3. High fever for 2-7 days, flushed face, headache, pain behind the eyes; and after the temperature drops, patient develops red spots or patches on the skin, nose bleed or

- gum bleed, severe belly pain or persistent vomiting (possible dengue hemorrhagic fever (DHF)); patient should be taken to the hospital as soon as suspected signs of DHF are observed.
4. Pain at the belly-button that later moves to lower right abdomen and rapidly worsens, with stiffness of the muscles in the belly area, constipation or diarrhoea, low-grade fever (possible appendicitis or inflammation of the appendix).
 5. Severe abdominal pain, stiffness of the muscles in the belly area, chills, fever, nausea, vomiting, usually with previous history of frequent stomachache (possible gastrointestinal perforation or rupture).
 6. Vomiting blood, coughing blood, losing blood through the vagina (not including your menstruation) or excessive blood lost from the rectum.
 7. Severe, frequent watery diarrhoea, patient becomes very weak with dry skin and sunken eyeballs (possible cholera – oral rehydrating solution or sweetened soft drink with salt added should be taken to prevent dehydration).
 8. Asthma attack, shortness of breath (especially when the symptoms are not relieved after using usual asthma medications).
 9. Chest pain or discomfort in the centre or the left side of the chest; pain in one or both arms, the back, shoulders, neck, jaw, or upper part of the stomach; or shortness of breath (symptoms of heart attack).
 10. Sudden weakness or numbness in one side of the body, arm or leg, drooping or numbness in one side of the face, slurred speech or difficulty speaking (symptoms of stroke – patient should be taken to the hospital as quickly as these signs are observed).

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Chapter 2
Symptoms and Conditions for
Which Herbal Medicines Can Be Used

Symptoms and
Conditions

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Common cold

Definition

Common cold is a group of symptoms in the upper respiratory tract caused by any infections in which the mucous membranes of the mouth, nose and throat become inflamed. Symptoms may include fever, cough, sore throat, nasal congestion, runny nose, and sneezing.

Causes

- Viruses: the rhinovirus is the most common types of virus that causes colds.
- Contacts with virus-infected persons

Health tips

1. Get plenty of rest and drink plenty of warm drinks.
2. Avoid close contact with people who have a cold and wash hands after touching them or an object they have touched. If a child has a cold, wash his/her toys after playing.
3. Keep fingers away from your nose and eyes to avoid infecting yourself with cold virus particles that may have been picked up.
4. Have regular exercise.
5. Avoid smoking.
6. Maintain good personal hygiene.

List of herbal medicines for common cold

Scientific name	Common name	Page
<i>Andrographis paniculata</i> (Burm. f.) Wall. ex Nees.	Creat, green chireta, kariyat, king of bitters	86
<i>Citrus aurantiifolia</i> (Christm.) Swingle	Egyptian lime, Indian lime, key lime, lime, Mexican lime, sour lime, West Indian lime	118
<i>Curcuma longa</i> L.	Indian saffron, turmeric	138
<i>Zingiber officinale</i> Roscoe	Ginger	241

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Constipation (Dry stool)

Definition

Constipation is characterized as difficult, incomplete or infrequent (less than 3 per week) evacuation of dry, hardened feces from the bowels. Chronic constipation may also cause excessive straining to have a bowel movement. Abdominal bloating or discomfort as well as local and peri-anal pain may also occur.

Causes

- Inadequate fibre and water intake
- Lack of exercise or immobility
- Side effects of certain medicines: opiates, anticholinergics, calcium channel blockers
- Late pregnancy
- Certain medical conditions: diabetes, Parkinson's disease, spinal cord lesions, intestinal obstruction

Health tips

1. Increase intake of food rich in fibre: fruits and vegetables.
2. Drink plenty of water and other liquids, e.g. fruit and vegetable juices.
3. Have regular exercise.
4. Have regular bowel movement and visit the restroom when you have the urge to. Give yourself enough time to have a bowel movement.
5. Use recommended herbal laxative, if needed, but avoid chronic use of laxative.

List of herbal medicines for constipation

Scientific name	Common name	Page
<i>Senna alata</i> (L.) Roxb.	Candle bush, candlestick senna, ringworm bush, ringworm senna, ringworm shrub, seven-golden-candlesticks	218
<i>Senna siamea</i> (Lam.) H.S.Irwin & Barneby	Kassod tree, Siamese cassia, Siamese senna, Thai cassia	222
<i>Senna tora</i> (L.) Roxb.	Sickle senna, sicklepod, sicklepod senna	225
<i>Tamarindus indica</i> L.	Indian tamarind, tamarind	232

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Cough

Definition

Cough is an expulsion of irritating material from the lungs such as fluids, mucus and other material to clear the airway passage and throat. Acute cough, often caused by cold, flu or sinus infection, usually begins suddenly and goes away after 3 weeks, while sub-acute cough lasts 3-8 weeks and chronic (persistent) cough lasts longer than 8 weeks.

Causes

- Viral, bacterial or parasitic infections or contact with ones infected
- Common cold, flu and bronchitis
- Certain medical conditions: asthma, allergies or lung problem
- Environmental factors such as dirt, smoke, extreme cold, and allergens (e.g. pollens, animals' hair, dust mites, etc.)
- Smoking
- Side effects of certain medicines called "ACE Inhibitors" (e.g. enalapril, ramipril, quinapril) for the treatment of hypertension and cardiovascular diseases.

Health tips

1. Avoid smoking and stay away from second-hand smoke.
2. Avoid exposure to allergens, dust, pollens, smoke, etc.
3. Avoid fatty foods or fried foods.
4. Increase fluid intake to thin the mucus in the throat and make it easier to cough it up.
5. Take a caution to avoid spreading germs upon cough,
 - cover the mouth with tissue while coughing and put used tissue in waste basket. If you don't have a tissue, cough into your upper sleeve or elbow, not your hands,
 - wear a face mask, and
 - wash your hand frequently to prevent the spread of germs.

List of herbal medicines for cough

Scientific name	Common name	Page
<i>Belamcanda chinensis</i> (L.) Redouté	Black-berry lily, leopard flower, leopard lily	98
<i>Blumea balsamifera</i> (L.) DC.	Blumea camphor, ngai camphor	101
<i>Citrus aurantiifolia</i> (Christm.) Swingle	Egyptian lime, Indian lime, key lime, lime, Mexican lime, sour lime, West Indian lime	118
<i>Phyllanthus emblica</i> L.	Emblic, emblic myrobalan, Indian gooseberry	192

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Cradle cap

Definition

Cradle cap or infantile seborrheic dermatitis is an oily, yellow scaling or crusting on a baby's scalp. It shows up in the first few months of life and usually clears up on its own in about 6 to 12 months but some babies have it for longer. Cradle cap generally is not itchy for infants.

Causes

Exact cause of cradle cap is not known, but the followings are contributing factors:

- Mothers' hormones: passing to the baby before birth leading to an excessive production of oil from the oil glands and hair follicles.
- Malassezia, the yeast that grows in the sebum along with bacteria.

Health tip

Apply baby oil or olive oil on the scalp and comb the scalp with a soft-bristled brush may help loosen and remove scales, followed by shampooing with a baby shampoo.

Herbal medicine for cradle cap

Scientific name	Common name	Page
<i>Sapindus rarak</i> DC.	Soap nut tree	209

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Dandruff

Definition

Dandruff is a scalp condition that produces white, dry-looking flakes which may be shed and fall from hair onto the head, neck and shoulders. *Malassezia* yeast irritates the scalp and causes more skin cells to grow. Extra skin cells that died and fell off make them appear white and flaky in the hair or on the clothes. Although dandruff is not contagious and is rarely serious, it can be embarrassing and sometimes difficult to treat.

Causes

- Fungal Infection by *Malassezia* yeast
- Eczema or psoriasis.
- Hypersensitivity to hair care products, styling products or hair dyes, especially para-phenylenediamine
- Emotional, hormonal or seasonal changes may worsen dandruff.

Health tips

1. Maintain good personal hygiene by shampooing daily with a mild shampoo, or use anti-dandruff shampoo when the symptoms are active.
2. Maintain balanced diet and healthy lifestyle.
3. Avoid stress or fatigue, extreme weather.

List of herbal medicines for dandruff

Scientific name	Common name	Page
<i>Acacia concinna</i> (Willd.) DC.	Soap acacia, soap pod, soap pod wattle	66
<i>Citrus hystrix</i> DC.	Kaffir lime, Mauritius papeda	121

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Diarrhoea (Watery stools, loose bowel)

Definition

Diarrhoea is a condition of having three or more loose or liquid stools per day, or as having more stools than is normal for that person. Diarrhoea can be either acute or chronic type.

Acute diarrhoea is the type of diarrhoea that lasts less than 14 days. Usually acute diarrhoea is sudden onset and about 24-48 hours duration that requires no treatment or supportive treatment. Fever, abdominal pain and vomiting are also commonly found. Chronic diarrhoea is usually for more than 14 days duration due to diseases of the colon or small bowel, or malabsorption; thereby requires proper investigation of the cause and medical treatment.

Causes

- Foods and beverages: raw foods, carbonated drinks, spicy foods, fatty food, or milk and dairy products
- Food contaminated with bacterial toxins, bacteria, viruses, fungi, parasites, or protozoa
- Certain medicines: antibiotics, colchicine, cytotoxic drugs (e.g. methotrexate), non-steroidal anti-inflammatory drugs (NSAIDs), e.g. aspirin, ibuprofen, diclofenac

Health tips

To prevent diarrhoea

1. Avoid oily foods, spicy foods, raw foods, suspected unclean foods, or foods or juices that have a laxative effect, such as prune, tamarind.
2. Avoid milk or dairy products in persons who lack enzyme lactase to digest lactose or milk sugar.

To prevent dehydration from severe diarrhoea, especially in young children

1. Drink plenty of clean water or drink oral rehydration solution (ORS). A home-made ORS can be made by adding $\frac{1}{2}$ - 1 teaspoon salt (1.5-3 g) and 2 table-spoons sugar (18 g) in 1 litre of water; or
2. Take salted rice water, salted yogurt drinks, vegetable or chicken soups with salt, unsweetened fresh fruit juices with salt, or green coconut water.
3. Take foods high in potassium, such as ripe banana, oranges, to replace potassium loss.

List of herbal medicines for diarrhoea

Scientific name	Common name	Page
<i>Acacia catechu</i> (L.f.) Willd.	Catechu tree, cutch tree	63
<i>Aegle marmelos</i> (L.) Corrêa	Bael tree, baelfruit-tree, Bengal-quince, Indian baelfruit	71
<i>Camellia sinensis</i> (L.) Kuntze	Common tea, tea, tea plant	106
<i>Garcinia mangostana</i> L.	Mangostan, mangosteen	159
<i>Psidium guajava</i> L.	Common guava, guava	201

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Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)

Definition

Flatulence: The presence of excessive gas in the digestive tract or an accumulation of gas in the alimentary canal. Symptoms consists of uncomfortable feelings of bloating as well as increased belching (burping) or passing of gas from the digestive tract.

Feeling of fullness after a heavy meal: Painful or disturbed digestion associated with symptoms of nausea and vomiting, stomach discomfort, heartburn, and bloating.

Indigestion (dyspepsia): Discomfort or feeling of fullness in the upper middle part of the abdomen, which in some cases may spread upward and may include nausea and belching wind (acid reflux).

Causes

Flatulence

- Diet: cow milk, nuts, and some vegetables
- Lifestyle: excessive swallowing of air, smoking, weight reduction, and emotional stress
- Certain medical conditions: bowel obstruction, hormonal changes, and constipation

Indigestion (dyspepsia)

- Problems of the stomach and the intestine which affect muscle or nerve of the organs.
- Certain medicines: antibiotics, hormones, or non-steroidal anti-inflammatory drugs (NSAIDs), e.g. aspirin, ibuprofen, diclofenac
- Anxiety or stress

Health tips

1. Have balanced diet at proper times and avoid having excessive food.
2. Avoid starchy food, high sugar food, fatty food, and take some vegetables (e.g. beans, broccoli, cabbage, cauliflower) in moderation.
3. No smoking
4. Avoid coffee, alcoholic and carbonated drinks.
5. Take NSAIDs immediately after meals and avoid taking on an empty stomach.
6. Avoid lying flat on the bed by using a pillow to raising the head and have a main meal earlier before bedtime, especially in patients with acid reflux.

List of herbal medicines for digestive disorders

Scientific name	Common name	Page
<i>Allium sativum</i> L.	Garlic	76
<i>Alpinia galanga</i> (L.) Willd.	Galangal, greater galangal, Siamese ginger	82
<i>Curcuma longa</i> L.	Indian saffron, turmeric	138
<i>Curcuma zanthorrhiza</i> Roxb.	Java ginger, Java turmeric, Javanese ginger, Javanese turmeric	142
<i>Zingiber officinale</i> Roscoe	Ginger	241

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Fever

Definition

Fever is an elevation of body temperature above normal of 36.5°C-37.5°C and with feeling of warm and flushing skin, dried lip and increased thirst, usually associated with chill.

Causes

- Infections of the ear, lung, skin, throat, bladder, or kidney from viral, bacterial or parasitic causes
- Trauma from injury or cancer
- Conditions that cause inflammation
- Dehydration
- Exposure to heat (heat stroke)
- Autoimmune diseases such as lupus, rheumatoid arthritis and inflammatory bowel disease
- Vaccination

Health tips

1. Drink plenty of water.
2. Have adequate rest.
3. Cool down the body by placing cool washcloth on the forehead or cold compress.
4. Sponge bath with room temperature water.
5. Take fresh fruits, easily digested food, such as rice soup, chicken soup, porridge, etc.
6. Avoid thick clothing.

List of herbal medicines for fever

Scientific name	Common name	Page
<i>Aegle marmelos</i> (L.) Corrêa	Bael tree, baelfruit-tree, Bengal-quince, Indian baelfruit	71
<i>Azadirachta indica</i> A. Juss	Indian-lilac, margosa tree, neem, nimtree	93
<i>Tinospora crispa</i> (L.) Hook. f. & Thomson	<i>None known</i>	235

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Fungal infection of the skin (Ringworm, tinea)



Ringworm

Tinea

Definition

Superficial fungal infection of the skin or ringworm can affect the scalp, face, body, groin, or foot. Ringworm on the face, trunk and arms usually appears as single or multiple ring-shaped patches of rough, scaly skin with central clearing and slightly raised reddened edge. Fungal infection of the foot, commonly known as athlete's foot, is characterized by scaling, flaking, cracking of the skin between the toes causing itching, burning and pain of the affected areas.

Causes

- A group of fungi known as dermatophytes
- Direct contact with infected individual or animal or contaminated objects such as towel, clothing, bed sheet, shoes, or socks
- Warm weather, dampness, humidity, dirty, tight clothing, and diabetes mellitus are not the causes of fungal infection but make the skin predisposed to fungal infection.

Health tips

1. Maintain proper personal hygiene, e.g. avoid contact with infected people, pets or fungi-contaminated objects.
2. Keep the skin clean and dry, since moist skin favours the growth of fungi.
3. Avoid tightly-fitting clothes and shoes.

List of herbal medicines for fungal infection of the skin

Scientific name	Common name	Page
<i>Allium sativum</i> L.	Garlic	76
<i>Alpinia galanga</i> (L.) Willd.	Galangal, greater galangal, Siamese ginger	82
<i>Rhinacanthus nasutus</i> (L.) Kurz	Dainty spurs, snake jasmine, white crane flower	207
<i>Senna alata</i> (L.) Roxb.	Candle bush, candlestick senna, ringworm bush, ringworm senna, ringworm shrub, seven-golden-candlesticks	218
<i>Senna tora</i> (L.) Roxb.	Sickle senna, sicklepod, sicklepod senna	225

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Head lice

Definition

Head lice are tiny, wingless parasitic insects that live and feed on blood from the scalp. Head lice infestation is characterized by symptoms of itching and tickling feeling of something moving in the hair. Head lice infestation is a communicable health problem affecting mostly preschool and elementary school-aged children and their close contacts within their families.

Causes

Head lice do not jump or fly but can rapidly crawl, one can contract head lice by

- Personal hair-to-hair contact or sharing of combs, brushes, cap and other clothing with infested person.
- Lying on a bed, couch, pillow, carpet, or stuffed animal that has recently been in contact with a person with lice.

Health tips

1. Wash hair regularly.
2. Avoid sharing of personal items like comb, towels, hats, etc.
3. Avoid contact with people with head lice infestation at home or school.
4. Wash all clothing, bedding, personal items in hot water to completely get rid of lice and nits (louse eggs).

Herbal medicine for head lice

Scientific name	Common name	Page
<i>Annona squamosa</i> L.	Custard apple, sugar apple	90

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Herpes simplex (Cold sores, genital herpes) & herpes zoster (Shingles)



Herpes simplex



Herpes zoster

Definition

Herpes simplex is an infection of the skin with herpes simplex virus. A person can catch herpes simplex from another person through direct skin-to-skin, mouth or sexual contact. The commonest areas to be affected by herpes simplex are the lips and mouth (known as cold sores) and the genital area (known as genital herpes).

Herpes zoster is an infection of a nerve area caused by the Varicella zoster virus with initial symptoms of burning or shooting pain and tingling or itching, usually on one side of the body or face, supplied by the affected nerve, followed by mild to severe pain.

Causes

Herpes simplex

- Herpes simplex virus (HSV) infection, categorized into two types:
- HSV Type 1 infection - commonly causes oral herpes or cold sores around the mouth or face.
- HSV Type 2 infection - commonly causes genital herpes which is sexually transmitted disease affecting the genitals, buttocks or anal area.

Herpes zoster

- Varicella-zoster virus (VZV) infection of a nerve area, found in adults. VZV causes chickenpox in children and remains dormant within the nerves for decades. It may be reactivated in adults causing shingles when the immune system is weak.

Health tips

1. Avoid things that could trigger recurrence of herpes such as stress and getting sunburn. Stay healthy and get enough sleep.
2. Maintain proper personal hygiene and avoid sharing personal items, e.g. cups, towels and lip balm.
3. Avoid direct contact with infected individual including kissing and sexual contact
4. If you have active herpes infection, avoid spreading herpes to someone else by

- Do not let that area touch another person's skin.
 - Do not use a communal cups, towels.
5. Apply a cool wet compressor a moisturizing cream to relieve the symptoms.

List of herbal medicines for herpes simplex and herpes zoster

Scientific name	Common name	Page
<i>Clinacanthus nutans</i> (Burm.f.) Lindau	Sabah snake grass	123
<i>Coccinia grandis</i> (L.) Voigt	Ivy gourd, little gourd	125
<i>Scoparia dulcis</i> L.	Goat weed, scoparia weed, sweet broom, sweet broom weed, sweet broom wort	215

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Insomnia (Sleeplessness)

Definition

Insomnia is characterized by a difficulty in initiating or maintaining sleep for an adequate length of time, or both, despite sufficient opportunity and time to sleep, leading to impaired daytime functioning.

Causes

- Emotional causes (stress, anxiety, depression)
- Diet (alcoholic drinks, caffeine, nicotine)
- Poor sleeping habits or conditions, e.g. an irregular sleep time, stimulating activities before bed, an uncomfortable sleep condition
- Large meals before sleep
- Certain medicines, e.g. antidepressants, heart and blood pressure medications, stimulants, etc.
- Certain medical conditions, e.g. chronic pain, breathing problems from chronic heart or lung diseases, urinary problems causing a need to urinate frequently, hyperthyroidism, gastro-esophageal reflux disease, Parkinson's disease, and Alzheimer's disease

Health tips to avoid sleeplessness

1. Healthy lifestyle
 - Avoid large meal before sleep.
 - Avoid alcoholic drinks, caffeine, nicotine, especially in the late afternoon or evening.
 - Healthy balanced diet
 - Manage your time for rest, recreational activity and exercise in balance.
 - Avoid long nap during the day.
2. Promote good sleep habit.
3. Treat the underlying diseases.
4. Right time of taking medication

List of herbal medicines for insomnia

Scientific name	Common name	Page
<i>Erythrina variegata</i> L.	Coral tree, Indian coral tree, variegated tiger's claw	151
<i>Nelumbo nucifera</i> Gaertn.	East Indian lotus, lotus, oriental lotus, sacred lotus	183
<i>Passiflora foetida</i> L.	Stinking passion herb	190

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Insufficient lactation

Definition

Insufficient lactation can be related to the following signs including:

- Frequent crying of baby,
- Very long feedings,
- Less than 6 to 8 wet diapers a day,
- Infrequent bowel movement with small amount of hard dry stool, or
- Baby does not gain weight properly (less than 20 g per day).

Causes

- Late initial feeding after giving birth
- Inverted or cracked nipples
- Inflammation of the breast of mother
- Incomplete emptying of the breast milk
- Insufficient fluid intake for mother
- Stress
- Improper feeding technique

Health tips

1. Practice proper breast care before delivery and feeding such as examination of nipples to check for cracked, inverted nipples, etc.
2. Start breast feeding early after birth.
3. Use proper feeding techniques
 - Improve latch-on, if necessary;
 - Increase the frequency of feeding;
 - Offer both breasts in each breastfeeding;
 - Allow the infant to empty the breasts completely;
 - Alternate between breasts during the same feeding if the infant feels drowsy or if he/she is not sucking vigorously
4. Have healthy balanced diet.
5. Increase fluid intake.
6. Have adequate rest.

List of herbal medicines to promote lactation

Scientific name	Common name	Page
<i>Moringa oleifera</i> Lam.	Ben oil tree, benzolive-tree, drumstick tree, horse-radish tree	176
<i>Sauropus androgynus</i> (L.) Merr.	Katuk, sweet leaf brush	212
<i>Tamarindus indica</i> L.	Indian tamarind, tamarind	232

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Intestinal parasite infestations (Roundworms and tapeworms)

Definition

Intestinal parasite infestations are conditions that the digestive tract is invaded and populated by worm-like parasites. The symptoms are abdominal pain, diarrhoea, nausea or vomiting, gas or bloating, dysentery (loose stools containing blood and mucus), rash or itching around the rectum or vulva, stomach pain or tenderness, feeling tired, weight loss, and passing worms in the stool.

Examples of roundworms are ascaris, pin worm or thread worm, and hookworm; while beef tapeworm and pork tapeworm are in the group of tapeworms.

Causes

- Direct contact with worm-infected pets, e.g. dogs, cats
- Environments: soil contaminated with animal feces that contain larvae or eggs of worms
- Diet: uncooked or unwashed foods, or unclean water contaminated with the worms or eggs
- Poor hygiene, e.g. eat foods with unclean hands

Health tips

1. Wash hands before and after eating, after visiting toilets and after contacting with soil or pets.
2. Avoid eating
 - undercooked fish, crabs, and mollusks;
 - undercooked meat; raw aquatic plants such as watercress, water chestnut;
 - raw vegetables that have been contaminated by human or animal feces.
3. Wash and cook food well, wash all fruits and vegetables carefully before eating.
4. Drink clean water or boiled water.
5. Deworming when necessary (human and pets).

List of herbal medicines for intestinal parasite infestations

Scientific name	Common name	Page
<i>Combretum indicum</i> (L.) DeFilipps	Drunken sailor, quisqualis, Rangoon creeper	130
<i>Cucurbita moschata</i> Duchesne	Butternut squash, cheese pumpkin, pumpkin	135
<i>Punica granatum</i> L.	Pomegranate	204

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Joint pain and sprain

Definition

Joint pain is a discomfort involving one or more joints that can be accompanied by other symptoms such as redness, warmth, swelling, stiffness, and decreased range of motion of the joint.

Sprain is a traumatic injury to the tendons, muscles, or ligaments around a joint, as a result of wrenching or twisting of a joint. Symptoms include pain, swelling, bruising, and being unable to move the joint.

Causes

Joint pain

- Trauma (sport injury, fall, twisting of joint, lifting of heavy load)
- Overweight can cause knee pain.
- Certain medical conditions: osteoarthritis, tendonitis, systemic lupus erythematosus (SLE), rheumatoid arthritis, rheumatic fever, etc.

Sprain

- Trauma (sport injury, twisting of joint, fall)
- Lifting of heavy load

Health tips

1. Practice proper lifting technique and positioning.
2. Maintain ideal body weight.
3. Minor exercise with muscle stretching to increase the strength and flexibility of the joints and muscles.
4. First aid for a sprain includes
 - Immediate rest with no weight bearing
 - Do not move the affected joint.
 - Apply cold compress for the first 24 hours to relieve pain and prevent swelling, and then followed by hot compress.
 - Elevate the affected area to prevent swelling.

List of herbal medicines for joint pain and sprain

Scientific name	Common name	Page
<i>Crinum asiaticum</i> L.	Asiatic poison bulb, crinum lily, grand crinum, poison bulb, spider lily	133
<i>Eucalyptus globulus</i> Labill.	Blue gum, southern blue gum, Victorian blue gum	154
<i>Zingiber montanum</i> (J.König) Link ex A. Dietr.	Cassumunar ginger	238

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Loss of appetite (Anorexia)

Definition

Loss of appetite is a loss of the desire to eat.

Causes

A decreased appetite is common among the elderly, sometimes with no known cause.

Loss of appetite may be caused by

- Negative emotions: depression or grief,
- Certain medical conditions: effect of cancer, chronic liver disease, chronic kidney failure, heart failure, pain, or bowel obstruction.

Health tips

1. Regularly exercise.
2. Supply favourite foods to stimulate appetite.
3. Eat several small meals throughout the day rather than two or three larger meals.
4. Consume nutritional supplements like liquid protein drinks to prevent malnutrition.

List of herbal medicines for loss of appetite

Scientific name	Common name	Page
<i>Carica papaya</i> L.	Papaya, pawpaw	109
<i>Centella asiatica</i> (L.) Urb.	Asiatic pennywort, gotu kola, Indian pennywort, marsh pennywort, pennyweed, sheeprot, thankuni	115
<i>Momordica charantia</i> L.	Balsam apple, balsam pear, bitter-cucumber, bitter gourd, bitter-melon, carilla fruit	174

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Minor burns (First degree burn)

Definition

Burns are graded by degree from first to third degree, based on the severity of the tissue damage. Minor burns are defined as first- or second-degree burns covering less than 15% of an adult's body area or less than 10% of a child's body area.

In a first-degree burn, only the outermost layer of skin (epidermis) is damaged becoming red, painful and tender. The skin may swell but no blisters form; hence, there is no threat of infection.

In a second-degree burn, the damage may reach a deeper layer of the skin (dermis). The skin looks similar to a first-degree burn but blisters filled with a clear fluid form at the surface.

In a third-degree burn, this burn, referred to as a full thickness burn, destroys the outer layer of skin (epidermis) and the entire layer beneath (the dermis). Fat, muscle and even bone may be affected. Areas may be charred black or appear dry and white.

Herbal medicines recommended below are meant for first degree burn only.

Causes

- Sunburn
- Fire
- Hot liquids
- Steam
- Electricity
- Friction, radiation or chemicals

Health tips

1. Clean the minor burns gently with soap and water.
2. DO NOT break blisters as an opened blister can get infected.

List of herbal medicines for minor burns

Scientific name	Common name	Page
<i>Aloe vera</i> (L.) Burm.f.	Aloe vera, Barbados aloe, Mediterranean aloe, true aloe	79
<i>Bryophyllum pinnatum</i> (Lam.) Oken	Air plant, cathedral bells, curtain plant, floppers, good-luck-leaf, live-leaf-of-resurrection plant, Mexican love plant, miracle leaf, mother of thousands	104
<i>Camellia sinensis</i> (L.) Kuntze	Common tea, tea, tea plant	106
<i>Cocos nucifera</i> L.	Coconut, coconut palm, copra	127

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Muscle pain (Muscle ache, muscle soreness)

Definition

Muscle pain is related to tension, overuse or muscle injury from exercise or physically-demanding work. The pain tends to involve specific muscles and starts during or just after the activity and may also involve surrounding structures (ligaments, tendons, fascia, soft tissues, bones, and organs).

Causes

- Improper and overuse of the muscle
- Trauma
- Some viral or bacterial infections (e.g. influenza, Chikungunya or leptospirosis) cause muscle ache. (*Herbal medicines recommended below are not effective for muscle pain of this kind.*)

Health tips

1. Stretch and exercise muscle before and after work.
2. Drink plenty of fluids before, during, and after exercise.
3. Adequate rest.
4. Avoid staying in the same position for a long time most of the day, stretch your muscle at least every hour.
5. Apply hot compress for sore and tightened muscles to increase blood flow and circulation to the area and help eliminate any lactic acid waste built up.
6. Apply cold compress for inflamed muscle to help reduce blood flow to the area, thereby reducing the swelling and slowing down the pain messages being transmitted to the brain.

List of herbal medicines for muscle pain

Scientific name	Common name	Page
<i>Curcuma zanthorrhiza</i> Roxb.	Java ginger, Java turmeric, Javanese ginger, Javanese turmeric	142
<i>Myristica fragrans</i> Houtt.	Nutmeg tree, mace tree	180
<i>Zingiber montanum</i> (J.König) Link ex A. Dietr.	Bengal ginger, cassumar ginger, cassumunar ginger	238

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Nausea and vomiting

Definition

Nausea is the feeling of discomfort or uneasiness in the stomach characterized by an urge to vomit.

Vomiting is throwing up of stomach contents out of the mouth.

Causes

- Foods
 - Food allergies
 - Food poisoning
 - Over eating
- Excessive intake of alcoholic drinks
- Certain medical conditions, e.g. migraine headaches, motion sickness or sea-sickness, severe pain
- Side effects of medicines or medical treatment, e.g. chemotherapy for cancer, non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin, ibuprofen, diclofenac
- Physical and emotional conditions such as early stages of pregnancy, trauma, or emotional stress.

Health tips

1. Eat slowly.
2. Avoid foods that are hard to digest.
3. Avoid raw foods, uncooked foods, suspected unclean foods.
4. Drink fluid between meals instead of during meals and drink at least 8-12 glasses of water a day to prevent dehydration.
5. Have small frequent meals instead of 3 large meals.
6. Try small frequent sips of clear fluids, e.g. clear carbonated drinks, weak cordial, fruit ices without fruit pieces, cranberry juices, apple grape juices, black tea or herbal tea, and warm water.

List of herbal medicines for nausea and vomiting

Scientific name	Common name	Page
<i>Parkia timoriana</i> (DC.) Merr.	Tree bean	188
<i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry	Clove, clove tree	228
<i>Zingiber officinale</i> Roscoe	Ginger	241

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Painful menstruation (Dysmenorrhoea, menstrual cramp, painful period)

Definition

Painful menstruation is painful cramps at the lower abdomen which may radiate to the lower back that can occur before, during and after menstruation.

Causes

- Primary dysmenorrhoea occurring in healthy young women when menstrual periods first begin; usually not related to a specific problem with the uterus or other pelvic organs.
- Secondary dysmenorrhoea occurring in women who have had normal periods and often related to problems in the uterus or other pelvic organs, such as endometriosis, fibroids, intrauterine device (IUD) made of copper, pelvic inflammatory disease, premenstrual syndrome (PMS), sexually transmitted infection, stress, and anxiety.

Health tips

1. Lifestyle changes
 - Avoid cold food and drink.
 - Avoid smoking.
 - Have adequate rest.
 - Drink less alcoholic drinks and coffee.
 - Walk or get aerobic exercise regularly, including pelvic rocking exercises.
2. Have balanced diet, i.e. a diet rich in complex carbohydrates such as whole grains, fruits, and vegetables, low in salt and sugar.
3. Lose weight if you are overweight.
4. Apply warm compress (e.g. heating pad) to lower belly area to help relieve pain.

List of herbal medicines for painful menstruation

Scientific name	Common name	Page
<i>Achillea millefolium</i> L.	Carpenter's weed, common yarrow, milfoil, yarrow	69
<i>Aerva sanguinolenta</i> (L.) Blume	None known	74
<i>Carthamus tinctorius</i> L.	Dyer's-saffron, false saffron, safflower	112
<i>Leonurus japonicus</i> Houtt.	Motherwort	168

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Peptic ulcers (Duodenal and stomach ulcers)

Definition

Peptic ulcer is an ulcer in the lining of the stomach and/or duodenum with the symptoms of burning stomach pain which starts between meals or during the night and lasts for minutes to hours. The most common symptoms of peptic ulcer are abdominal pain, heartburn, and the sensation of acid backing up into the throat. The pain comes and goes for several days or weeks and can be temporarily stopped after eating or taking antacids.

Causes

- *Helicobacter pylori* infection of the digestive tract
- Prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs), e.g. aspirin, ibuprofen, naproxen, and diclofenac.
- Stress and spicy foods: not the causes but can make the ulcers or symptoms worse.

Health tips

1. Avoid spicy food.
2. Avoid coffee, soft drinks, alcoholic drinks, and fruit juices high in citric acid (citrus fruits).
3. Avoid smoking.
4. Take NSAIDs immediately after meals and avoid taking on an empty stomach.
5. Eat foods rich in fibres, e.g. fruits and vegetables, helps reduce the risk of developing ulcers.

List of herbal medicines for peptic ulcers

Scientific name	Common name	Page
<i>Curcuma longa</i> L.	Indian saffron, turmeric	138
<i>Cyperus rotundus</i> L.	Coco-grass, nut grass, nut sedge, purple nut sedge, purple nut-grass, red nut sedge	145
<i>Musa</i> hybrids	Banana, plantain	178

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Peri-menopausal symptoms

Definition

Menopause is a normal phase in a woman's life and peri-menopause is the time when a woman makes natural transition towards menopause resulting in permanent infertility. Peri-menopausal symptoms include the symptoms associated with abnormal menstrual cycles and cessation of menses that include a feeling of sudden warmth in the face, neck and chest; increased anxiety, depression, irritability; urgency of urination, burning or pain during urination; vaginal dryness, decreased sexual desire; night sweats, sleeping problems, and increased risk of osteoporosis and bone fracture. It may begin as early as 40's or as late as 50's for some.

Causes

- Hormonal changes: mainly due to the decrease of oestrogen
- Certain medical conditions, e.g. hysterectomy, cancer treatment

Health tips

1. Diet:
 - Get enough calcium from dairy products, fish and bone.
 - Get enough fibre from foods high in fibre such as whole-grain breads, cereals, brown rice, fresh fruits, and vegetables.
 - Reduce foods or drinks high in fat, sugar and alcoholic drinks.
2. Regularly exercise.
3. Have enough rest and relaxation.

Herbal medicine for peri-menopausal symptoms

Scientific name	Common name	Page
<i>Achillea millefolium</i> L.	Carpenter's weed, common yarrow, milfoil, yarrow	69

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Skin allergies (Skin rash, hive, insect bites, jelly fish sting)



Insect bites



Jelly fish sting

Definition

Skin allergies (skin irritations or skin rashes) involve the conditions such as dermatitis (eczema), hive (urticaria), angioedema, insect bites, and jelly fish stings which may be caused by a variety of factors that include heat, immune system disorders, medications, and infections. Hive encompasses itchy rash that appears as raised red bumps of various shapes and sizes, and may last for minutes, hours to years.

Causes

- Contact to heat, cold, sunlight, pressure or vibration, tight clothes, or insect bites
- Immune system disorders: auto-immune diseases such as lupus, rheumatoid arthritis, cancer, viral hepatitis.
- Medications: drug allergies such as antibiotics, NSAIDs
- Food allergies: seafood, preserved foods.

Health tips

1. Changes in Lifestyle
 - Avoid hot baths, exercise or wearing too much clothing.

- Avoid tight waistbands from clothing.
 - Avoid self medication.
 - Avoid exposure to insect- infested area such as bee hives, ant nests, etc.
 - Avoid exposure to allergen such as pollen, dust mites, etc.
 - Meditation
2. Healthy balanced diet
 - Avoid food known for allergen such as seafood, egg, peanuts, etc.
 3. Avoid rubbing/scratching the affected area.

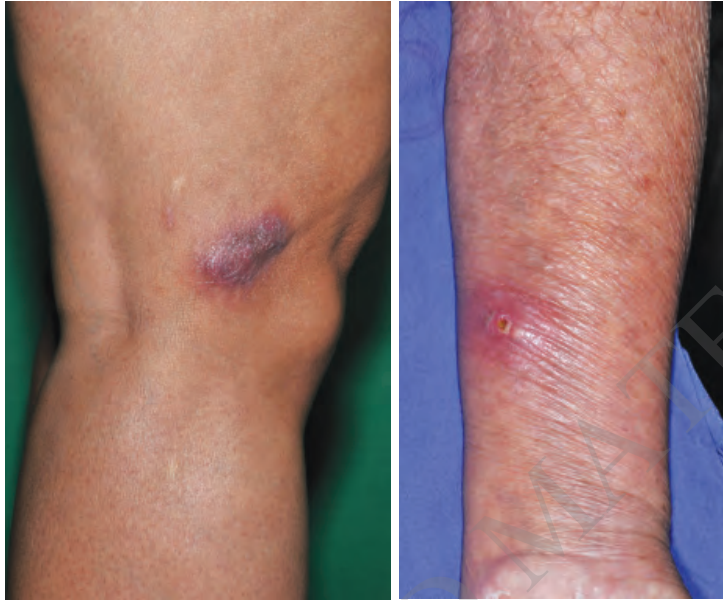
List of herbal medicines for skin allergies

Scientific name	Common name	Page
<i>Allium sativum</i> L.	Garlic	76
<i>Barleria lupulina</i> Lindl.	Hop-headed barleria	96
<i>Clinacanthus nutans</i> (Burm.f.) Lindau	Sabah snake grass	123
<i>Coccinia grandis</i> (L.) Voigt	Ivy gourd, little gourd	125
<i>Ipomoea pes-caprae</i> (L.) R. Br.	Beach morning-glory, goat's foot creeper, railroad vine	166
<i>Piper betle</i> L.	Betel, betel pepper, betel vine	195

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Skin infection (Wound and skin abscess)



Skin abscess

Definition

Wound is a break of the continuity of the skin when it is torn, pierced, cut, or broken. Wounds include cuts, scrapes, scratches, and punctured skin.

Skin abscess is an enclosed collection of liquefied tissue, known as pus, somewhere on the skin which appears white or yellow and may present symptoms such as local swelling around the infected site, hardness of tissue, open or closed skin lesion, redness, and tenderness and warmth at the affected area. Fever or chill may occur in some cases.

Causes

Wound

- Trauma: stabbed wound, accident, injury, fall, burns, etc.
- Surgical procedure
- Excessive scratching of skin

Skin abscess

- Bacterial infection, often by *Staphylococcus* spp. entering a broken skin or wound

Health tips

1. To aid wound healing and prevent skin infection:
 - Apply pressure with a clean cloth to stop bleeding.
 - Wash the wound clean with water.
 - Bandage the wound if it might get dirty.
 - Keep the skin around the wound clean and dry to prevent infection.
 - Watch for swelling and redness.
2. Apply moist heat (such as warm compresses) to help the abscess drain and heal faster.
3. Do not push and squeeze on the abscess.

List of herbal medicines for wound and skin abscess

Scientific name	Common name	Page
<i>Aloe vera</i> (L.) Burm.f.	Aloe vera, Barbados aloe, Mediterranean aloe, true aloe	79
<i>Curcuma longa</i> L.	Indian saffron, turmeric	138
<i>Eclipta prostrata</i> (L.) L.	Eclipta, false daisy, white eclipta	148
<i>Impatiens balsamina</i> L.	Balsam, garden balsam, rose balsam	161

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Toothache

Definition

A toothache refers to sharp pain or dull pain in the tooth or its surrounding supporting tissues or jaw, primarily as a result of dental condition.

Causes

- Lack of oral hygiene which can cause tooth decay and gum disease
- Injury of tooth, jaw, mouth, or gum
- Exposure of the dentine or nerve in the tooth to heat, cold or pressure

Health tips

1. Maintain proper oral hygiene (brushing of teeth at least twice a day after meals):
 - Brush teeth regularly with a fluoride-containing toothpaste.
 - Rinse mouth with warm water after having sweet food.
 - Use dental floss to remove any food particles wedged between teeth.
 - See the dentist once or twice a year for professional cleaning.
2. Avoid carbonated drinks, sweet foods.
3. Avoid unnecessarily chewing of hard foods such as ice and hard candies, that may cause tooth fractures.
4. Avoid smoking.
5. See the dentist as soon as possible if toothache is severe.

List of herbal medicines for toothache

Scientific name	Common name	Page
<i>Eclipta prostrata</i> (L.) L.	Eclipta, false daisy, white eclipta	148
<i>Mentha arvensis</i> L.	Field mint, Japanese peppermint, wild mint	171
<i>Piper betle</i> L.	Betel, betel pepper, betel vine	195
<i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry	Clove, clove tree	228

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Urinary tract disorders (Dysuria, lower urinary tract infection, urolithiasis)

Definition

Dysuria is characterized by the feeling of pain, burning or discomfort before, during and after urination.

Lower urinary tract infection (lower UTI) is the infection of urethra and bladder, mostly caused by bacteria that enter the urethra and then the bladder. The symptoms of lower UTI are increased frequency of urination; burning pain when urinate; strong need to urinate often, even right after emptying the bladder; cloudy or bloody urine, sometimes with a foul or strong odour; and cramping in the lower abdomen or back. Urolithiasis is a condition where urinary stones are formed and located anywhere in the urinary system causing symptoms such as extreme pain or sharp cramping on the back and side area of the kidneys or lower abdomen and may spread to the groin. Occasionally small stones may be passed out during urination.

Causes

Dysuria

- Urinary tract infection
- Urolithiasis
- Certain medical conditions, e.g. enlarged prostate

Lower urinary tract infections

- Bacterial infection, especially by *Escherichia coli*
- Poor personal hygiene

Urolithiasis

- Decreased fluid intake
- Diet
 - Excessive salt intake
 - Excessive protein (rich in uric acid content) intake such as internal organs; red meat
 - High calcium intake such as dairy products, beans, canned fish (other than tuna);
 - High oxalate intake such as spinach, asparagus, chocolate, celery, nuts, tomatoes.
 - High phosphate intake

Health tips to prevent urinary tract disorders

1. Drink plenty of water daily.
2. Urinate often, do not hold urine.
3. For women, urinate and clean your genitalia well right after having sex.
4. Avoid food high in salt, protein, calcium, oxalates, and phosphates.
5. Maintain proper personal hygiene, e.g. flush the genitalia after urination and defecation.

List of herbal medicines for urinary tract disorders

Scientific name	Common name	Page
<i>Blumea balsamifera</i> (L.) DC.	Blumea camphor, ngai camphor	101
<i>Imperata cylindrica</i> (L.) P. Beauv.	Alang-alang, blady grass, cogon grass, lalang grass	163
<i>Orthosiphon aristatus</i> (Blume) Miq.	Cat's whiskers, Java tea, whiskers plant	185
<i>Plantago major</i> L.	Broad-leaved plantain, common plantain, greater plantain	198

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Weak immunity

Definition

The immune system is composed of many interdependent cell types with specialized functions that collectively protect the body from bacterial, parasitic, fungal and viral infections, as well as from the growth of tumour cells. The cells of the immune system can engulf bacteria, kill parasites or tumour cells, or kill virus-infected cells. Hence, if the immune functions are weakened, a person is prone to develop infections, especially respiratory infection, and uncommon types of cancer.

Causes

- Emotional stress
- Physical stressors such as inadequate sleep or athletic overtraining
- Environmental and occupational chemical exposure
- Ultraviolet and other types of radiation
- Common viral or bacterial infections
- Certain medicines or medical treatment: immunosuppressant, steroid, chemotherapy
- Blood transfusions and surgery
- Dietary habits: excessive fat, alcoholic drinks, refined sugar consumption, or inadequate protein, calorie, vitamin, mineral, or water intake fosters decreased immune functions
- Aging counteracts immune function, particularly after the age of 40.

Health tips

1. Healthy lifestyle:
 - Avoid smoking.
 - Adequate rest.
 - Regularly exercise.
 - Avoid stress.
 - Maintain proper personal hygiene: washing hands frequently.
2. Healthy balanced diet: a diet high in fruits, vegetables, whole grains, and low in saturated fat, and high quality probiotics.
3. Recommended medicinal plants should be avoided in these conditions: viral or bacterial infections; receiving immunosuppressant, steroid or chemotherapy; blood transfusions and surgery.

Herbal medicine for weak immunity

Scientific name	Common name	Page
<i>Ganoderma lucidum</i> (Leyss. ex Fr.) Karst.	Ganoderma, lingzhi mushroom, reishi mushroom	156

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Chapter 3
Herbal Medicines for
Selected Symptoms and Conditions

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Acacia catechu



Scientific Name *Acacia catechu* (L.f.) Willd.

Synonyms *Acacia catechuoides* (Roxb.) Benth., *A. sundra* (Roxb.) Bedd., *A. wallichiana* DC., *Mimosa catechu* L. f., *M. catechuoides* Roxb. (1)

Family Fabaceae (Leguminosae - Mimosoideae) (1,2)

Common Names Catechu tree, cutch tree (3)

Local/Vernacular Names in AMS

Brunei Darussalam:	Pinang	Myanmar:	Sha, shazi
Cambodia:	Slachvea	Philippines:	-
Indonesia:	Akasia	Singapore:	-
Lao PDR:	Ka thin nam	Thailand:	Sisiat, sisiat-nuea
Malaysia:	Getah gambir	Vietnam:	Keo cao

Description of the plant

Tree, deciduous, 6-15 m high. Stem with rough bark, split into long stripes or rectangular plates. Leaves bipinnately compound, alternate, pinnae 10-30 pairs; leaflets 20-50 pairs, oblong-linear. Inflorescence 1-4 spike(s), axillary; flower white to pale yellow. Fruit pod, strap-shape, flat, thin, brown, apex beaked, base stalked. Seeds 3-10.(4-7)

Parts used Bark, sapwood and heartwood, or branch and trunk

Crude drug Cutch or black catechu

Preparation of crude drug

1. Prepare the plant materials as follows:
 - (a) Strip the bark and sapwood of the trunk, cut the dark red heartwood into chips and mix all together (8-10); or
 - (b) Chop the branch and trunk into large pieces after peeling their bark off. (11)
2. Boil the prepared plant materials described above (either 1(a) or 1(b)) with sufficient water for 5-6 hours. Strain the decoction and boil down the liquid until it attains the consistency of syrup. When sufficiently cool to handle, pour the syrupy extract into mold or frame and allow standing overnight until dry to obtain pieces of brick-like masses of cutch. Keep in a well-closed container and store in a well-ventilated, cool and dry place. (8-11)

Characteristic of crude drug

Nearly blackish masses, hard, brittle, surface dull gloss, containing small cavities. Odourless; taste, astringent. (11-13)

Indication

Diarrhoea (Watery stools, loose bowel)

Preparations & Dosage

1. Grind the cutch into fine powder, put $\frac{1}{3}$ - $\frac{1}{2}$ teaspoon (0.3-1 g) of the powder in a cup, pour hot or boiling water over, and stir well. Drink whole at once and repeat if the symptom persists, but not more than 2-3 times a day (8,14) (Thailand, Myanmar); or
2. Mix 1 tablespoon (12 g) of cutch with 1 teaspoon (4 g) of cinnamon bark, soak the mixture in 1 glass of boiling water, let it stand for 2 hours, and then filter. Take orally 2 tablespoons of the filtrate, 3 times a day. (8) (Myanmar)

Contra-indication

None reported

Warnings & Precautions

1. Concomitant use with medicines that can cause constipation (e.g. codeine-containing cough suppressants, opiate analgesics and some antacids) should be avoided. (15)
2. It should be used with caution in persons with low blood pressure. (16)

Side effect

None reported

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Acacia concinna



Scientific Name *Acacia concinna* (Willd.) DC.

Synonyms *Acacia concinna* Phil., *A. concinna* var. *rugata* (Benth.) Baker, *A. rugata* Merrill (1)

Family Fabaceae (Leguminosae - Mimosaceae) (2)

Common Names Soap acacia, soap pod, soap pod wattle (2,3)

Local/Vernacular Names in AMS

Brunei Darussalam: -

Malaysia: -

Cambodia: Sambour kak, bay
damneub, sandaek
kampeunh

Myanmar: Kin mun gyin, kin mun

Philippines: Acacia

Singapore: -

Indonesia: Akasia

Thailand: Som poi

Lao PDR: Som poi

Vietnam: Keo la me, keo dep

Description of the plant

Scandent shrub or small tree, up to 30 m long. Stem tomentose, grey, armed with short and sharp prickles. Leaves bipinnately compound, alternate; pinnae 8-10 pairs, leaflets 15-25 pairs, linear-oblong. Inflorescence panicle head, head 0.7-1.2 cm in diameter; flower white to yellowish, fragrant. Fruit pod, brown, strap-shaped, fleshy, with wrinkled surface. Seeds 6-10. (4-8)

Parts used Dried fruit pod, dried leaf, dried bark

Crude drugs Dried fruit pod, dried leaf, dried bark

Preparation of crude drugs

Collect the pods, leaves or barks, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry place. (9)

Characteristic of crude drugs

Pod Ligulate or oblong, dark brown in colour, shriveled and rugose with wavy sutures. Odour not characteristic; taste, acid, bitter, and singularly pungent. (4,6)

Leaf Leaflets very wrinkled appearance when dried. Taste, acidic. (9)

Indication

Dandruff

Preparations & Dosage

1. Prepare a decoction of 1 handful of dried pods in about 1 litre of water. Apply as a shampoo to clean the hair and leave for 15-30 minutes before rinsing off. (9-11) (Thailand, Myanmar); or
2. Prepare a paste of powdered pods, leaves and barks. Apply as a shampoo to clean the hair and leave for 15-30 minutes before rinsing off. (3,4) (Philippines)

Contra-indication

None reported

Warning & Precaution

It should not be applied on the open wound.

Side effect

None reported

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Achillea millefolium



Scientific Name *Achillea millefolium* L.

Synonyms *Achillea albida* Willd., *A. ambigua* Boiss., *A. ambigua* Pollini, *A. anethifolia* Fisch. ex Herder, *A. angustissima* Rydb., *A. arenicola* A.Heller, *A. bicolor* Wender., *A. borealis* Bong., *A. lanulosa* Nutt., *Chamaemelum millefolium* (L.) E.H.L.Krause (1,2)

Family Asteraceae (Compositae) (2)

Common Names Carpenter's weed, common yarrow, milfoil, yarrow (2-4)

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	-
Cambodia:	-	Philippines:	Milfoil
Indonesia:	Daun seribu	Singapore:	-
Lao PDR:	-	Thailand:	-
Malaysia:	Daun seribu	Vietnam:	Duong ky thao, van diep, co thi, xuong ca

Description of the plant

Perennial herb, 50-90 cm high, with long rhizome. Stem erect, unbranched or branched in upper part. Leaves sessile, lanceolate, oblong-lanceolate, or sublinear, 2-3-pinnatisect, ultimate seg-

ment lanceolate to linear. Synflorescence terminal, flat-topped panicle; heads many; flowers white. Fruit achene, greenish, oblong. (3,5-7)

Part used Fresh Leaf

Crude drug Not described since only fresh part is used.

Indications

1. Painful menstruation (Dysmenorrhoea, menstrual cramp, painful period)
2. Peri-menopausal symptoms

Preparations & Dosage

For Painful menstruation (Dysmenorrhoea, menstrual cramp, painful period)

Prepare a decoction of 2 handfuls of fresh leaves in 1 glass of water. Drink the filtrate, once a day, after breakfast. (Indonesia)

For Peri-menopausal symptoms

According to Philippines' traditional knowledge, *Achillea millefolium* L. is used in a form of decoction for peri-menopausal symptoms. (Philippines)

Contra-indication

None reported

Warnings & Precautions

1. Persons allergic or hypersensitive to yarrow, its constituents, or any members of the Asteraceae (Compositae) family, e.g. *Blumea balsamifera* (L.) DC., *Carthamus tinctorius* L., *Eclipta prostrata* (L.) L. should avoid taking this medicine. (8)
2. It should be used with caution in pregnant women or breast-feeding mothers. (8)
3. It should be used with caution in patients with photosensitivity. (8)

Side effects

1. It may cause atopic dermatitis or hives due to its sesquiterpene lactone content. (8)
2. It may cause skin irritation or light sensitivity. (8)

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Aegle marmelos



Scientific Name	<i>Aegle marmelos</i> (L.) Corrêa		
Synonyms	<i>Belou marmelos</i> (L.) Lyons, <i>Bilacus marmelos</i> (L.) Kuntze, <i>Crateva marmelos</i> L., <i>Feronia pellucida</i> Roth (1,2)		
Family	Rutaceae (2)		
Common Names	Bael tree, baelfruit-tree, Bengal-quince, Indian baelfruit (2,3)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	Okshit, oat shit
Cambodia:	Pnov	Philippines:	Maredoo
Indonesia:	Maja, majalegi	Singapore:	-
Lao PDR:	Kok mak toum	Thailand:	Matum
Malaysia:	Bel, bila, bilak, maja pahit	Vietnam:	Bau nau, trai nam

Description of the plant

Tree, 10-15 m high, thorny. Leaves compound, alternate; leaflets 3-5, ovate-lanceolate, aro-

matic. Inflorescence raceme, terminal or axillary; flowers greenish white, fragrance. Fruit berry, large, globular or ovoid, hard-shelled, light green, turns light yellow when ripen. Seeds numerous, oblong, flat. (4-10)

Parts used Shell of unripe fruit, young fruit, mature fruit

Crude drugs Dried shell, dried fruit

Preparation of crude drugs

Shell of unripe fruit Peel the shell of unripe fruit, wash the shell with water and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry place. (6)

Young fruit Collect a young fruit, broil the fruit until smelling its sweet odour, cut into thin transverse slices, put in the water to wash off the resin, and then sun-dry or roast until turning yellow. Keep in a well-closed container and store in a dry place. (11)

Mature fruit Collect a mature fruit, cut into transverse slices, sun-dry, and roast. Keep in a well-closed container and store in a dry place. (12)

Characteristic of crude drugs

Shell of unripe fruit Hard and smooth shell of berry fruit, light green in colour. Odour, aromatic; taste, bitter. (6)

Fruit Hard, dry, rounded, cut in transverse slices, 3-10 cm in diameter with rind, hard, 0.5-1 cm thick, brownish in colour. Pulp, shrunk, thinner than the rind, with orange-brown to reddish brown in colour, and 8-10 oval holes varying in sizes; sometimes with the seeds or mucilage attached. Odour, aromatic; taste, bitter. (13)

Indications

1. Fever
2. Diarrhoea (Watery stools, loose bowel)

Preparations & Dosage

For Fever

Prepare a slurry of 1 finger length of dried shell of fruit in water. Take orally 1 teaspoon (5 g), 3 times a day (6) (Myanmar); or

Note In Malaysia, root, bark and leaf are used for fever in a form of decoction but no dosage information is established. (15-17) (Malaysia)

For Diarrhoea (Watery stools, loose bowel)

1. Prepare a decoction of 3 tablespoons of chopped dried unripe fruit shell in about 1- 1½ glass of water. Drink the decoction as needed (Indonesia); or
2. Prepare a decoction of 4-5 slices (100 g) of dried mature fruit in about 4 glasses of water. Drink about half a glass each time, 4 times a day (12) (Lao PDR); or
3. Prepare a decoction of dried or roasted young fruit in 5 glasses of water. Drink 1 glass every 2-4 hours or as needed (11) (Thailand); or
4. Grind a dried fruit into powder. Take orally 1 teaspoon of powder with hot water, 3 times a day (14) (Myanmar); or

Note In Malaysia, dried unripe bael fruit (17) or half-ripe fruit (16) is also used for diarrhoea but no dosage information is established. (Malaysia)

Contra-indication

None reported

Warning & Precaution

None reported

Side effect

It may cause stomach upset and constipation. (17,18)

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Aerva sanguinolenta



Scientific Name	<i>Aerva sanguinolenta</i> (L.) Blume		
Synonyms	<i>Achyranthes sanguinolenta</i> L., <i>A. scandens</i> Roxb., <i>Aerva scandens</i> (Roxb.) Wall., <i>A. timoriensis</i> Zipp. ex Span., <i>A. toncafolia</i> Buch.-Ham. ex Wall., <i>Froelichia lactea</i> Heynh. (1,2)		
Family	Amaranthaceae (2)		
Common Name	None known		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Kiambang	Myanmar:	Taw kyet mauk
Cambodia:	Ptichheam	Philippines:	-
Indonesia:	Sambang colok	Singapore:	-
Lao PDR:	Dok day, khai pet, Khi ma	Thailand:	Khruea khao tok, san khao tok
Malaysia:	-	Vietnam:	Rau chua, ba bong, mao vi do

Description of the plant

Perennial herb, up to 2 m high. Stem prostrate, scrambling, or erect, slightly stoloniferous. Leaves simple, mostly alternate, rarely opposite, ovate-elliptic, oblong, or lanceolate; petiole up to 2 cm long. Inflorescence compound raceme or terminal panicle, cylindrical (conical when young). Flower creamy white to pale pink, or pale brown. Fruits capsule. Seeds small, with shiny black colour. (3-5)

Part used Fresh mature leaf

Crude drug Not described since only fresh part is used.

Indication

Painful menstruation (Dysmenorrhoea, menstrual cramp, painful period)

Preparation & Dosage

Prepare a decoction of 10 fresh mature leaves in 1 glass of water. Drink the decoction as needed.
(Indonesia)

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Allium sativum



Scientific Name *Allium sativum* L.

Synonyms *Allium controversum* Schrad. ex Willd., *A. longicuspis* Regel, *A. ophioscorodon* Link, *A. pekinense* Prokh., *Porum ophioscorodon* (Link) Rchb. (1,2)

Family Amaryllidaceae (2)

Common Name Garlic (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	Bawang putih	Myanmar:	Kyet thun phyu, shan kyet thun phyu
Cambodia:	Katim sor, ktim sor	Philippines:	Ajos, bauang, bawang
Indonesia:	Bawang putih, lasun, babang pote, bawang kasihong, lasuna kebo	Singapore:	-
Lao PDR:	Phak thiem	Thailand:	Kra thiam
Malaysia:	Bawang putih, bawang cina	Vietnam:	Toi

Description of the plant

Perennial herb, up to 60 cm high. Bulb solitary, globose to applanate-globose, usually consisting of several cloves enclosed in a thin, white or pinkish, common tunic. Leaves simple, erect,

broadly linear to linear lanceolate. Inflorescence umbel, white or pink, with a spathe. Fruits capsule, loculicidal. Seeds black, rhomboidal or spherical. (3-13)

Part used Fresh or dried bulb

Crude drug Dried bulb

Preparation of crude drug

Collect the bulbs, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a cool and dry place. (14)

Characteristic of crude drug

Subglobular compound bulb 3-5 cm broad, consisting of 8-20 cloves, the whole surrounded by 2-5 layers of white scale leaves attached to a flattened circular base. Cloves ovoid and 3-4-sided, summit acute, narrowed into a thread-like portion of fibre, base truncate. Each clove is covered with a white scale leaf and a pinkish white epidermis easily separated from the solid portion, consisting of two flaky scale leaves and two yellowish green conduplicate foliage leaves. Odour, aromatic; taste, pungent and persistent. (14)

Indications

1. Skin allergies (Skin rash, hive, insect bites)
2. Fungal infection of the skin (Ringworm, tinea)
3. Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)

Preparations & Dosage

For Skin allergies (Skin rash, hive, insect bites)

Prepare a poultice of fresh bulbs. Apply on the affected area. (15-17) (Malaysia, Thailand)

For Fungal infection of the skin (Ringworm, tinea)

To completely eradicate ringworm or tinea, it is recommended to continue applying the following herbal preparations for at least 7 more days after the lesions appear healed.

1. Prepare a poultice of a fresh bulb. Apply on the affected area, 3-4 times a day. (7,17,18) (Indonesia, Myanmar, Philippines, Thailand); or
2. Prepare a poultice of a fresh bulb. Apply on the affected area, covered by a bandage for 20 minutes, remove the bandage, and clean the skin thoroughly, twice a day. (19) (Thailand)

For Digestive disorders (Flatulence, feeling fullness after a heavy meal, indigestion)

1. Prepare an infusion of 2-3 crushed cloves in 1 glass of water. Drink the infusion, 2 or 3 times a day or as often as needed if the symptom occurs often or is rather severe. (3) (Cambodia); or
2. Prepare a mixture of 5-7 ground cloves, 2 tablespoons of vinegar and sufficient salt and sugar. Take orally as needed. (19) (Thailand); or
3. Slice the 5 peeled cloves. Take orally with 1 glass of water, 3 times a day, after meals. (19) (Thailand); or
4. Soak the fresh bulb in sesame oil and mix with a little salt. Take orally 1-2 bulbs after meals. (20) (Myanmar)

Contra-indication

None reported

Warnings & Precautions

1. The topical use in persons allergic or hypersensitive to garlic should be avoided. (21)
2. It should be avoided using in infants or young children and used with caution in adults, due to multiple case reports of burns and dermatitis. (21)

Side effect

Topical application of garlic may cause itching or skin allergy. (6)

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Aloe vera



Scientific Name	<i>Aloe vera</i> (L.) Burm.f.		
Synonyms	<i>Aloe barbadensis</i> Mill., <i>A. chinensis</i> Steud. ex Baker, <i>A. humilis</i> Blanco, <i>A. indica</i> Royle, <i>A. lanzae</i> Tod., <i>A. rubescens</i> DC., <i>A. vulgaris</i> Lam. (1,2)		
Family	Xanthorrhoeaceae (Aloaceae-Asphodeloideae) (2)		
Common Names	Aloe vera, Barbados aloe, Mediterranean aloe, true aloe (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Lidah buaya	Philippines:	Dilang-boaia, dilang halo,
Cambodia:	Prateal kantuy krapeu		sabila, sabila-piña
Indonesia:	Lidah bu aya	Singapore:	Barbados aloe,
Lao PDR:	Van hang khæe		medicinal aloe
Malaysia:	Lidah buaya	Thailand:	Wan hang chora khe
Myanmar:	Sha zaung let pat,	Vietnam:	Lo hoi, Nha dam
	ta zaung let pat		

Description of the plant

Perennial herb, 30-40 cm high. Stem short. Leaves simple, narrowly lanceolate, fleshy, mucilaginous, pale green, with or without pale spots, margin toothed. Inflorescence spike; flower

yellow or orange. Fruit capsule, ovoid, whitish green. Seeds numerous. (3-11)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indications

1. Skin infection (Wound and skin abscess)
2. Minor burns (First degree burn)

Preparation & Dosage

For Skin infection (Wound and skin abscess) and **Minor burns** (First degree burn)

Cut the lower leaf, wash and peel off the external skin of the leaf to get the gel; or cut the leaf longitudinally and use the spoon to scrape off the gel. Wash the gel with clean water to remove the yellow resin and crush about a palm long (10 cm) of the gel, with or without salt added. Apply the gel on the affected area, 2-3 times a day. (3, 7, 12-16) (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand)

Contra-indication

None reported

Warnings & Precautions

1. It should be avoided using this herb in cases of known allergy, e.g. skin rash or itching. (5)
2. All yellow resin should be removed from the gel with clean water as the resin will irritate the wound. (16)

Side effect

It may cause skin allergy in some patients. (17,18)

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Alpinia galanga



Scientific Name *Alpinia galanga* (L.) Willd.

Synonyms *Alpinia alba* (Retz.) Roscoe, *Amomum galanga* (L.) Lour., *Galanga officinalis* Salisb., *Languas galanga* (L.) Stuntz., *Maranta galanga* L., *Zingiber galanga* (L.) Stokes (1,2)

Family *Zingiberaceae* (2)

Common Names Galangal, greater galangal, Siamese ginger (2,4)

Local/Vernacular Names in AMS

Brunei Darussalam:	Languas, langkuas	Myanmar:	Padegaw gyi, padegaw
Cambodia:	Rum deng	Philippines:	Langkauas, lankauas, pal-la
Indonesia:	Lengkuas, laos, kalawas	Singapore:	Greater galangal
Lao PDR:	Kha ta daeng, kha	Thailand:	Kha, kha luang
Malaysia:	Lengkuas, langkuas, lengkuas benar, lengkuas biasa, puar	Vietnam:	Rieng nep, hong dau khau, son nai, son khuong tu

Description of the plant

Perennial herb; rhizome stout, orange to brown, aromatic. Pseudostem erect, up to 3 m high. Leaves alternate, lanceolate or oblong. Inflorescence panicle; bracts and bracteoles persistent; flower greenish white, lip obovate-spathulate, white with red lines. Fruit capsule, roundish to oblong, brown or orange-red. Seeds 3-6. (5-17)

Parts used Fresh or dried rhizome, fresh or dried base of pseudostem

Crude drugs Dried rhizome, dried base of pseudostem

Preparation of crude drugs

Collect the rhizome, separate roots and leaf sheaths from the rhizome, wash thoroughly, cut into thin slices, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed and waterproof container, protected from sunlight and store in a dry place. (13)

Characteristic of crude drugs

Dried, obliquely or lengthwise sliced, variable shapes: slightly curved shape usually found, 4-8 cm long, 2-3.5 cm wide, and up to 5 mm thick. The scars sometimes found in bud or root; the pulps rough; splinter may be seen, tough, and sticky; the inner layer of cortex cyclic. Externally brown in colour, and internally white. Odour, aromatic; taste, hot. (14,18)

Indications

1. Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)
2. Fungal infection of the skin (Ringworm, tinea)

Preparations & Dosage

For Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)

1. Prepare a decoction of 1 handful of fresh sliced rhizome in 1 glass of water. Drink the decoction as needed (5,12,19) (Brunei Darussalam, Malaysia, Thailand); or
2. Prepare a mixture of powdered rhizome, dried ginger powder, rock salt, and black salt (Kala Namak, a pungent smelling purplish or pinkish-grey rock salt). Take orally 1 teaspoon, 3 times a day, for 3 consecutive days. (20,21) (Myanmar)

For Fungal infection of the skin (Ringworm, tinea)

To completely eradicate ringworm or tinea, it is recommended to continue applying the following herbal preparations for at least 7 more days after the lesions appear healed.

1. Pound one side of rhizome until it becomes flat or thin to make a brush and dip the flat part in the cooking vinegar. Apply the brush on the affected area, twice a day (22) (Indonesia); or
2. Pound the mature fresh rhizome into small pieces and prepare a paste. Apply the paste on the affected area. (14,19) (Philippines, Thailand); or
3. Pound the young fresh rhizome roughly and prepare a maceration in alcoholic drink. Apply the filtrate on the affected area after taking a bath at least 2-3 times a day (23) (Thailand); or
4. Prepare a paste of the powdered rhizome with slake lime (calcium hydroxide). Apply the paste on the affected area (24) (Malaysia)

Contra-indication

None reported

Warning & Precaution

Persons allergic to Zingiberaceae family, e.g. *Alpinia galanga* (L.) Willd., *Curcuma longa* L., *Zingiber officinale* Roscoe should avoid using this herb. (25)

Side effect

It may cause allergic contact dermatitis. (26)

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Andrographis paniculata



Scientific Name	<i>Andrographis paniculata</i> (Burm. f.) Wall. ex Nees.		
Synonyms	<i>Andrographis paniculata</i> var. <i>glandulosa</i> Trimen, <i>Justicia paniculata</i> Burm. f. (1,2)		
Family	Acanthaceae (2)		
Common Names	Creat, green chireta, kariyat, king of bitters (2-4)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Daun pahit	Myanmar:	Say gah gyi, nga yoke gah
Cambodia:	Smav pramat moanuh	Philippines:	Sinta, aluy, likha
Indonesia:	Sambiloto	Singapore:	Chiretta
Lao PDR:	La xa bee, sam pan bee	Thailand:	Fa thalai chon
Malaysia:	Hempedu bumi, akar cerita, pokok cerita, empedu tanah	Vietnam:	Xuyen tam lien, cong cong, nguyen cong, hung but, kho diep

Description of the plant

Annual herb, up to 50 cm high. Stems erect, 4-angled. Leaves simple, opposite, ovate-lanceolate, or narrowly elliptic. Inflorescence terminal, leafy panicle of second racemes; flower white, lower lip with purple dots. Fruits capsule, linear-oblong or ellipsoid-compressed. Seeds ca. 12, rugose. (5-14)

Part used Aerials part, especially leaf

Crude drug Dried aerial part

Preparation of crude drug

Collect the aerial part, eliminate foreign matters, wash thoroughly, cut into sections, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a cool and dry place. (9,15)

Characteristic of crude drug

A mixture of broken, crisp, mainly dark green, lanceolate leaf and quadrangularly stem; capsule fruit and small flower occasionally found. The texture of stem is fragile; leaves simple, leaf stalk short or almost sessile, lanceolate or ovate-lanceolate, with acuminate apex. Odour, not characteristic; taste, very bitter. (8-10,16)

Indication

Common cold

Preparations & Dosage

This herb should not be taken “everyday” due to its cool properties, so it is not recommended to take the following herbal preparations more than 7 days.

1. Prepare a decoction of 17 fresh leaves, chopped in pieces, in 2 glasses of water. Drink 1 glass of the decoction, twice a day. (7) (Indonesia); or
2. Prepare a decoction of 1 handful (25 g) of fresh leaves or 1 handful (6 g) of dried leaves in 4 glasses of water. Drink 1 glass of the decoction, 3-4 times a day. (17) (Thailand); or
3. Prepare a decoction of 2 handfuls (about 12-13 g) of dried leaves in 4 glasses of water. Take 1 glass of the decoction with 1 tablespoon of honey added, twice a day, until the symptom subsides (11) (Malaysia); or
4. Prepare an infusion of a few leaves in 1 glass of hot water. Drink the infusion when it is warm, twice a day (18,19) (Malaysia); or
5. Grind the dried aerial part of the plant into powder. Take orally half a teaspoon of powder, 3 times a day, after meals and at bed time. (20) (Myanmar)

Contra-indication

It is contra-indicated in pregnant women and breast-feeding mothers and in persons with history of hypersensitivity to this herb. (4,8,21)

Warning & Precaution

It should be used with caution in persons with bleeding disorders. (4)

Side effects

1. It may cause palpitation, numbness or weakness of the limbs, itching, skin rash, hives, and swelling of the eyes. Discontinue use if such adverse event occurs. (21,22)

2. Skin-associated side effects including swelling in the eye are suggestive of hypersensitivity reactions to this herb. (21,22)
3. Excessive doses may cause mild nausea and vomiting, insomnia, dizziness, low blood sugar, gastric discomfort, and loss of appetite. (8)

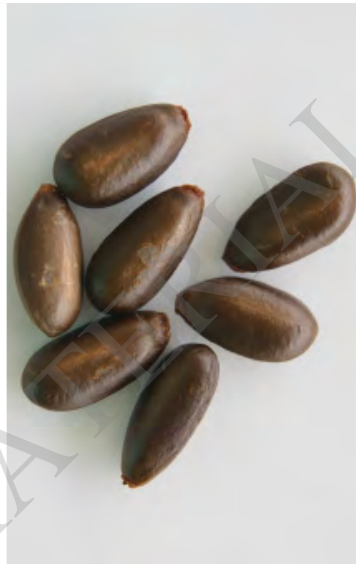
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Annona squamosa



Scientific Name	<i>Annona squamosa</i> L.
Synonym	<i>Annona asiatica</i> L. (1,2)
Family	Annonaceae (2)
Common Names	Custard apple, sugar apple (2,3)

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	Awza
Cambodia:	Tieb Srok	Philippines:	Atis
Indonesia:	Seri kaya, srikaya	Singapore:	Sweet apple, sweet sop
Lao PDR:	Mak khbieb	Thailand:	Noi-na
Malaysia:	Buah nona, seri kaya	Vietnam:	Na, mang cau dai, mang cau ta

Description of the plant

Trees, deciduous, up to 8 m high; bark thin, brownish. Leaves simple, alternate, elliptic-lanceolate, narrowly elliptic, or oblong. Flowers solitary or in pairs, greenish-yellow. Fruits aggregate, ovoid, greenish yellow, areoles rounded, convex, separated by deep grooves. When ripe, pulp white, juicy, sweet, edible. Seeds numerous, oblong or obovoid, hard, brownish black, smooth and shining, ca. 14 mm. (4-7)

Part used Dried seed

Crude drug Dried seed (The leaf may be substituted for seed if the fruit is not available, though the efficacy of the leaf is less.)

Preparation of crude drug

Collect the seeds after eating the fruit or removing the fruit pulp, wash thoroughly, spread on the sieve, and allow to dry. Keep in a well-closed container. (8,9)

Characteristic of crude drug

Oblong or ovoid, brownish black, smooth, shining. Odour, not characteristic.

Indication

Head lice

Preparation & Dosage

Mix one part of the ground seed thoroughly with two parts of coconut oil and then filter. Apply the filtrate over the hair carefully, avoiding getting the oil into the eyes. Cover the hair with a towel or a shower cap for 1-2 hours. Brush the hair with a fine-tooth comb to remove the lice before shampooing (Caution: Be very careful when washing the hair, avoid the rinse to get into eyes since it will cause serious eye irritation). Repeat this process once a week for two more consecutive weeks to kill the newly hatched lice as sugar apple seeds cannot kill the lice eggs (nits). (9-11) (Myanmar, Thailand)

Contra-indication

None reported

Warnings & Precautions

1. It should not be used in people with scalp lesions.
2. It should be used with caution as sugar apple seeds can cause severe irritation if getting into the eyes. (9,10)
3. After applying sugar apple seeds, it is suggested to shampoo the applied hair in lying position.

Side effect

It may cause eye swelling, red eyes and itching if sugar apple seeds get into the eyes. (9,10)

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Azadirachta indica



Scientific Name	<i>Azadirachta indica</i> A. Juss.		
Synonyms	<i>Azadirachta indica</i> var. <i>minor</i> Valetton, <i>A. indica</i> var. <i>siamensis</i> Valetton, <i>A. indica</i> subsp. <i>vartakii</i> Kothari, Londhe & N.P.Singh, <i>Melia azadirachta</i> L., <i>M. indica</i> (A. Juss.) Brandis, (1,2)		
Family	Meliaceae (2)		
Common Names	Indian-lilac, margosa tree, neem, nimtree (2,3)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Pokok neem	Myanmar:	Tamar
Cambodia:	Sdav	Philippines:	-
Indonesia:	Mimba	Singapore:	Indian lilac, neem tree
Lao PDR:	Kok ka dao	Thailand:	Sadao, sadao-India
Malaysia:	Intaran, mambu, semambu, sadu, repe	Vietnam:	Sau dau, xoan dao

Description of the plant

Tree, up to 18 m high. Stem with almost straight trunk. Leaves imparipinnate, alternate to opposite, with 7-9 pairs of petiolate leaflets; leaflet ovate-lanceolate to ovate. Inflorescence panicle, lax, axillary; flower white or pale yellow, small, numerous. Fruit drupe, yellow when ripe, oblong or ovoid-oblong. Seed 1. (3-9)

Parts used Fresh or dried leaf, dried rachis, fresh or dried root

Crude drugs Dried leaf, dried rachis, dried root

Preparation of crude drugs

Collect mature leaves, rachis or roots, wash thoroughly and dry in the shade. Keep in a well-closed container and store in a dry place. (5)

Characteristic of crude drugs

Compound, alternate, rachis, 15-25 cm long, 0.1 cm thick; leaflets with oblique base, opposite, exstipulate, lanceolate, acute, serrate, 7-8.5 cm long and 1.0-1.7 cm wide, slightly yellowish green. Odour, characteristic; taste, bitter. (3,10,11)

Indication

Fever

Preparations & Dosage

1. Grind the dried leaves into powder, or make pills with honey. Take orally 1-2 teaspoons (5-10 g) of powder or pills (5) (Myanmar, Vietnam); or
2. Prepare a decoction of 1 handful of fresh or dried leaves in 3-4 glasses of water. Drink 1 glass of the decoction, 3 times a day, for at least 3 consecutive days (12,13) (Indonesia, Lao PDR, Myanmar, Thailand); or
3. Prepare a decoction of 15 dried rachises, in short pieces, in 2 glasses of water. Drink half a glass of the decoction, 2-3 times a day (13) (Thailand); or
4. Prepare a decoction of fresh or dried roots. Drink the decoction when it is warm as needed (14) (Malaysia); or
5. Eat the fresh leaves as salad. (12) (Myanmar)

Contra-indication

None reported

Warnings & Precautions

1. Persons allergic or hypersensitive to neem should avoid taking this herb. (15)
2. Pregnant women, breast-feeding mothers and children under the age of 12 should avoid taking this herb. (4)
3. It should be used with caution in persons with diabetes. (15)

Side effect

It may cause rash and palpitation.

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Barleria lupulina



Scientific Name *Barleria lupulina* Lindl.

Synonyms *Barleria macrostachya* Bojer, *Dicliptera spinosa* Lodd. ex Nees (1)

Family Acanthaceae (2)

Common Name Hop-headed barleria (3)

Local/Vernacular Names in AMS

Brunei Darussalam:	Landik	Myanmar:	-
Cambodia:	Mchul pic	Philippines:	-
Indonesia:	Landep	Singapore:	Hop-headed barleria
Lao PDR:	Sa let phang phon phou	Thailand:	Salet phang phon, chong ra a
Malaysia:	Setawar sekelian bisa, bisa ular, setawar ular	Vietnam:	Gai kim bong, gai kim vang

Description of the plant

Shrub, up to 1.5 m high. Stems glabrous, red-brown branches, prickly, 4 angled, 5 - 20 mm long in the leaf axils. Leaves simple, opposite, linear-oblong, 3 - 9.5 cm long, 0.9 - 1.4 cm wide, apex acute, cuneate, base blunt, dark green. Inflorescences erect, terminal, hop-like, up to 9 cm long; bracts erect, broadly ovate, 15 mm long, green with purple upper half. (4-7)

Parts used Fresh leaf, fresh root

Crude drug Not described since only fresh part is used.

Indication

Skin allergies (Skin rash, hive, insect bites)

Preparations & Dosage

1. Crush 3 finger lengths of fresh roots with salt added. Apply on the affected area (Indonesia);
or
2. Prepare a poultice of the fresh leaves. Apply on the bitten area as needed (5) (Indonesia,

Malaysia); or

3. Pound 1 handful of fresh leaves with a small amount of water or alcohol added. Apply the filtrate on the bitten area as needed. (8) (Thailand)

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Belamcanda chinensis



Scientific Name	<i>Belamcanda chinensis</i> (L.) Redouté		
Synonyms	<i>Belamcanda chinensis</i> (L.) DC, <i>B. punctate</i> Moench., <i>Gemmingia chinensis</i> (L.) Kuntze, <i>Iris domestica</i> Goldblatt & Mabb, <i>Ixia chinensis</i> L., <i>Pardanthus chinensis</i> Ker-Gawl.(1-4)		
Family	Iridaceae (1)		
Common Names	Black-berry lily, leopard flower, leopard lily (1,2,5)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	Kyathit-hninpan
Cambodia:	Bratiel plet, bratiel bian choencheang	Philippines:	Abaniko
Indonesia:	Brojolintang, suliga	Singapore:	Leopard flower
Lao PDR:	Van dap, phai sa leng	Thailand:	Wan hang chang
Malaysia:	Pokok kipas, bunga kipas	Vietnam:	Re quat, xa can

Description of the plant

Perennial herb, 0.5-1 m high. Rhizome horizontally creeping, much branched. Stems erect, glabrous, greenish. Leaves linear, ensiform, amplexicaul and distichous, forming a fan, 20-40 cm long, 1.5-3 cm wide, nerves closely parallel, glabrous on both surfaces. Inflorescence in terminal dichotomous corymb on a long scape; flowers orange, spotted with purple. Fruits capsule, ovoid. Seeds globular, shiny black. (3,6-9)

Part used Dried rhizome

Crude drug Dried rhizome

Preparation of crude drug

Collect a 2-3-year-old rhizome, eliminate foreign matter, wash thoroughly, cut into thin slices, and sun-dry. Keep in a well-closed container and store in a dry place. (8,10)

Characteristic of crude drug

Cylindrical, irregularly nodular, 3-10 cm long, 1-2 cm in diameter. Externally yellowish-brown, brown or blackish-brown, shrunken with abundantly annular striations. Several dish-shaped and sunken stem scars occurring at the upper part, stem base remained occasionally; remains of the thin roots and root scars occurring at the lower part. Texture hard, fracture yellow, granular. Odour, mildly aromatic; taste, bitter and slightly pungent. (8,10)

Indication

Cough

Preparation & Dosage

Prepare a decoction of 10-20 g of fresh rhizomes or 5-10 g of dried rhizomes. Drink the decoction as needed or until the symptom resolves. (3,8,11) (Malaysia, Thailand, Vietnam)

Contra-indication

It is contra-indicated in pregnant women. (9,12)

Warning & Precaution

None reported

Side effect

None reported

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Blumea balsamifera

**Scientific Name***Blumea balsamifera* (L.) DC.**Synonyms**

Baccharis balsamifera Stokes, *B. gratissima* Blume ex DC., *B. salvia* Lour., *Blumea appendiculata* DC., *B. grandis* DC., *B. zollingeriana* (Turcz. / Sch. Bip.) C.B.Clarke, *Conyza appendiculata* Blume, *C. balsamifera* L., *C. saxatilis* Zoll. ex C.B.Clarke, *Pluchea appendiculata* (DC.) Zoll. & Mor., *P. balsamifera* (L.) Less. (1,2)

Family

Asteraceae (Compositae) (2)

Common Names

Blumea camphor, ngai camphor (2,3)

Local/Vernacular Names in AMS

Brunei Darussalam:	Sambung	Myanmar:	Phone ma thein, shan camphor
Cambodia:	Baaymaay	Philippines:	Sambong, gitin-gitin, alibum, lakadbulan, subusub
Indonesia:	Sambung	Singapore:	-
Lao PDR:	Nat luang, nat nhai	Thailand:	Nat yai
Malaysia:	Capa, capor, sembung, sembing, semboh	Vietnam:	Dai bi, tu bi xanh, bang phien

Description of the plant

Perennial herb, 3-4 m high. Stems erect, hairy, woody at base; barks greyish brown; branches terete, densely lanate-villous, yellowish white hairs. Leaves simple, alternate, lanceolate to oblong-lanceolate, green above, light green below, toothed at the margins, pointed or blunt at the tip. Inflorescences branched; head. Fruits small, cylindrical shape, white-haired brown, 4-6 mm long. Seeds flat, white, non-endospermic. (4-17)

Part used Fresh or dried leaf

Crude drug Dried leaf

Preparation of crude drug

Collect the leaves, wash thoroughly and shade-dry. Keep in a well-closed container and store in a cool and dry place. (14,15)

Characteristic of crude drug

Oblong-elliptic with densely pubescent, silk-like hairs on both surfaces, 8-40 cm long, 2-20 cm wide, serrate or margins, acute apex and base. Odour, strongly aromatic; taste, slightly bitter, unpleasant aftertaste. (15,18)

Indications

1. Cough
2. Urinary tract disorders (Dysuria, lower urinary tract infection, urolithiasis)

Preparations & Dosage

For Cough

1. Prepare an infusion of 1-2 handfuls of young leaves in 1-2 glasses of hot water with a few drops of coconut oil added. Drink the infusion as needed (10,11,21,22) (Malaysia, Vietnam); or
2. According to Malaysia's traditional knowledge, the pounded leaves with some coconut oil added can be applied on the chest to relief the chest pain due to cough. (21,22) (Malaysia)

For Urinary tract disorders (Dysuria, lower urinary tract infection, urolithiasis)

1. Prepare an infusion or crush 1 handful of fresh leaves into juice. Drink as tea or take orally as needed (19,20) (Myanmar); or
2. Prepare a decoction of fresh leaves. Take the decoction orally, 3 times a day. (11) (Philippines); or
3. Grind 250 mg of dried leaves into powder. Take orally 4 tablespoons, 3 times a day. (11) (Philippines)

Contra-indication

None reported

Warning & Precaution

Pregnant women or breast-feeding mothers should avoid taking this herb. (23)

Side effect

It may cause allergic reactions to people sensitive to this plant. (22)

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Bryophyllum pinnatum



Scientific Name	<i>Bryophyllum pinnatum</i> (Lam.) Oken		
Synonyms	<i>Bryophyllum calycinum</i> Salisb., <i>B. germinans</i> Blanco, <i>B. pinnatum</i> (Lam.) Asch. & Schweinf., <i>B. pinnatum</i> (Lam.) Kurz, <i>Kalanchoe pinnata</i> (Lam.) Pers. (1,2)		
Family	Crassulaceae (1)		
Common Names	Air plant, cathedral bells, curtainplant, floppers, good-luck-leaf, live-leaf-of-resurrection plant, Mexican loveplant, miracle leaf, mother of thousands (1,3)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Tumbuh-tumbuh di daun, pedingin	Myanmar:	Ywet kya pin pauk
Cambodia:	Kabelphoah	Philippines:	Katakataka, karitana, abisrana, halang-bang, lapak-lapak
Indonesia:	Cocor bebek	Singapore:	-
Lao PDR:	Som sao, van chot	Thailand:	Khwam tai ngai pen
Malaysia:	Setawar, setawar padang, sedingin, seringin, kerencong	Vietnam:	Thuoc bong, song doi, truong sinh long chim, lac dia sinh can

Description of the plant

Perennial herb, 30-200 cm high. Stems branched, erect or ascending, stout, woody at base. Leaves simple or pinnately compound, leaflets 3-5, oblong to elliptic, margin crenate, apex obtuse. Flowers bell-shaped, pendulous in a large, terminal panicle. Seeds numerous, obovoid, obtuse at the apex. (4-10)

Part used Fresh Leaf

Crude drug Not described since only fresh part is used.

Indication

Minor burns (First degree burn)

Preparations & Dosage

1. Prepare a poultice of the fresh leaves. Apply on the burns and replace every 3 hours (11,12) (Cambodia, Indonesia, Philippines, Vietnam); or
2. Prepare a paste of the fresh leaves. Apply on the burns (6) (Malaysia, Vietnam); or
3. Crush and squeeze the fresh leaves. Apply the leaf juice on the burns, 3-4 times a day until the burns healed. (13) (Indonesia, Myanmar)

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Camellia sinensis



Scientific Name	<i>Camellia sinensis</i> (L.) Kuntze		
Synonyms	<i>Camellia bohea</i> (L.) Sweet, <i>C. chinensis</i> (Sims) Kuntze, <i>C. thea</i> Link, <i>C. viridis</i> Link, <i>Thea viridis</i> L. (1,2)		
Family	Theaceae (2)		
Common Names	Common tea, tea, tea plant (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Pokok teh	Myanmar:	Laphet
Cambodia:	Tae	Philippines:	Tsa
Indonesia:	Teh	Singapore:	-
Lao PDR:	Mieng, xa	Thailand:	Cha, miang
Malaysia:	Pokok teh, pokok cha	Vietnam:	Che

Description of the plant

Evergreen shrub or small tree, up to 3 m high. Leaves simple, alternate, elliptic, oblong-elliptic or oblong, serrate, acute or acuminate, abaxially pale green, glabrous or pubescent. Flowers

tiny, axillary, solitary or to 3 in a cluster, deflexed, aromatic, white or pinkish, about 3 cm in diameter. Fruits leathery, 3-celled capsule, depressed-globose, brownish. Seeds brown, subglobose, 1-3 in each lobe. (3-8)

Part used Fresh or dried leaf

Crude drug Dried leaf

Preparation of crude drug

Collect the leaves, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a cool and dry place. (3)

Note Green tea, black tea and oolong tea are all derived from the same plant, *Camellia sinensis* (L.) Kuntze. Black tea results from the oxidation of tea leaves while green tea is produced by lightly steaming the freshly cut leaf, thus not allowing oxidation of the enzymes within the leaf to take place. (9)

Characteristic of crude drug

Leaves, curled, broken pieces or in full shape of elliptic or oblong-elliptic, dark brown to blackish brown. Odour, aromatic; taste, astringent and slightly bitter.

Indications

1. Diarrhoea (Watery stools, loose bowel)
2. Minor burns (First degree burn)

Preparations & Dosage

For Diarrhoea (Watery stools, loose bowel)

1. Prepare an infusion of 1 handful of dried tea leaves in 4 glasses of water. Drink the infusion as needed (10) (Cambodia, Indonesia, Lao PDR, Thailand, Vietnam); or
2. Prepare the concentrated tea. Drink it without sugar added. (11) (Malaysia)

For Minor burns (First degree burn)

1. Prepare a poultice of 1-2 handfuls of fresh leaves. Apply on the burns (Indonesia); or
2. Prepare a decoction of 1 handful of dried leaves. Apply the decoction on the affected areas. This preparation is also effective for sunburns. (3) (Myanmar)

Contra-indication

None reported

Warning & Precaution

Pregnant women, breast-feeding mothers and infants should avoid taking this herb as tea contains caffeine. (9,12)

Side effect

Excessive dose may cause irritability, insomnia, nervousness, and tachycardia. (12)

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Carica papaya



Scientific Name	<i>Carica papaya</i> L.		
Synonyms	<i>Carica bourgeaui</i> Solms, <i>C. citrifolia</i> J.Jacq. ex Spreng., <i>C. citrifolia</i> Jacq., <i>C. cubensis</i> Solms, <i>C. peltata</i> Hook. & Arn., <i>C. posoposa</i> L., <i>Papaya carica</i> Gaertn. (1,2)		
Family	Caricaceae (2)		
Common Names	Papaya, pawpaw (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Kepayas	Myanmar:	Thinbaw
Cambodia:	Lhong	Philippines:	Papaya, tayapas,
Indonesia:	Pepaya, kates, gedang,		kapayas, papaye
Lao PDR:	Kok mark hung	Singapore:	Papaya, pawpaw
Malaysia:	Betik, petik, ketela	Thailand:	Malako
		Vietnam:	Du du

Description of the plant

Tree, up to 10 m high. Stem, soft, cylindrical, hollow, greyish with stipulate scars helically arranged. Leaves simple, large, rounded, margin lobed, stalk long, borne on the top of the tree. Flowers single, star shape, pale yellow, slightly fragrant, commonly dioecious. Fruit ovoid, fleshy, juicy, dark green change to yellow orange when ripe; sarcocarp soft with a mild, pleasant flavour. Seeds numerous, ovoid, black at maturity. (3-8)

Parts used Fresh fruit, fresh leaf

Crude drug Not described since only fresh part is used.

Indication

Loss of appetite (Anorexia)

Preparations & Dosage

1. Prepare a salad by peeling the fresh unripe fruit and slicing or shredding into small pieces. Take orally as an appetite stimulant (9) (Myanmar); or
2. Pound 1 fresh mature leaf blade without stalk and squeeze juice with sugar added. Take orally as an appetite stimulant once a day, up to 5 days (Indonesia); or
3. Prepare an infusion of the pounded fresh leaves by adding a small amount of boiled water. Stir well to obtain the smooth texture, add the remaining water, filter it into a cup, and add some salt. Drink the filtrate half a cup a day for 3 consecutive days. (10) (Indonesia, Malaysia)

Contra-indication

None reported

Warnings & Precautions

1. Persons allergic or hypersensitive to papaya, its constituents or any members of the family Caricaceae should avoid taking this herb. (10,11)
2. Physical touch or direct inhalation at high concentration of its leaves and roots should be avoided as it may cause allergic reactions. (12,13)
3. It should be used with caution in hypersensitive individuals as it may induce asthma or rhinitis. (11,12)

Side effect

None reported

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Carthamus tinctorius



Scientific Name	<i>Carthamus tinctorius</i> L.		
Synonyms	<i>Carduus tinctorius</i> Ehrh., <i>C. tinctorius</i> (L.) Falk, <i>Carthamus glaber</i> Burm.f. (1)		
Family	Asteraceae (Compositae) (2)		
Common Names	Dyer's-saffron, false saffron, safflower (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	Soo ban, supan
Cambodia:	Pka krahorm	Philippines:	Biri, kasubha, kasumba,
Indonesia:	Kembang pulu, kasumba,		kachumba, lago
Lao PDR:	Dok kham nhong, dok	Singapore:	-
	Kham foy	Thailand:	Kham foi
Malaysia:	Kesumba, kesumba jawa	Vietnam:	Hong hoa, rum

Description of the plant

Annual herb, up to 150 cm high. Stem erect, much branched, branch stiff, cylindrical, smooth, glabrous, whitish-yellow, glossy. Leaves simple, rigid, leathery, glabrous, spirally, without petiole, oblong lanceolate, margin, tip spiny, dark green, glossy, 3-5 cm long, 1.5 cm wide. Flower in leaf axils, very short or without petiole, reddish-yellow bud. Fruits white or grey, obovate, 4-angled, achenes, about 8 mm long. (3-10)

Part used Dried flower

Crude drug Dried flower

Preparation of crude drug

Collect the full blooming flowers, whose colour turns from yellow to red and shade-dry or sun-dry. Keep in a well-closed container and store in a cool and dry place. (11)

Characteristic of crude drug

Flowers, 30-90 tubular without ovaries, 1-2 cm long. Externally reddish-yellow or red. Corolla

tube slender, 5-lobed at the apex, the lobes narrowly belt-shaped, 5-8 mm long. Stamens 5, anthers aggregated to a tube, yellowish-white. Stigma long cylindrical, slightly 2-cleft. Texture pliable. Odour, slightly aromatic; taste, slightly bitter. (9,11)

Indication

Painful menstruation (Dysmenorrhoea, menstrual cramp, painful period)

Preparations & Dosage

1. Grind $\frac{1}{2}$ - $1\frac{1}{2}$ handfuls (2-8 g) of dried flowers into powder. Take orally $\frac{1}{2}$ - 1 teaspoon of powder, twice a day, for 1 day to 2 consecutive days (4) (Myanmar); or
2. Prepare an infusion or decoction of $\frac{1}{2}$ - $1\frac{1}{2}$ handfuls (2-8 g) of dried flowers. Take orally $\frac{1}{2}$ - 1 teaspoon of the infusion or decoction, twice a day, for 1-2 consecutive days (4) (Myanmar); or
3. Prepare a decoction or maceration of 1-2 handfuls (8-10 g) of dried flowers. Take orally 2 tablespoons of the decoction or maceration, 3 times a day. (12) (Lao PDR)

Contra-indications

1. It is contra-indicated in pregnant women. (3,8,11)
2. It is contra-indicated in persons with hemorrhagic diseases, peptic ulcers and excessive menstruation. (3,14)

Warning & Precaution

Persons taking anticoagulants or antiplatelet drugs should avoid taking this herb. (3)

Side effect

It may cause the increased menstrual flow, dizziness, skin eruptions, and rash. (3)

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Centella asiatica



Scientific Name *Centella asiatica* (L.) Urb.

Synonyms *Centella asiatica* var. *crista* Makino, *C. boninensis* Nakai ex Tuyama, *C. glochidiata* (Benth.) Drude, *Hydrocotyle asiatica* L., *H. erecta* L. f. (1,2)

Family Apiaceae (Umbelliferae) (2)

Common Names Asiatic pennywort, gotu kola, Indian pennywort, marsh pennywort, pennyweed, sheeprot, thankuni (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	Penggaga, pegaga	Philippines:	Takip-kuhol,
Cambodia:	Trocheak kranh		hahanghalo, takip-suso,
Indonesia:	Pegagan, tapal kuda		tapingan-daga, yahong-
Lao PDR:	Phark nork		yahong
Malaysia:	Pegaga, penggaga,	Singapore:	-
	pegaga tekukur	Thailand:	Bua bok
Myanmar:	Myin khwa, bamar myin	Vietnam:	Rau ma, xa lach day
	khwa		

Description of the plant

Slender trailing herb. Leaves simple, alternate or 2-5 tufted at the nodes, kidney-shaped or heart-shaped at the base, rounded teeth along the margin, glabrous, shiny above, paler beneath. Inflorescence single umbel, bearing solitary or 2 to 5 together in the axils. Flowers usually 3, middle one sessile, lateral ones pedicellate. Fruit small, flat, 8 mm long, orbicular to ellipsoid, white or green, manifestly ribbed, slightly hairy when young, yellow-brown thick-walled. (3-14)

Part used Fresh or dried aerial part

Crude drug Dried aerial part

Preparation of crude drug

Collect the plant, eliminate the foreign matter, wash thoroughly, cut into sections, and sun-dry, heat-dry (not exceeding 60°C) or shade-dry. Keep in a well-closed container, protected from light and store in a cool and dry place. (13-15)

Characteristic of crude drug

Roots cylindrical, externally pale yellow or greyish yellow. Stems slender, yellowish-brown, finely striated longitudinally, frequently with fibrous roots on the nodes. Leaves mostly crumpled and broken, margin roughly crenate. Umbels small. Fruits oblate, with distinctly prominent, longitudinal ridges and fine reticulate striations. Odour, slight; taste, weak. (13,15)

Indication

Loss of appetite (Anorexia)

Preparations & Dosage

1. Prepare an infusion of 1 pinch (2 g) of dried aerial parts. Drink the infusion as herbal tea, twice a day (Indonesia); or
2. Grind the dried aerial parts into powder. Take orally $\frac{1}{2}$ teaspoon of powder, before meals, twice a day (16) (Myanmar); or
3. According to traditional knowledge, this herb can be consumed fresh as salad or prepared as the herbal drink to increase the appetite. (9,16,17) (Lao PDR, Malaysia, Myanmar, Thailand)

Contra-indication

None reported

Warning & Precaution

Persons with liver disease should avoid taking this herb. (18,19)

Side effect

It may cause gastric irritation and nausea. (18,19)

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Citrus aurantiifolia



Scientific Name	<i>Citrus aurantiifolia</i> (Christm.) Swingle		
Synonyms	<i>Citrus acida</i> Roxb., <i>C. hystrix</i> subsp. <i>acida</i> (Roxb.) Engl., <i>C. lima</i> Lunan, <i>C. limetta</i> var. <i>aromatica</i> Wester, <i>C. medica</i> var. <i>acida</i> (Roxb.) Hook. f., <i>Limonia aurantiifolia</i> Christm (1)		
Family	Rutaceae (1)		
Common Names	Egyptian lime, Indian lime, key lime, lime, Mexican lime, sour lime, West Indian lime (1)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Limau kasturi	Myanmar:	Thanbaya
Cambodia:	Kroch chhma	Philippines:	Dayap, gorong-gorong, Bilolo, dalayap, sua
Indonesia:	Jeruk nipis	Singapore:	Lime, limau asam
Lao PDR:	Mak nao	Thailand:	Manao
Malaysia:	Limau nipis, limau asam, limau masam, limau amkian	Vietnam:	Chanh

Description of the plant

Evergreen shrub or tree, up to 3 m high. Stem woody, round, spiny, greenish white. Leaves alternate, elliptic-oblong, rounded at the base, crenate, 5-9 cm long, 3-5 cm wide, aromatic. Flowers 3-10, perfect and staminate, fragrant, white but purple-tinged when fresh. Fruits ovoid or rounded, 3-5 cm in diameter, greenish-yellow when ripe, pulp greenish, very acid. Seeds numerous, spherical eggs, flat, greenish white. (2-7)

Parts used Fresh fruit, fresh leaf

Crude drug Not described since only fresh part is used.

Indications

1. Common cold
2. Cough

Preparations & Dosage

For Common cold

1. Prepare the lime juice by squeezing the juice from the fresh fruit and adding some honey or sugar as needed. Take orally 1-2 tablespoons as needed or drink half a cup of the mixture, twice a day (8-10) (Indonesia, Lao PDR, Myanmar); or
2. Prepare a paste of 1 tablespoon of squeezed lime juice, half a teaspoon of cajuput oil (*Melaleuca leucadendra* (L.) L.) and $\frac{1}{4}$ teaspoon of lime paste or limestone paste. Rub the paste gently on neck, chest and back. (11) (Indonesia, Malaysia); or
3. Prepare a decoction of fresh leaves. Apply as a mouthwash or gargle or by painting the decoction in the throat (4,5) (Malaysia, Philippines); or

Note In Malaysia, the decoction of lime root is also used for treating the common cold. It is suggested to use consecutively until the sore throat is relieved. (11) (Malaysia)

For Cough

1. Prepare the lime juice by squeezing the juice from the fresh fruit and adding a little salt and/or sugar as needed. Sip the juice frequently until the symptom is relieved (5,13,14) (Myanmar, Philippines, Thailand); or
2. Prepare a decoction of half a handful of fresh leaves in 3 glasses of water and allow the decoction to cool before adding 3 tablespoons of lime juice. Drink 1 glass a day. (11) (Indonesia, Malaysia)

Contra-indication

It is contra-indicated in persons allergic or hypersensitive to lime, its constituents, or any members in the Rutaceae family, e.g. orange, lime, lemon (15)

Warning & Precaution

None reported

Side effect

None reported

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Citrus hystrix



Scientific Name	<i>Citrus hystrix</i> DC.		
Synonyms	<i>Citrus auraria</i> Michel, <i>C. balincolong</i> (Yu.Tanaka) Yu.Tanaka, <i>C. torosa</i> Blanco (1,2)		
Family	Rutaceae (2)		
Common Names	Kaffir lime, Mauritius papeda (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Limau purut	Myanmar:	Shauk cho, shauk nu, shaukwaing
Cambodia:	Krauch soeuch	Philippines:	Kabuyau, amongpong, kolobot, kabog, kamuntai
Indonesia:	Jeruk purut	Singapore:	-
Lao PDR:	Mark kee hoot	Thailand:	Makrut
Malaysia:	Limau purut, limau hantu, limau abang, limau sewangi	Vietnam:	Chap, trap, chanh sac, thanh yen, chi sac

Description of the plant

Tree, up to 5 m high. Leaves alternate, palmately compound; leaflets ovate to oblong-ovate, margins crenate-serrate, tips obtuse to cuneate, leathery, dark red when young; petiole narrowly winged, apex rounded to truncate. Flowers pedicellate, small, star-shaped, cream-coloured or white, fragrant. Fruit lemon yellow, ellipsoid to subglobose, slightly coarse or smooth, oil dots numerous, prominent, apex rounded, pulp juicy, very acidic, slightly bitter. Seeds numerous. (3-9)

Part used Fresh fruit

Crude drug Not described since only fresh part is used.

Indication

Dandruff

Preparations & Dosage

1. Cut the fresh fruit in half, squeeze and collect the fruit juice; apply and massage the juice into the cleaned scalp and hair, leave for 15-30 minutes, and rinse thoroughly with water. If preferred, use a shampoo to eliminate the odour (4,6,10-12) (Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand); or
2. Broil a few, fresh fruits until well-done, cut in half, scrub each piece over the wet head, and rinse with water or clean by shampoo. (11) (Thailand)

Contra-indication

None reported

Warning & Precaution

None reported

Side effect

It may cause skin irritation.

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Clinacanthus nutans



Scientific Name	<i>Clinacanthus nutans</i> (Burm.f.) Lindau		
Synonyms	<i>Clinacanthus burmanni</i> Nees, <i>C. burmanni</i> var. <i>robinsonii</i> Benoist, <i>C. siamensis</i> Bremek (1)		
Family	Acanthaceae (1,2)		
Common Name	Sabah snake grass (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	-
Cambodia:	Tronom ae ot	Philippines:	-
Indonesia:	Dandang gula, gendis, ki tajam	Singapore:	-
Lao PDR:	Salet phang phon mea	Thailand:	Phaya yo, salet phang phon tua mea
Malaysia:	Belalai gajah, bi phaya yow	Vietnam:	Manh cong, la cam, bim bip, xuong khi

Description of the plant

Shrub, up to 2.5 m high. Stem green, woody, upright, cylindrical, segmented, yellow when dry. Leaves simple, opposite, lanceolate, pointed tip, rounded base, sharp edge, 8-12 mm long, 4-6 cm wide, green color. Flowers compound, red, panicle shape, hairy petals with 1 cm long, tube-shaped, elongated petals, widened tip 3.5 cm long, stamen pink and brown, tubular pistil. Fruit box, round to elongate, brown. Seeds small and black. (2-4)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indications

1. Skin allergies (Skin rash, hive, insect bites)
2. Herpes simplex (Cold sores, genital herpes) and herpes zoster (Shingles)

Preparations & Dosage

For Skin allergies (Skin rash, hive, insect bites)

Prepare a paste of the fresh cleaned leaves (amount depending on the size of affected area).

Apply on the affected area. (5,6) (Lao PDR, Thailand)

For Herpes simplex (Cold sores, genital herpes) and herpes zoster (Shingles)

1. Prepare a poultice of the fresh cleaned leaves. Apply on the affected area (6) (Indonesia, Lao PDR); or
2. Prepare a paste of 10-15 fresh cleaned leaves and then prepare a maceration of the prepared paste in alcohol. Apply the filtrate on the affected area. (5,7) (Thailand, Cambodia)

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Coccinia grandis



Scientific Name	<i>Coccinia grandis</i> (L.) Voigt		
Synonyms	<i>Bryonia acerifolia</i> D. Dietr., <i>B. alceifolia</i> Willd., <i>B. barbata</i> Buch.-Ham. ex Cogn., <i>Coccinia indica</i> Wight & Arn. (1,2)		
Family	Cucurbitaceae (2)		
Common Names	Ivy gourd, little gourd (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	-
Cambodia:	Vor bas	Philippines:	-
Indonesia:	Timun merah, papasan,	Singapore:	Ivy gourd
Lao PDR:	Phak tamnine, phak khaep (Thaidam), phak tham ling	Thailand:	Phak tamleung
Malaysia:	Timun tikus, pepasan	Vietnam:	Manh bat, day binh bat, hoa bat, la bat

Description of the plant

Climbing herb. Leaves simple, margin entire or lobed, 5 - 10 cm width and length. Flower large, white, about 4 cm in diameter. Fruits green, bright red when ripe, 25 - 60 mm long, 15-35 mm in diameter, several pale. Seeds flattened. (3-5)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indications

1. Skin allergies (Skin rash, hive, insect bites)
2. Herpes simplex (Cold sores, genital herpes) and herpes zoster (Shingles)

Preparations & Dosage

For Skin allergies (Skin rash, hive, insect bites)

Prepare a paste of 5-6 fresh leaves. Apply on the affected area. (6,7) (Lao PDR, Cambodia, Thailand)

For Herpes simplex (Cold sores, genital herpes) and **herpes zoster** (Shingles)

Prepare a paste of 1 handful of fresh leaves. Apply the filtrate on the affected area as frequently as needed until the herpes lesions are dried and healed. (6) (Thailand)

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Cocos nucifera



Scientific Name	<i>Cocos nucifera</i> L.		
Synonyms	<i>Calappa nucifera</i> (L.) Kuntze, <i>Cocos indica</i> Royle, <i>C. nana</i> Griff. (1)		
Family	Areaceae (Palmae) (2)		
Common Names	Coconut, coconut palm, copra (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Buah kelapa	Myanmar:	Ohn, ohn the pin
Cambodia:	Dong	Philippines:	Niyog, lubi, ngot-ngot
Indonesia:	Kelapa, kambil	Singapore:	Coco palm, coconut
Lao PDR:	Kok mak phao	Thailand:	Ma phrao
Malaysia:	Nyiur, kelapa, kerambil, kerambir, kelambir	Vietnam:	Dua

Description of the plant

Tree, up to 25 m high. Stem erect, solitary. Leaves pinnately compound, crowded at the apex of the trunk, 3.5 - 6 m long; petiole stout, about 1 m long; leaflets numerous, linear-lanceolate, 60-100 cm long, flaccid, bright green. Inflorescence spike; male flowers small, yellowish, ovate, valvate sepals, oblong, valvate petals; female flowers much larger, rounded, imbricate sepals, shorter convolute petals. Fruits drupe. seed 1, round, with white endosperm and sweetish water. (3-6)

Part used Endosperm (to produce coconut oil)

Crude drug Coconut oil (prepared by hot- or cold-pressed method)

Preparation of crude drug

Hot-pressed method (7)

Extract the flesh from the shell, grate the flesh, pour the warm water into the grated flesh in a ratio 1:1, and squeeze only pure coconut cream. Filter through the cheesecloth to get the thick coconut cream, simmer the coconut cream and stir thoroughly until getting the clear oil. When the coconut cream turns light brown, turn off the fire, allow it to cool and take only the clear oil. Keep in a well-closed container and store in a cool place.

Cold-pressed method (8)

Extract the flesh from the shell, grate the flesh and squeeze only pure coconut cream without adding water. Put the pure coconut cream in the bag and keep in the refrigerator (not in a freezer) for at least 24 hours. Take out from the refrigerator; the coconut cream will be divided into 2 phases: coconut milk in the upper while water in the lower. Pierce the bag to drain the water and then bind with a rubber band. Put in the freezer for 36 hours and then take it out. Leave it until it is divided into 3 parts: the first part on the top is cream, the second part in the middle is coconut oil and the third part in the bottom is sour water. Take only coconut oil. Keep in a well-closed container and store in a cool place.

Characteristic of crude drug

Colourless. Odour, aromatic, characteristic. (3)

Indication

Minor burns (First degree burn)

Preparations & Dosage

1. Apply the coconut oil on the burns (9,10) (Indonesia, Myanmar); or
2. Prepare a paste by mixing the coconut oil with lime water (calcium carbonate) in a 1:1 ratio and stirring thoroughly to make a white paste. Apply the paste on the burns, twice a day, morning and evening (11) (Lao PDR, Thailand); or
3. Prepare a blended mixture of 1 tablespoon of coconut oil and 1 tablespoon of papaya latex. Apply on the new burns. (Do not apply on the open wound and do not let it come in contact with the eyes as the papaya latex can cause the blindness.) (12) (Indonesia, Malaysia)

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Combretum indicum



Scientific Name	<i>Combretum indicum</i> (L.) DeFilipps		
Synonyms	<i>Combretum indicum</i> (L.) Jongkind, <i>Kleinia quadricolor</i> Crantz, <i>Mekistus sinensis</i> Lour. ex B.A. Gomes, <i>Quisqualis indica</i> Lindl., <i>Q. longiflora</i> C.Presl, <i>Q. loureiroi</i> G. Don, <i>Q. ebracteata</i> P.Beauv., (1,2)		
Family	Combretaceae (2)		
Common Names	Drunken sailor, quisqualis, Rangoon creeper (2,3)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	Dawei-haming
Cambodia:	Sakses	Philippines:	Niyug-niyogan, sagisi, tagisi, pinion, tanglon
Indonesia:	Ceguk, wudani	Singapore:	Akar dani, drunken sailor, rangoon creeper
Lao PDR:	Kheua samang	Thailand:	Lep mue nang
Malaysia:	Dani, udani, ara dani, akar suloh, akar pontianak	Vietnam:	Day giun

Description of the plant

Scandent climber, 2-8 m long. Twigs slender, cylindrical. Leaves simple opposite, oval-ovoid, base obtuse, apex apiculate, 7-9 cm long, 4-5 wide, nerves membranaceous, apparently conspicuous beneath. Inflorescence raceme, terminal, 4-10 cm long; flowers rose or red. Fruits capsule, narrowly ellipsoid, 3-4 cm long, 5-angled, shining chestnut-brown when ripe. Seed 1,

tardily dehiscent. (4-8)

Parts used Fresh fruit, dried seed, dried root

Crude drugs Dried seed, dried root

Preparation of crude drugs

Collect the fruits when the skin turns purplish-black and well ripe. Sun-dry or heat-dry (40°-60°C) the fruits. Pound on the dried fruits to collect the seeds before preparation. Keep in a well-closed container and store in a dry place. (5,6)

Characteristic of crude drugs

Fruit Ellipsoidal or ovoid, 5-angled longitudinally, occasionally 4 to 9-angled, 3-4 cm long, about 2 cm in diameter. Externally blackish-brown to purplish-black, smooth, somewhat lustrous. Apex narrowly acute, base of obtuse-rounded, with a marked rounded scar of fruit stalk. Texture hard. Transverse section frequently 5-pointed star shaped, relatively thick at the ribs, with a sub-rounded hollowed centre. (9)

Seed Long-ellipsoidal or fusiform, about 2 cm long, 1 cm in diameter; externally brown or blackish-brown, with many longitudinal wrinkles; testa thin, easily stripped; cotyledons 2, yellowish-white, oily, fracture fissured. Odour, slightly aromatic; taste, slightly sweet. (9)

Indication

Intestinal parasites infestation (Roundworms and tapeworms)

Preparations & Dosage

To completely eradicate the intestinal parasites, it is recommended to take 2 tablespoons of castor oil as a laxative 2 hours after the last portion are taken to make sure that as many worms as possible are expelled before they recover as the following herbal preparations may not actually kill the parasites outright.

1. Grind 2-3 dried seeds into powder and mix with honey. Take the mixture orally, once a day before meals (6) (Myanmar); or
2. Grind the dried seeds into powder and fill into capsule shells of 500 mg. Take 2 capsules orally, once a day, before meals (Lao PDR); or
3. Prepare a decoction of 2 pinches of dried seeds in 2 glasses of water. Drink the decoction, twice a day, before meals (10,11) (Indonesia, Malaysia); or
4. Crush seed pulps to collect the seeds (2-3 seeds for children, 5-7 seeds for adults). Grind the seeds into powder and prepare a decoction in 2 glasses of water. Drink the decoction, once a day, at bedtime. (12) (Thailand); or
5. Prepare a decoction of half-ripe fruit. Drink the decoction (10,11,13) (Malaysia); or
6. Prepare a decoction of 5 g of drunken sailor seeds and 10 g of black turmeric rhizome (*Curcuma aeruginosa* Roxb.) in 2 glasses of water. Drink the decoction, once a day, at bedtime (Indonesia); or
7. Prepare a decoction of the dried root in 2 glasses of water. Drink the decoction, once a day, at bedtime (10,11) (Malaysia); or
8. According to Malaysia's traditional knowledge, a ripe fruit is roasted until aroma comes out and taken orally, once a day. (4) (Malaysia)

Contra-indication

None reported

Warning & Precaution

None reported

Side effects

1. The oil exerted from the swallowed seeds can cause diarrhoea. (10,14)
2. Consumption of fresh seeds or when the seeds are taken for consecutive days may cause hiccups, diarrhoea and abdominal pain. (15)
3. Excessive dose may cause hiccups, dizziness, vomiting, headache, weakness, unconscious, and nausea. (10,14,16)

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Crinum asiaticum



Scientific Name	<i>Crinum asiaticum</i> L.		
Synonyms	<i>Bulbine asiatica</i> (L.) Gaertn., <i>Crinum amabile</i> Donn ex Ker Gawl. (1,2)		
Family	Amaryllidaceae (2)		
Common Names	Asiatic poison bulb, crinum lily, grand crinum poison bulb, spider lily (2-4)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Bakong, bawang hutan	Myanmar:	Ko yan gyi
Cambodia:	Kam ploeng	Philippines:	-
Indonesia:	Bakung, bakong	Singapore:	Crinum lily
Lao PDR:	Varn xon	Thailand:	Phlap phlueng
Malaysia:	Bakung, bakuh, bunga tembaga suasa, bawang tembaga, bawang hutan	Vietnam:	Nang hoa trang, chuo nuoc, toi voi

Description of the plant

Annual herb, up to 1 m high. Stems stout, to 90 cm long. Leaves simple, equitant and spirally, lamina linear, wavy margins, tapering to a pointed tip, about 1.7 m long, 15 cm wide. Flowers umbel-like, white. Fruits capsule, pale, green, fleshy. Seeds few, large, green. (5-9)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indication

Joint pain and sprain

Preparation & Dosage

Heat the fresh leaves over the stove for a few seconds. Wrap the warm leaves around the painful

joint or sprain area. (10-15) (Brunei Darussalam, Lao PDR, Myanmar, Thailand)

Contra-indication

None reported

Warning & Precaution

The sap can cause skin irritation. (3,12)

Side effect

None reported

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Cucurbita moschata



Scientific Name	<i>Cucurbita moschata</i> Duchesne		
Synonyms	<i>Cucurbita colombiana</i> (Zhit.) Bukasov, <i>C. hippopera</i> Ser., <i>C. macrocarpa</i> Gasp., <i>C. pepo</i> var. <i>moschata</i> Duchesne (1,2)		
Family	Cucurbitaceae (2)		
Common Names	Butternut squash, cheese pumpkin, pumpkin (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Labu kuning	Myanmar:	Hpayon
Cambodia:	Lpov kdam	Philippines:	-
Indonesia:	Waluh, waloh, labu merah	Singapore:	-
Lao PDR:	Mak eu', mark fak kham, mark fak thornng	Thailand:	Fak thong
Malaysia:	Labu merah, labu parang, ketola	Vietnam:	Bi ro, bi thom, bi ngo

Description of the plant

Annual creeping herb. Stem moderately hard, round or smoothly. Leaves large, spotted tendrils divided, hairs of the petiole equal. Flowers large, bright yellow or orange yellow, bell-shaped. Fruits large, fleshy, ellipsoid or depressed-globose, very smooth, dark green or orange. Seeds numerous, small, flat. (3-6)

Part used Fresh or dried seed

Crude drug Dried seed

Preparation of crude drug

Collect the seeds from the fruit, wash thoroughly, spread on the sieve, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry place.

Characteristic of crude drug

Small, flat, green (when fresh) covered by a white husk. Odour, not characteristic; taste, almond-like. (3)

Indication

Intestinal parasite infestation (Roundworms and tapeworms)

Preparations & Dosage

To completely eradicate the intestinal parasites, it is recommended to take 2 tablespoons of castor oil as a laxative 2 hours after the last portion are taken to make sure that as many worms as possible are expelled before they recover as the following herbal preparations may not actually kill the parasites outright.

1. Grind 1 handful (30 g) of dried seeds into powder, divide the powder into 3 portions and prepare a mixture of 1 portion of the ground powder with 1 cup of hot water. Drink the mixture, 3 times a day, before meals (Indonesia); or
2. Grind 2 handfuls (60 g) of dried seeds without husk into powder, prepare a mixture of the powdered seeds with 2 glasses of milk or water and a little sugar, and divide the mixture into 3 portions. Take orally 1 portion each time, 3 times a day, every 2 hours (5-7) (Thailand); or
3. Take orally 1 handful of fresh seeds or 1-2 handfuls of dried seeds, with or without husk in a single dose. (10) (Lao PDR, Myanmar)

Note In Malaysia, according to traditional knowledge, pumpkin powdered seeds are also taken orally as well as other above-mentioned countries to expel the intestinal parasites but no dosage information is established. (11) (Malaysia)

Contra-indication

None reported

Warning & Precaution

None reported

Side effect

Excessive dose may cause an upset stomach. (12)

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Curcuma longa



Scientific Name *Curcuma longa* L.

Synonym *Curcuma domestica* Valetton (1,2)

Family Zingiberaceae (2)

Common Names Indian saffron, turmeric (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	Kunyit	Myanmar:	Sanwin, nanwin
Cambodia:	Romeat	Philippines:	Dilau, luyang-dilaw, angay, kalaug, kulyaw
Indonesia:	Kunyit, kunir	Singapore:	Tumeric, kunyit
Lao PDR:	Khi min, khi min kheun, kha min	Thailand:	Khamin chan
Malaysia:	Kunyit, kunyit makan, temu kunyit, temu kuning	Vietnam:	Nghe, khuong hoang, uat kim

Description of the plant

Perennial herb, about 1 m high. Rhizome arises from the tuber, fleshy, fragrance, dark yellow. Leaves sharp pointed, alternatively, light green, fragrance, about 30 cm long, 10 cm wide. Flowers cluster borne at apex of the leafy shoots, 10-20 cm long, 5-7 cm wide, white petals. Inflorescence spike; arise from the apex of rhizome, flowers funnel shaped, pale yellow. Fruits capsule globose to ellipsoid. Seeds numerous, arillate. (3-9)

Part used Fresh or dried rhizome

Crude drug Dried rhizome

Preparation of crude drug

Collect the rhizomes when the aerial part withers, wash thoroughly to completely remove the soil and dirt, cut into thick slices, and sun-dry or heat-dry (40°-60°C). (Both forms of crude drug as dried whole rhizomes and powdered turmeric, made by grinding the dried rhizomes, are prepared.) Keep in an air-tight container, protected from the light and store in a cool and dry place. (10-12)

Characteristic of crude drug

Whole rhizome Ovate, oblong or pear-shaped of round turmeric; cylindrical and often short-branched of long turmeric; the round about half broad as long, the long 2 to 5 cm long and 1 to 2 cm thick; externally yellowish to yellowish brown, with root scars and annulations, the latter from the scars of leaf bases; fracture horny; internally orange-yellow to orange, waxy, showing a cortex separated from a central cylinder, scattered bundles. Odour, characteristic and aromatic; taste, slightly bitter and pungent. (11,12)

Sliced rhizome Irregular or subrounded. Externally dark yellow, sometimes annular nodes visible. Cut surface brownish yellow to golden yellow, horny, with an obvious endodermis ring, dotted vascular bundles scattered. Odour, characteristic and aromatic; taste, bitter and astringent. (12)

Indications

1. Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)
2. Peptic ulcers (Duodenal and stomach ulcers)
3. Skin infection (Wound and skin abscess)
4. Common cold

Preparations & Dosage

For Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)

1. Prepare a mixture of the powdered rhizome and a little salt. Take orally half a teaspoon (3 g), 3 times a day (13) (Myanmar); or
2. Prepare a pill of half a teaspoon (500 mg-1g) of powdered rhizome and honey. Take orally, 3-4 times a day, after meals and before bedtime (10) (Thailand); or
3. Prepare the pills of 3-6 teaspoons (6-12 g) of powdered rhizome and honey. Take orally in two divided doses a day (8) (Vietnam); or
4. Grate two thumb-sized fresh rhizomes, squeeze to get the juice and add half a tablespoon of lime water (calcium carbonate). Take orally the prepared juice once a day (Indonesia); or
5. Prepare a decoction of rhizome, garlic and onion. Drink the decoction as needed (14,15) (Malaysia); or
6. Prepare a paste of fresh rhizome with coconut oil. Apply topically on the stomach as a stomachic. (16) (Philippines)

For Peptic ulcers (Duodenal and stomach ulcers)

1. Prepare a mixture of sliced rhizome and honey. Take orally 3 slices, once a day, after meals

- (19) (Indonesia, Myanmar, Philippines, Thailand, Vietnam); or
2. Prepare a mixture of the liquid from the grated mature rhizome with the egg yolk. Drink the mixture before bedtime (17) (Malaysia); or
 3. Prepare a pill of half a teaspoon (500 mg-1g) of powdered rhizome and honey. Take orally, 3-4 times a day, after meals and before bedtime (10) (Thailand); or
 4. Prepare the pills of 3-6 teaspoons (6-12 g) of powdered rhizome and honey. Take orally in 2 divided doses a day (8) (Vietnam); or
 5. Grate two thumb-sized fresh rhizomes, squeeze to get the juice and add half a tablespoon of lime water (calcium carbonate). Take orally the prepared juice, once a day. (Indonesia)

For Skin infection (Wound and skin abscess)

1. Prepare a paste of fresh rhizome, with or without sesame oil added. Apply topically on the affected area, 3 times a day. (16,18) (Philippines, Myanmar); or
2. Prepare a paste of one thumb-sized fresh rhizome and a little coconut oil, with or without a little alum added. Apply topically on the affected area (19) (Malaysia, Thailand); or
3. Prepare a paste of fresh rhizome and sulfur. Apply topically on the affected area (20) (Malaysia); or
4. Cook the rhizome, cooking oil, asam gelugor (*Garcinia atroviridis* Griff. ex T.Anderson), and aleppo oak (*Quercus infectoria* G.Olivier) until a thick mass is obtained. Apply topically on the affected area (20) (Malaysia); or
5. Prepare a squeezed juice of 6-12 g of fresh rhizome. Apply topically on the affected area as needed. (8) (Vietnam)

For Common cold

1. Grind the dried rhizome into powder. Take orally half a teaspoon, 3 times a day, after meals (21) (Myanmar); or
2. Boil the rhizome and sugar with milk. Drink the milk as needed. (20) (Malaysia)

Contra-indication

It is contra-indicated in persons with biliary tract obstruction and in hypersensitive persons. (22)

Warnings & Precautions

1. It should not be used with anti-coagulant or anti-platelet drugs. (23)
2. Persons with gall bladder stone should use turmeric under medical supervision. (22)
3. Turmeric should not be taken on an empty stomach. (5)

Side effects

1. Excessive dose of turmeric may irritate the stomach. (22,24)
2. External use of turmeric may cause allergic dermatitis. (22)

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Curcuma zanthorrhiza



Scientific Name	<i>Curcuma zanthorrhiza</i> Roxb. (1)		
Synonym	None reported		
Family	Zingiberaceae (1)		
Common Names	Java ginger, Java turmeric, Javanese ginger, Javanese turmeric (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Temu lawak	Myanmar:	-
Cambodia:	Proteal sboon	Philippines:	-
Indonesia:	Temu lawak, koneng gede	Singapore:	-
Lao PDR:	Van hua dieo, van nang	Thailand:	Kamin chawa
Malaysia:	Temu lawak, temu rawas, temu raya	Vietnam:	Nghe re vang

Description of the plant

Perennial herb, up to 2 m high. Rhizomes thick, cylindric, numerous roots; outside yellowish or

copper red, greyish when matured; inside yellowish or reddish when matured. Leaves dark green, copper in the middle of upper surface, elliptical-oblong to oblong-lanceolate, 25-90 cm long, 8-18 cm wide; petiole as long as blade. Inflorescence large, purple or crimson. (3-5)

Part used Fresh or dried rhizome

Crude drug Dried rhizome

Preparation of crude drug

Collect the rhizome when the aerial part withers in dry season. Wash thoroughly the rhizome, cut into thin slices and sun-dry or heat-dry (40°-60°C). Keep in an air-tight container, protected from light and excessive heat or cold, and store in a cool and dry place.

Characteristic of crude drug

Transverse slices, 2-5 mm thick, internally orange- yellow; fracture fibrous. Odour, slightly aromatic; taste, slightly astringent.

Indications

1. Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)
2. Loss of appetite (Anorexia)
3. Muscle pain (Muscle ache, muscle soreness)

Preparations & Dosage

For Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)

1. Prepare an infusion of 2 g of Java ginger rhizome and peppercorns. Drink the infusion, once a day (6) (Malaysia); or
2. Prepare a decoction of 1 handful of dried sliced rhizome in 2 glasses of water. Drink 1 glass, twice a day (Indonesia); or
3. Prepare a decoction of 2 g of dried sliced rhizome. Drink the decoction as tonic, once a day (3) (Malaysia); or
4. Boil 3-9 g of fresh rhizomes. Consume the boiled rhizome before meals. (7) (Malaysia)

Note In Philippines, the paste made of Java ginger rhizome and coconut oil is used topically on the pain area. (4) (Philippines)

For Loss of appetite (Anorexia)

1. Simmer 20 g of dried sliced rhizome, 10 g of tamarind and 30 g of sugar in 1 glass of water for 15 minutes. Drink the filtrate, once a day (8-9) (Indonesia); or
2. Prepare an infusion of 7 pieces of dried sliced rhizome, palm sugar and 2 spoonfuls of sago flour (a starch extracted in the spongy centre, or pith, of various tropical palm stems) in 1 glass of hot water. Drink half a glass, once a day (8-9) (Indonesia); or
3. Prepare an infusion of pounded or ground rhizome in half a glass of hot water. Drink the filtrate, twice a day. Repeat for few days until appetite is gained. (10) (Malaysia)

For Muscle pain (Muscle ache, muscle soreness)

1. Prepare a paste of the fresh rhizome, a little of lime and saltpeter (potassium nitrate). Apply when it's still hot on the affected areas. (4) (Philippines); or
2. Prepare a paste of the fresh rhizome and lime juice. Apply on an affected area. (Indonesia).

Contra-indication

It is contra-indicated in persons with bile duct obstruction or gallstone. (11)

Warning & Precaution

None reported

Side effect

Excessive dose or consecutive use of Javanese turmeric may irritate the stomach. (11)

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Cyperus rotundus



Scientific Name	<i>Cyperus rotundus</i> L.		
Synonyms	<i>Chlorocyperus rotundus</i> (L.) Palla, <i>Pycurus rotundus</i> (L.) Hayek, <i>Cyperus maritimus</i> Bojer (1,2)		
Family	Cyperaceae (2)		
Common Names	Coco-grass, nut grass, nut sedge, purple nut sedge, purple nut-grass, red nut sedge (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Rumput purun	Myanmar:	Myet hmon nyinn
Cambodia:	Kravanh chrouk	Philippines:	Mutha, balisanga, boto-botones, kusung, galonalpas
Indonesia:	Teki, moka	Singapore:	-
Lao PDR:	Nha heo moo	Thailand:	Ya hao mu
Malaysia:	Rumput halia hitam	Vietnam:	Huong phu, cu gau, co gau, co cu

Description of the plant

Perennial herb. Rhizome long, reddish brown, creeping, tuberous, slender, aromatic. Leaves green, narrowly linear, acuminate, upper surface glabrous, under surface prominent nerves. Inflorescence simple or compound corymb, spikelets spreading; flowers 10-40, reddish brown, small. Fruits triangle-shaped. Seed single, oblong- ovoid, black. (3-11)

Part used Dried rhizome

Crude drug Dried rhizome

Preparation of crude drug

Regular process

Collect the mature rhizome, wash thoroughly to remove hairs, soil, dust, and foreign matters, pound into pieces or cut into thin slices, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a cool and dry place. (6,7,12-14)

Process with vinegar

Take slices or pieces of processed nut grass as described above, add vinegar at a ratio of 5:1 (nut grass: vinegar), stir well, and wrap up overnight until all vinegar is absorbed. Put into a pan, stir with gentle heat until dry, scented and the colour turns yellowish, and sun-dry. (10,12,13)

Characteristic of crude drug

Regular slice

Slices of variable sizes, externally brown or blackish-brown, sometimes annular nodes visible; internally whitish or yellowish-brown, with an obvious endodermis ring. Odour, aromatic; taste, bitter (13,15)

Vinegar-processed slice

The shape similar to the slices, externally blackish-brown. Odour, slight-vinegar smell; taste, bitter. (13)

Indication

Peptic ulcers (Duodenal and stomach ulcers)

Preparations & Dosage

1. Grind the dried rhizome into powder. Take orally half a teaspoon a day (15) (Myanmar); or
2. Prepare a decoction of 1 pinch (10 g) of regular slices in 1 glass of water. Take the decoction orally, 3 times a day, before meals (Indonesia); or
3. Prepare a decoction of $\frac{1}{2}$ - 1 pinch (6-9 g) of vinegar-processed slices in 3 glasses of water and divide the decoction into 2 portions. Take the decoction orally in the morning and afternoon. (10) (Vietnam)

Contra-indication

None reported

Warnings & Precautions

1. Persons allergic or hypersensitive to nut grass, pregnant women and/ or breast-feeding mothers should avoid using this herb. (16)
2. It should be used with caution in persons with blood disorders or those using anticoagulants or antiplatelet agents, and in diabetic persons or those using blood glucose-lowering agents. (16)

Side effect

None reported

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Eclipta prostrata



Scientific Name	<i>Eclipta prostrata</i> (L.) L.	
Synonyms	<i>Eclipta alba</i> (Linnaeus) Hasskarl, <i>E. prostrata</i> f. <i>aureoreticulata</i> Y.T.Chang, <i>E. prostrata</i> var. <i>undulata</i> (Willd.) DC., <i>E. prostrata</i> var. <i>zippeliana</i> (Blume) J.Kost., <i>Verbesina prostrata</i> Linnaeus (1,2)	
Family	Asteraceae (Compositae) (2)	
Common Names	Eclipta, false daisy, white eclipta (2)	
Local/Vernacular Names in AMS		
Brunei Darussalam:	Keremak jantan, urang-aring	Myanmar: Kyeik hman Philippines: Tintatintahan, tinta-tinta, tultulisan, higin-manok, karimouaya
Cambodia:	Khmanh	
Indonesia:	Urang aring	
Lao PDR:	Nha hom keo, gna cha chat	Singapore: -
Malaysia:	Urang-aring, orang-aring, keremak jantan, keremak hutan, rumput migus	Thailand: Ka meng Vietnam: Nho noi, co nho noi, co muc, han nien thao

Description of the plant

Perennial herb, erect or prostrate, 30-40 cm high. Stem cylindrical, green or purple, bristly, thickened at nodes. Leaves opposite, sub-sessile, oblong-lanceolate, base obtuse, apex acuminate, hirsute on both sides, margins denticulate. Flower white in axillary or terminal head, peduncle 1-4 cm long, hirsute. Fruits achene, densely warted, either brown or black, 2-3 mm long, triangular shape, wide and flat. (3-12)

Parts used Fresh leaf, fresh flower, dried whole plant

Crude drug Dried whole plant

Preparation of crude drug

Collect the whole plant, wash thoroughly to remove soil and sand, cut into pieces, and sun-dry. Keep in a well-closed container and store in a dry and cool place. (13,14)

Characteristic of crude drug

Stems cylindrical, externally greenish-brown or dark green, with longitudinal ridges and white pubescences. Cut surface hollowed or with white pith. Leaves mostly crumpled or broken, dark green, with dense white pubescences, when whole, margin entire or shallowly dentate. Capitulum. Odour, slight; taste, slightly salty. (13)

Indications

1. Skin infection (Wound and skin abscess)
2. Toothache

Preparations & Dosage

For Skin infection (Wound and skin abscess)

1. Prepare a decoction of the whole plant. Apply the decoction topically on the affected area. (15) (Malaysia); or
2. Prepare a squeezed juice of fresh leaves. Apply the juice on the affected area, once a day, until the wounds are healed (5,16,17) (Myanmar); or
3. Prepare a poultice of fresh leaves and tops or whole plant. Apply topically on the affected area to heal the wound (7,18) (Philippines, Thailand); or
4. Grind the dried whole plant into powder. Apply the powder topically on the affected area to heal the wound (18) (Thailand); or
5. Prepare a poultice of fresh whole plant. Apply topically on fresh wounds to stop bleeding. (18) (Indonesia, Thailand)

For Toothache

1. Rub the fresh flower heads on the infected gum or affected area (15) (Malaysia); or
2. Crush the fresh leaves. Apply on the infected gum or the affected area (Indonesia); or
3. Prepare a mixture of boiled leaves and coriander seeds. Apply the mixture topically on the infected gum or affected area (15) (Malaysia); or
4. Grind the dried whole plant into powder. Apply the powder on the infected gum or the affected area. (18) (Thailand)

Contra-indication

None reported

Warning & Precaution

Persons with sensitive skin should avoid using this herb. (18)

Side effect

None reported

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Erythrina variegata



Scientific Name	<i>Erythrina variegata</i> L.		
Synonyms	<i>Chirocalyx candolleanus</i> Walp., <i>C. divaricatus</i> Walp., <i>Erythrina boninensis</i> Tuyama, <i>E. indica</i> Lamk. (1)		
Family	Fabaceae (Leguminosae-Papilionaceae) (2)		
Common Names	Coral tree, Indian coral tree, variegated tiger's claw (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Dadap	Myanmar:	In kathit, kathit, kathit
Cambodia:	Roluos Baay	Philippines:	Dapdap, kasindak, andorogat, bagbag, sulbang
Indonesia:	Dadap ayam, dadap serep	Singapore:	Dadap, tiger's claw, variegated coral tree
Lao PDR:	Ton thong ban, thong lang	Thailand:	Thong lang lai
Malaysia:	Dedap, chengkering	Vietnam:	Vong nem, la vong, hai dong bi

Description of the plant

Tree, up to 20 m high. Stems smooth, greyish, sparsely armed with short conical prickles. Leaves alternate, trifoliate, 20 - 30 cm long; leaflets subtriangular or broadly rhomboid-ovate, shining green, the terminal being largest, stalk glandular. Inflorescence raceme, axillary and/or terminal

raceme, appearing before leaves. Flowers bright red. Fruits pod, long, black. Seeds pumiceous, oblong or oblong-ellipsoid. (3-9)

Parts used Fresh or dried leaf, dried bark

Crude drugs Dried leaf, dried bark

Preparation of crude drugs

Collect the leaves and the bark peeled from stem, wash thoroughly, slice only bark in pieces, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry and cool place. (10)

Characteristic of crude drugs

Leaf Grey-green, crumpled.

Bark Externally light brown or grey, notoriously thorny. Taste, bitter, acrid. (11)

Indication

Insomnia (Sleeplessness)

Preparations & Dosage

1. Rub 1-2 fresh leaves with two hands to make the leaves bruised. Apply on the forehead before going to bed. (Indonesia); or
2. Prepare a slurry of 1 finger length (16 g) of dried bark with a little water. Take orally 3 teaspoons a day. (6,10) (Myanmar); or
3. Prepare a decoction of 1 handful of dried leaves in 1 glass of water. Take the decoction orally, 3 times a day. (8) (Vietnam); or
4. Cook the fresh leaves as soup. Eat at dinner time. (Vietnam); or
5. Eat leaves fresh as salad. (12) (Malaysia)

Contra-indication

Pregnant women should avoid using this plant. (12)

Warning & Precaution

It should be used with caution as this herb has a narcotic and depressant action on the central nervous system. (4,13)

Side effects

1. Erythrine derived from Coral tree can have toxic on the nerve system. (12)
2. The leaves may cause vomiting. (12)

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Eucalyptus globulus



Scientific Name *Eucalyptus globulus* Labill.

Synonyms *Eucalyptus gigantea* Dehnh., *E. glauca* A.Cunn. ex DC., *E. globulosus* St.-Lag., *E. maidenii* subsp. *globulus* (Labill.) J.B.Kirkp., *E. perfoliata* Desf. (1,2)

Family Myrtaceae (2)

Common Names Blue gum, eucalyptus, southern blue gum, Victorian blue gum (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	Yu ka lit, hnget chauk
Cambodia:	Preng kyal	Philippines:	Eucalyptos
Indonesia:	Kayu putih	Singapore:	-
Lao PDR:	Kok vick	Thailand:	Yu kha lip tat, kot chula rot, nam man khiew
Malaysia:	Kayu putih	Vietnam:	Bach dan xanh, khuynh diep cau

Description of the plant

Tree, 15 m high or more, bark greyish, peeled off in thin layers. Leaves, leathery, lanceolate, usually somewhat sickle-shaped, 10-25 cm long, sessile, starchy surface, glaucous, when crushed it has aromatic odour. Flowers white, about 1.5 cm in diameter. Fruit obovoid or somewhat rounded, 8 mm in diameter. (3-5)

Part used Fresh leaf (to produce the eucalyptus oil)

Crude drug Essential oil (the eucalyptus oil)

Preparation of crude drug

Prepare a steam distillation of the mature leaves and collect the condensed volatile eucalyptus oil. Keep in an air-tight container and store in a cool place. (6,7)

Characteristic of crude drug

Colourless or yellowish brown liquid; darkens slightly on long storage. Odour, characteristic and aromatic, resembling to camphor; taste, pungent and cool. (4,6,8)

Indication

Joint pain and sprain

Preparations & Dosage

1. Apply topically the eucalyptus oil to massage the area of pain (9) (Indonesia, Malaysia, Vietnam); or
2. Apply topically 3-5 drops of the eucalyptus oil as ointment on the area of pain (4,8) (Myanmar); or
3. Prepare a mixture of eucalyptus oil and gandapura oil (*Gaultheria fragrantissima* Wall.) in 1:1 ratio. Apply topically on the area of pain. (Indonesia)

Contra-indication

None reported

Warning & Precaution

It should not be applied on the face area, especially the nose or near the eyes of the infants and kids. (10)

Side effect

None reported

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Ganoderma lucidum



Scientific Name	<i>Ganoderma lucidum</i> (Leyss. ex Fr.) Karst. (1)		
Synonym	None reported		
Family	Ganodermataceae (Polyporaceae) (1)		
Common Names	Ganoderma, lingzhi mushroom, reishi mushroom (2)		

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	Thit kat hmo, pa dauk
Cambodia:	Phseth neakareach		hmo, ut hto hmo
Indonesia:	Jamar hutan, ling shi	Philippines:	-
Lao PDR:	Hed lin cheu	Singapore:	-
Malaysia:	Kulat kayu, ling zhi	Thailand:	Het lin cheu
		Vietnam:	Nam linh chi, co linh chi, co tien

Description of the plant

Annual or perennial mushroom, reddish-brown cap and stipe, fan or circular or kidney-shaped, corky, leathery, margin wavy or smooth, concentric rings wavy on the upper surface, shining, yellowish-brown when young, turns reddish-brown when matured. (3-6)

Part used Dried cap

Crude drug Dried cap

Preparation of crude drug

Collect the mushroom, remove the foreign matters, attached rotten wood, sand or the lower stipe, and if appropriate, slice the cap in pieces before sun-dry for 3-5 days or shade-dry or heat-dry (40°-60°C). (1,3,6,7)

Characteristic of crude drug

Outline fimbriate, pileus reniform, semi-rounded or subrounded, 10-18 cm in diameter, 1-2 cm thick. Shell hard, yellowish-brown to reddish-brown, lustrous, with circular arised stripe and radiate wrinkle, edge thin and even, frequently incurved slightly. The inner part white to brownish. Odour, slightly aromatic; taste, bitter and pucker. (1)

Indication

Weak Immunity

Preparations & Dosage

1. Grind dried cap into powder to make pills or fill in the capsule shells. Take orally half a teaspoon (2 g) with warm water, twice a day. (6) (Lao PDR, Myanmar, Vietnam); or
2. Prepare a decoction of 2-5 g of thin slices or 2-3 thin slices of dried cap. Drink the decoction as drinking water. (6,8) (Thailand, Vietnam); or
3. According to Malaysia's traditional knowledge, the ingestion of the whole cap can boost immunity. (9) (Malaysia)

Contra-indication

None reported

Warnings & Precautions

1. It should be used with caution in persons using immunosuppressive drugs or going through organ transplants. (10)
2. It should be used with caution in persons taking antihypertensive drugs. (11)

Side effect

It may cause dizziness, lightheadedness, dry mouth, nose bleeds, abdominal upset, skin rash, and respiratory allergy. (10,12)

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Garcinia mangostana



Scientific Name	<i>Garcinia mangostana</i> L.		
Synonym	<i>Mangostana garcinia</i> Gaertn. (1,2)		
Family	Clusiaceae (Guttiferae) (2)		
Common Names	Mangostan, mangosteen (2)		

Local/Vernacular Names in AMS

Brunei Darussalam:	Buah manggis	Myanmar:	Min goot
Cambodia:	Mang khut	Philippines:	Mangostan, manggis
Indonesia:	Manggis	Singapore:	Mangosteen, manggis
Lao PDR:	Kok mang khout	Thailand:	Mang khut
Malaysia:	Manggis, manggusta, manggunan, masta, mesta	Vietnam:	Mang cut, son truc tu, mung khut

Description of the plant

Tree, 6-10 m high. Leaves leathery, deep green, 15-25 cm long, 6-11 cm wide. Flowers 5 cm in diameter, 4-parted, bisexual, and borne singly or in pairs at the ends of the branchlets. Fruit berry, rounded, 5-8 cm in diameter, smooth and thick dark purple rind surrounding 4-8 fruit segments. Seeds large, flattened and embedded in snowy-white or pinkish delicious pulp. (3-8)

Part used Dried fruit rind

Crude drug Dried fruit rind

Preparation of crude drug

Collect the ripe fruits, wash thoroughly, peel the rind from the fruit, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry and cool place.

Characteristic of crude drug

Thick, hard, fibrous, externally deep brownish purple, internally brown; external texture smooth. Taste, strong astringent. (3)

Indication

Diarrhoea

Preparations & Dosage

1. Grind half a fruit (4 g) of dried fruit rind into powder and prepare a decoction in 2 glasses of water. Drink 1 cup each time, 3-4 times a day, after meals. (9-11) (Almost AMS); or
2. Prepare a decoction of 20-60 g. Drink 1 cup each time, 3-4 times a day (7) (Vietnam); or
3. Roast half a fruit (4 g) of dried fruit rind until very well-done and rub it with half a glass of lime water (calcium hydroxide). Take orally, every 2 hours, after meals. (9) (Thailand)

Note It is suggested to stop taking the above-mentioned herbal preparation after recovery as it may cause constipation.

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Impatiens balsamina



Scientific Name	<i>Impatiens balsamina</i> L.		
Synonyms	<i>Balsamina angustifolia</i> Blume, <i>B. coccinea</i> DC., <i>Impatiens stapfiana</i> Gilg (1,2)		
Family	Balsaminaceae		
Common Names	Balsam, garden balsam, rose balsam (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Bunga pacar	Myanmar:	Dan, dan pan pin
Cambodia:	Phka krachork	Philippines:	Kamantigi, saungga, solonga, suranga
Indonesia:	Pacar air	Singapore:	Busy lizzie, impatiens
Lao PDR:	Thien Ban, kao tien	Thailand:	Thian dok, thian Thai, thian ban, thian suan
Malaysia:	Inai, keembung, kimbong, hinai pachak, hinai ayam	Vietnam:	Bong nuoc, mong tai, moc tai, bong mong tay

Description of the plant

Annual erect herb. Leaves simple, alternate, about 15 cm long. Flowers large, axillary, showy, various colours. Fruit capsule. Seeds reticulate, tubercled, rounded. (3-7)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indication

Skin infection (Wound and skin abscess)

Preparation & Dosage

Prepare a poultice of 5-10 fresh leaves. Apply on the affected area, 3 times a day until recovery. (3,5,8-12) (Almost AMS)

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Imperata cylindrica



Scientific Name	<i>Imperata cylindrica</i> (L.) P. Beauv.		
Synonyms	<i>Imperata allang</i> Jungh., <i>I. arundinacea</i> Cirillo, <i>I. cylindrica</i> var. <i>koenigii</i> (Retz.) Perkins, <i>I. cylindrica</i> var. <i>major</i> (Nees) C. E. Hubb, (1,2)		
Family	Poaceae (Gramineae) (2)		
Common Names	Alang-alang, blady grass, cogon grass, lalang grass (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Lalang	Myanmar:	-
Cambodia:	Sbov	Philippines:	Kogon, gogon, ilib, panau, parang
Indonesia:	Alang-alang	Singapore:	-
Lao PDR:	Nyar khar	Thailand:	Yar khar
Malaysia:	Lalang, alang-alang	Vietnam:	Co tranh, bach mao

Description of the plant

Perennial herb, 1.2-1.5 m high. Rhizome hard, coriaceous, white, covered with numerous scales. Leaves elongated-linear, prominently nerved base sheathed, apex attenuate, glabrous or hairy beneath, scabrous above, margins sharp-edged. Inflorescence of many dense spikes, 5-20 cm long, silver-white; spikelets usually arranged into two, pale violet, densely, silky; flowers with two stamens and brown ovary. (3-8)

Part used Fresh or dried rhizome

Crude drug Dried rhizome

Preparation of crude drug

Collect the rhizomes, wash thoroughly, sun-dry, remove the fibrous root (rootlet) and membranous leaf sheath, and tie up in small bundle. (The sliced rhizomes can also be prepared). Keep in

a well-closed container and store in a dry place. (3,7)

Characteristic of crude drug

Long cylindrical, 30-60 cm long, 2-4 mm in diameter. Externally yellowish-white or yellowish, slightly lustrous, longitudinally wrinkled, nodes distinct and slightly raised, internodes varying in length, usually 1.5-3 cm long. Texture light, somewhat fragile, fracture white in bark, mostly with cracks arranged radially, stele yellowish, easily stripped from cortex. Odour, slight; taste, slightly sweetish. (3,7)

Indication

Urinary tract disorders (Dysuria, lower urinary tract infection, urolithiasis)

Preparations & Dosage

1. Prepare a decoction of 3 pinches (10-15 g) of sliced dried rhizomes or 3 pinches (30-60 g) of fresh rhizomes, chopped into small pieces, in 3 glasses of water. Drink 1 glass, 3 times a day. (9-11) (Cambodia, Indonesia, Lao PDR, Malaysia, Thailand, Vietnam); or
2. Prepare a decoction of 20 g of blade grass rhizomes with 10 g of *Borreria hispida* leaves (*Borreria hispida* Spruce ex K.Schum.) and 10 g of cat's whiskers (*Orthosiphon aristatus* (Blume) Miq.) in 2 glasses of water. Drink the filtrate as needed. (12) (Malaysia)

Contra-indication

It is contra-indicated in persons with diarrhoea. (13)

Warnings & Precautions

1. Consecutive use may cause electrolyte imbalance. (13)
2. It should be used with caution in pregnant women or persons with low blood pressure. (13)

Side effect

None reported

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Ipomoea pes-caprae



Scientific Name	<i>Ipomoea pes-caprae</i> (L.) R. Br.		
Synonyms	<i>Convolvulus pes-caprae</i> L., <i>Ipomoea biloba</i> Forssk. (1,2)		
Family	Convolvulaceae (1,2)		
Common Names	Beach morning-glory, goat's foot creeper, railroad vine (2,3)		

Local/Vernacular Names in AMS

Brunei Darussalam:	Tapak kuda laut, kangkong laut	Myanmar:	-
Cambodia:	Trakuon kanteak samot	Philippines:	Bagasua, arodaidai, balim-balim, daripai, kamokamotihan
Indonesia:	Katang-katang, batata	Singapore:	Beach morning glory, goat's foot
Lao PDR:	-	Thailand:	Pak bung ta-le
Malaysia:	Tapak kuda, kaki kuda	Vietnam:	Rau muong bien, muong bien, bim chan de, ma yen dang, ma mong hoa

Description of the plant

Creeping or twining herb, smooth vine. Leaves, simple, thick, light green, shining, rounded, 6-14 cm long. Flowers 1-6 pedicellate, in the axils of the leaves. Stalk erect, bearing one to six flowers, which often open one at a time. Fruits capsules, smooth, ovoid, about 1 cm long. Seeds numerous, covered with hairs. (3-7)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indication

Skin allergies (Skin rash, hive, insect bites, jelly fish sting)

Preparations & Dosage

1. Prepare a poultice of fresh leaves. Apply on the affected area. In case of jelly fish sting, do not rub, just place the poultice over the stung area, and change the poultice every 10-15 minutes, until recovery. (8-10) (Brunei Darussalam, Cambodia, Indonesia, Thailand); or
2. Pound the fresh leaves to get the juice. In case of jelly fish sting, apply the juice on the stung area (4, 11) (Malaysia); or
3. Prepare an extract of fresh leaves. In case of jelly fish sting, apply the extract on the stung area. (12) (Malaysia)

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Leonurus japonicus



Scientific Name	<i>Leonurus japonicus</i> Houtt.		
Synonyms	<i>Leonurus altissimus</i> Bunge ex Benth., <i>L. artemisia</i> (Lour.) S.Y.Hu, <i>L. cuneifolius</i> Raf., <i>L. heterophyllus</i> Sweet, <i>L. sibiricus</i> auct. pl. (1,2)		
Family	Lamiaceae (Labiatae) (2,3)		
Common Name	Motherwort (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	-
Cambodia:	Smav meada	Philippines:	Kamariang-sungsong
Indonesia:	Ginjean	Singapore:	-
Lao PDR:	Nat soi	Thailand:	Kanchathet
Malaysia:	Tebing agu, padang derman, kacang ma	Vietnam:	Ich mau, sung uy, choi den

Description of the plant

Annual or biennial herb, up to 1m high. Stem erect, quadrangular, pubescent or glabrous, branched. Leaves opposite, long-petioled the basal nearly round, dentate-crenate, pubescent on both side. Inflorescence compact, axillary vertical 2 -2.5 cm. Fruits nutlet, small, triangular, glabrous, truncated, dark brown when ripe. (4-7)

Part used Dried aerial part

Crude drug Dried aerial part

Preparation of crude drug

Collect the aerial part in summer before or at the beginning of flowering period, wash thor-

oughly rapidly, and sun-dry the whole part or dry after chopping into pieces. Keep in a well-closed container and store in a dry place. (4,6)

Characteristic of crude drug

Stem externally greyish-green or yellowish-green; texture light and pliable, fracture medullated in the centre. Lamina greyish-green, mostly crumpled and broken, easily fallen off. Verticillaster axillary, florets pale purple, calyx tubular, corolla bilabiate. Odour, slight; taste, slightly bitter. (4,6)

Indication

Painful menstruation (Dysmenorrhoea, menstrual cramp, painful period)

Preparations & Dosage

1. Prepare a decoction of dried aerial part. Take orally as tonic, 1-2 tablespoons a day. (2,4,6,8) (Indonesia, Malaysia, Philippines, Vietnam); or
2. According to AMS's traditional knowledge, the motherwort is widely used for menstruation-related disturbances, excessive menstrual flow and menstrual pain. (9)

Contra-indication

None reported

Warnings & Precautions

1. It should be used with caution in pregnant women. (4)
2. Excessive dose may generate chest oppression, physical weakness, perspiration, dyspnea, and increased sensitivity to pain. (10)

Side effect

None reported

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Mentha arvensis



Scientific Name	<i>Mentha arvensis</i> L.		
Synonyms	<i>M. agrestis</i> Sole, <i>M. angustifolia</i> Schreb., <i>M. parietariifolia</i> Becker ex Steud., <i>M. verisimilis</i> Strail (1)		
Family	Lamiaceae (Labiatae) (2)		
Common Names	Field mint, Japanese peppermint, wild mint (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Pudina	Myanmar:	Budi nan, pusi na, phi za ma, budi na, pusi na
Cambodia:	Chi pahor, chi angkam doeum	Philippines:	Yerba buena, ablebana, hilbas, mint
Indonesia:	Poko, menta, mint	Singapore:	-
Lao PDR:	Sa la nat	Thailand:	Sa ra nae yee pun
Malaysia:	Pudina, pohok pokok kepari	Vietnam:	Bac ha, bac ha nam, hung cay

Description of the plant

Perennial herb, 30-50 cm high. Stem quadrangular; underground parts prostrate; rooting at nodes; the aerial part erect, greenish or purple-violet. Leaves simple opposite, obovate, tomentose on both sides; margins serrate; petiole short. Inflorescence in axillary capitate distant whorls; flowers small, white, pink or lilac. Fruits nutlets dry, smooth. (3-10)

Part used Fresh or dried leaf

Crude drugs Dried leaf, mentha oil

Preparation of crude drugs

Leaf Collect the leaves, wash thoroughly to remove soil and sun-dry or shade-dry or heat-dry (30°-40°C). Keep in a well-closed container and store in a cool and dry place. (4,9,11,12)

Mentha oil Prepare a steam distillation of the mature leaves and collect the condensed volatile. Keep in an air-tight container and store in a cool place. (9,13)

Characteristic of crude drugs

Leaf Opposite, short petioled, lamina crumpled and rolled, when whole, broadly lanceolate, long-elliptical or ovate, 2-7 cm long, 1-3 cm wide; the upper surface dark green and the lower surface greyish-green; texture fragile, easily pulverized. Odour, characteristic, aromatic; taste, pungent, cool. (11)

Mentha oil Clear, colourless or pale yellow. Odour, characteristic, aromatic; taste, pungent, cool. (13)

Indications

1. Toothache
2. Common cold

Preparations & Dosage

For Toothache

1. Prepare the squeezed juice of 1 handful of fresh leaves. Apply topically 1-2 drops of juice on the affected tooth and gum (3,12) (Myanmar); or
2. Apply topically 1-2 drops of mentha oil on the affected tooth and gum (3,12) (Myanmar); or
3. Prepare a mixture of 1 handful of pounded leaves and half a cup of drinking water. Apply as a gargle. (14) (Indonesia)

For Common cold

1. Prepare an infusion of 4-8 g of dried leaves in 1 glass of boiling water. Drink the infusion, every 3 hours (9) (Vietnam); or
2. Prepare a decoction of fresh leaves. Drink the decoction as needed. (15) (Malaysia); or
3. Prepare a mixture of the squeezed juice from the field mint leaves and lime (*Citrus aurantiifolia* (Christm.) Swingle). Drink the mixture as needed. (16) (Malaysia); or
4. Prepare a paste of pounded leaves and lime juice (*Citrus aurantiifolia* (Christm.) Swingle). Apply on the forehead. (5) (Malaysia); or
5. Take a sauna with fresh field mint leaves, twice a day for relieving a cold. (6) (Philippines)

Note The mentha oil can also be used as an inhalant. (15)

Contra-indication

The application of the mentha oil on face, especially the nose, of infants and young children is contra-indicated. (14)

Warning & Precaution

None reported

Side effect

Topical application may cause a rash. (3,4)

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Momordica charantia



Scientific Name *Momordica charantia* L.

Synonyms *Momordica charantia* var. *abbreviata* Ser., *M. indica* L., *M. muricata* Willd., *M. zeylanica* Mill. (1,2)

Family Cucurbitaceae (2)

Common Names Balsam apple, balsam pear, bitter-cucumber, bitter gourd, bitter-melon, carilla fruit (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	Buah peria	Myanmar:	Kyet hin khar, kyet hun
Cambodia:	Mras		kha thi
Indonesia:	Pare	Philippines:	Ampalaya, amargoso, apalia, palia, margoso
Lao PDR:	Mark xay, mark hoy, mark khom	Singapore:	Bitter cucumber, bitter gourd, bitter melon, peria
Malaysia:	Peria, peria pahit, peria katak, peria laut, periok	Thailand:	Mara, mara khee nok
		Vietnam:	Muop dang, kho qua, muop mu, luong qua

Description of the plant

Annual climber, much branched, 5-angled and grooved; tendrils to 20 cm long unbranched; leaves simple, alternate, 2.5 to 10 cm in diameter, cordate at the base, 5-7 lobed. Inflorescence

in axillary, flowers unisexual, solitary, yellow. Fruit berry, oblong ellipsoid, green when young, bright orange, when matured. Seeds obovoid, compressed. (3-8)

Part used Fresh or dried fruit

Crude drug Dried fruit

Preparation of crude drug

Collect the fruits before ripe, wash thoroughly, remove seeds, chop into thin slices cross-section, and sun-dry. Keep in a well-closed container and store in a dry and cool place.

Characteristic of crude drug

Sliced pieces, 2-8 cm in diameter, externally dark green or brown, internally light yellowish with part of seeds. Odour characteristic; taste, bitter.

Indication

Loss of appetite (Anorexia)

Preparations & Dosage

1. Chop a fresh fruit into small pieces to make a curry (9) (Myanmar); or
2. Slice the fruit, soak in salt water and wash or blanch in hot water. Eat as ulam (salad) (10) (Indonesia, Malaysia, Vietnam); or
3. Cut the fruit in half and blanch in hot water. Eat with Thai chilli paste. (11) (Thailand); or
4. Grind a dried fruit into powder. Take orally 1 pinch of powder once a day. (9) (Myanmar)

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Moringa oleifera



Scientific Name	<i>Moringa oleifera</i> Lam.		
Synonyms	<i>Guilandina moringa</i> L., <i>Hyperanthera moringa</i> (L.) Vahl, <i>Moringa moringa</i> (L.) Millsp., <i>M. pterygosperma</i> Gaertn., (1,2)		
Family	Moringaceae (2)		
Common Names	Ben oil tree, benzolive-tree, drumstick tree, horse-radish tree (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Moringa, kacang kelur	Myanmar:	Dant-da-lun,
Cambodia:	Mrum		dant-tha-lun
Indonesia:	Kelor, kelintang	Philippines:	Malunggay, malungal,
Lao PDR:	Phak ee houm		arungay, dool, marungay
Malaysia:	Kacang kelo, merunggai,	Singapore:	Horseradish tree
	ramungai, lembungai,	Thailand:	Ma rum
	pemanggai	Vietnam:	Chum ngay

Description of the plant

Tree, up to 10 m high. Leaves tripinnate, 30-60 cm long; leaflets many, opposite pairs. Leaflet 2.5 cm long, 1.5 cm wide. Inflorescence panicle. Flowers many, creamy-white, fragrant, hermaphroditic. Fruits pods, long narrow, 40-60 cm long. Seeds many, round or triangular-shaped. kernels, surrounded by lightly wooded shells with papery wings. (3-8)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indication

Insufficient lactation

Preparations & Dosage

1. Prepare a poultice of fresh leaves. Apply on the engorged breast to stimulate lactation. (9,10) (Malaysia); or
2. Cook the fresh leaves with garlic, ginger, cumin powder, turmeric powder, and fenugreek seeds. Eat once or twice a week during pregnancy and more often during the last trimester. (6) (Malaysia); or
3. Cook the fresh leaves as soup, with or without roasted fish added. Eat as food for promoting lactation. (4,12) (Myanmar, Thailand)

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Musa hybrids



Scientific Name

Musa hybrids (e.g. *Musa* ABB “Kluai nam wa”)

[All edible bananas and plantains are hybrid forms of two native *Musa*, *M. acuminata* (A) and *M. balbisiana* (B). The scientific names of this hybrid group are assigned according to the combinations of their parent genomes, following by vernacular names in quotation marks.]

Synonyms

Musa dacca Horan., *M. x sapientum* L., *M. x paradisiaca* L., *M. x paradisiaca* subsp. *sapientum* (L.) Kuntze, *M. x paradisiaca* var. *dacca* (Horan.) Baker ex K. Schum. (1,2)

Family

Musaceae (2)

Common Names

Banana, plantain (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	Pisang	Myanmar:	Nget pyaw
Cambodia:	Chek	Philippines:	Saging
Indonesia:	Pisang	Singapore:	Banana
Lao PDR:	Kwayz khauz	Thailand:	Kluai, klaai
Malaysia:	Pisang	Vietnam:	Chuoi

Description of the plant

Musa acuminata (3,4)

Pseudostems moderately blotched. Inflorescence terminal pedicels rather long; bracts of staminate flowers lanceolate to ovate, apex acute to broadly acute, abaxial surface purple, adaxial surface reddish purple or crimson. Staminate flowers white, cream, or pink. Pistillate flowers stigmas usually yellow.

Musa balbisiana (3,4)

Pseudostems palely blotched or absent; margins of the adaxial groove of the petiole incurved and not winged; bracts of staminate flowers ovate, obtuse, with the outer surface brownish

purple and the inner surface uniformly bright crimson; apex plane when bract spreads. Flowers often tinged with pink; free tepal of the staminate flower plane, ovules 4 per locule, lined in irregular rows.

Part used Mature unripe fruit

Crude drug Fine powder of dried mature unripe fruit

Preparation of crude drug

Collect bunch of fruits before ripen, further cut into individual fruits, wash thoroughly, cut into small pieces, and sun-dry or heat-dry (40°-60°C) until completely dried. Grind into fine powder. Keep in an air-tight container and store in a dry place. (5)

Characteristic of crude drug

White to greyish fine, free-flowing powder. Odour, characteristic; taste, astringent and sweet aftertaste. (6)

Indication

Peptic ulcers (Duodenal and stomach ulcers)

Preparations & Dosage

1. Take 1 teaspoon (2-3 g) of powder orally, with water or milk, 3-4 times a day, before meals and at bedtime (5,7) (Myanmar, Thailand); or
2. Prepare an infusion of 1 teaspoon (2-3 g) of powder. Drink the infusion, 3-4 times a day, before meals and at bedtime (7) (Thailand); or
3. Prepare a mixture of 1 teaspoon (2-3 g) of powder and 1 tablespoon of honey. Drink the mixture, 3-4 times a day, before meals and at bedtime (7) (Thailand); or
4. Prepare a pill of 1 teaspoon (2-3 g) of powder, moulded with honey. Take 1 pill each time, 3-4 times a day, before meals and at bedtime. (7) (Thailand)

Note In Indonesia, it is suggested that eating 3 ripe fruits in the morning may prevent peptic ulcer and heart disease. (Indonesia)

Contra-indication

None reported

Warnings & Precautions

1. It should not be used in persons suffering from constipation. (7)
2. Consecutive use may cause flatulence. (7)

Side effect

It may cause flatulence which could be relieved by ginger drink. (7)

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Myristica fragrans



Scientific Name	<i>Myristica fragrans</i> Houtt.		
Synonyms	<i>Myristica aromatica</i> Lam., <i>M. moschata</i> Thunb., <i>M. officinalis</i> Mart. (1), <i>M. officinalis</i> L.f. (1,2)		
Family	Myristicaceae (2)		
Common Names	Nutmeg tree, mace tree (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Buah pala	Myanmar:	Zar deik pho pin
Cambodia:	Lav hav	Philippines:	-
Indonesia:	Pala, polo	Singapore:	Nutmeg, pokok pala
Lao PDR:	Chan thet, chan Van	Thailand:	Chan thet
Malaysia:	Pala, buah pala, bunga pala, pala laki-laki	Vietnam:	Nhuc dau khau, nhuc qua

Description of the plant

Tree, up to 20 m high, mostly unisexual. Leaves simple, alternate. Inflorescence axillary, male inflorescence many flowered, female 1-3 flowered, flowers aromatic, three-lobed pale-yellow perianth. Fruits oval-shaped, 5-8 cm long, splits into two halves, revealing reddish aril. (3-8)

Part used Dried nutmeg seed

Crude drugs Dried nutmeg seed, nutmeg oil

Preparation of crude drugs

Nutmeg seed Collect the nutmeg seed from the fruit, remove the mace (the aril of the nutmeg seed shell) and eliminate the foreign matter, wash thoroughly, and sun-dry. Keep in a well-closed container and store in a dry place. (9)

Nutmeg oil Prepare a steam distillation of nutmeg seed. (10,11)

Characteristic of crude drugs

Nutmeg seed Ovoid or ellipsoidal, 2-3 cm long, 1.5-2.5 cm in diameter. Externally grey or greyish-yellow, covered with white powder. All over the seed occurring indistinct longitudinal furrows and irregular reticulate wrinkles. Texture, hard; fracture showing marble-like striations, mixed with brown yellow. Odour, strongly aromatic; taste, pungent. (12)

Nutmeg oil Thin, colourless or pale yellowish. Oduor, strongly aromatic; taste, pungent. It becomes darker and thicker by age and exposure to the air. (13)

Indication

Muscle pain (Muscle ache, muscle soreness)

Preparations & Dosage

1. Rub the nutmeg oil on the affected area (9) (Indonesia, Malaysia); or
2. Prepare a slurry of dried nutmeg and a little water. Apply as a poultice, twice a day, for 1 week. (14) (Myanmar)

Contra-indication

None reported

Warning & Precaution

Persons allergic or hypersensitive to nutmeg should avoid using this herb. (15)

Side effect

Topical application of nutmeg oil may cause allergic dermatitis. (15,16)

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Nelumbo nucifera



Scientific Name	<i>Nelumbo nucifera</i> Gaertn.		
Synonyms	<i>Nelumbo caspica</i> Eichw., <i>N. komarovii</i> Grossh., <i>N. speciosa</i> Willd. (1,2)		
Family	Nelumbonaceae (2)		
Common Names	East Indian lotus, lotus, oriental lotus, sacred lotus (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Bunga teratai	Myanmar:	Padon ma kya
Cambodia:	Chhouk	Philippines:	Baino, lingaling, sukau, sau
Indonesia:	Teratai	Singapore:	Sacred lotus
Lao PDR:	Bua luang	Thailand:	Bua luang
Malaysia:	Teratai, telipok, seroja, bunga padam, padema	Vietnam:	Sen

Description of the plant

Perennial aquatic herb up to 1 m high. Rootstock cylindrical, horizontally creeping, jointed, measure up to 10 m long, white to light brown, fleshy, mucilaginous and slightly fibrous. Leaves simple, large, rounded, peltate, 50-90 cm wide. Flowers solitary, pink, red, or white, 15-25 cm in diameter; petal many, 7-15 cm long. Fruits torus spongy, the top flat with many uniovulate carpels. Seeds slightly elongated spherical, smooth. (3-6)

Parts used Fresh or dried leaf, dried stamen

Crude drugs Dried leaf, dried stamen

Preparation of crude drugs

Leaf Collect the leaves, sun-dry to remove most of water, remove from the petioles, fold to

semicircular or plicate, and sun-dry again. Store in a well-ventilated and dry place. (7)

Stamen Collect the stamen during flowering period, sun-dry under the cover of paper, or dry in the shade. Keep in a well-closed container and store in a dry place. (7)

Characteristic of crude drugs

Leaf Semicircular or plicate, sub-rounded when spread, 20-50 cm in diameter, margin entire or slightly sinuous. Upper surface dark green or yellowish-green, relatively smooth, with 21-22 thick veins, radiating from the center to the border, with convex remains of petiole in the center. Texture fragile, easily broken. Odour, slightly aromatic; taste, slightly bitter. (7)

Stamen Linear-oblong. Anthers twisted, longitudinally split, 1.2-1.5 cm long, about 0.1 cm in diameter, pale yellow or brownish-yellow. Filaments slender, slightly curved, 1.5-1.8 cm long, pale purple. Odour, slightly aromatic; taste, astringent. (7-9)

Indication

Insomnia (Sleeplessness)

Preparations & Dosage

1. Prepare a decoction of 1 handful (3 g) of dried sliced leaves in 4 glasses of water. Drink 1 glass, once a day, before bedtime (6) (Lao PDR, Vietnam); or
2. Grind the dried stamen into powder and prepare the pills. Take orally 1½-2 teaspoons, once a day. (10,11) (Myanmar); or
3. Prepare an infusion of ½ - 1 teaspoon (2-5 g) of dried stamen in 1 cup of hot water. Drink the infusion, once a day, before bedtime. (Vietnam)

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Orthosiphon aristatus



Scientific Name	<i>Orthosiphon aristatus</i> (Blume) Miq.		
Synonyms	<i>Clerodendrum spicatum</i> Thunb., <i>C. spicatus</i> (Thunb.) C. Y. Wu ex H. W. Li, <i>Ocimum aristatum</i> Blume, <i>Orthosiphon stamineus</i> Benth. (1)		
Family	Lamiaceae (Labiatae) (1)		
Common Names	Cat's whiskers, Java tea, whiskers plant (1)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Misai kucing	Myanmar:	Tha gya ma gike
Cambodia:	Pouk moat chhma	Philippines:	Balbas pusa, Kabling gubat, Kabling parang
Indonesia:	Kumis kucing, Java teh	Singapore:	Cat's whiskers
Lao PDR:	Nha nuad meo	Thailand:	Ya nuat maeo
Malaysia:	Misai kucing, kumis kucing, ruku hutan, remujung	Vietnam:	Rau meo, rau meo xoan

Description of the plant

Perennial herb, to 1 m high. Stem erect, rigid, quadrangular, usually tinged violet-brown, glabrous or sparsely hairy, less-branched. Leaves opposite, 4-6 cm long, 2.5-4 cm wide, ovate, base rounded, apex acute, coarsely toothed, nerves slightly prominent beneath. Inflorescence raceme, 6-10 whorls, 8-10 cm long. Flowers white or purplish, 6 in each whorl. Fruits oblong-ovoid brownish nutlet, 1.5-2 mm long. (2-8)

Parts used Fresh or dried leaves, fresh or dried aerial part

Crude drugs Dried leaves, dried aerial part

Preparation of crude drugs

Collect the leaves and the aerial parts (the stem tips) of the plant shortly before flowering period, cut into small pieces, wash thoroughly, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a cool and dry place. (2,3)

Characteristic of crude drugs

A mixture of entire and broken, crisp, mainly dark green ovate or ovate-lanceolate leaves and

quadrangulately stems with a deep longitudinal groove down two opposite sides. Odour, slightly aromatic; taste, somewhat bitter and salty, later astringent. (2)

Indication

Urinary tract disorders (Dysuria, lower urinary tract infection, urolithiasis)

Preparations & Dosage

1. Prepare an infusion of 1 pinch (5 g) of dried leaves in 1 glass of hot water. Drink the infusion after cooling it down, 3 times a day after meals. (Lao PDR); or
2. Put 2-3 g of dried ground leaves and stem tips in the tea bag and prepare an infusion in 1 cup of boiling water. Drink 1 cup, 2-3 times a day. (9) (Thailand); or
3. Prepare a decoction of 2 handfuls (30-40 g) of dried aerial parts in 4 glasses of water. Drink 1 glass, twice a day, before meals, for 8 consecutive days. If problem still exists, stop taking this preparation for 2 days and then retake this preparation afterwards. (3) (Vietnam); or
4. Prepare a decoction of 1 pinch (5 g) of dried young tips in 3 glasses of water. Drink 1 glass, 3 times a day, before meals. (10) (Lao PDR, Thailand); or
5. Prepare a decoction of 1 handful (15 g) of fresh leaves or 1-3 pinches (5-12 g) of dried leaves or aerial parts in 2 glasses of water. Drink the decoction, once a day. (11) (Indonesia, Malaysia, Vietnam); or
6. Prepare a decoction of 1 handful of fresh aerial parts in 3 glasses of water. Drink 1 glass of the decoction, 3 times a day. (12) (Cambodia); or
7. Prepare a decoction of the whole plant, with or without Javanese ginger (*Curcuma zanthorrhiza* Roxb.) added. Drink the decoction as needed. (13) (Malaysia)

Contra-indication

The use of Java tea as “irrigation therapy” is contra-indicated in cases of oedema due to limited heart or kidney function. (14)

Warnings & Precautions

1. Persons with history of heart or renal failure and high blood pressure should not use this herb. (9,15)
2. It should be used with caution in diabetic persons as it may potentiate blood sugar-lowering effect of oral hypoglycemic agent and insulin. (15)

Side effect

None reported

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Parkia timoriana



Scientific Name	<i>Parkia timoriana</i> (DC.) Merr.		
Synonyms	<i>Inga timoriana</i> DC., <i>Parkia calcarata</i> Lecomte, <i>P. grandis</i> Hassk., <i>P. roxburghii</i> G. Don, (1)		
Family	Fabaceae (Leguminosae-Mimosaceae) (1)		
Common Name	Tree bean (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	-
Cambodia:	Ro yong	Philippines:	Kupang, amarang, bagoen, balaiwak
Indonesia:	Kedawang	Singapore:	Petai kerayung
Lao PDR:	-	Thailand:	Riang, ka riang
Malaysia:	Kedaung, kedawang, kadaong, gedayong, gedayang	Vietnam:	-

Description of the plant

Tree, up to 30 m high. Leaves bipinnate; leaflets 20-30 or more, narrow, 50-60 pairs. Inflorescence head, pendunculate, about 45 cm long; flowers several. Fruits pod, long, flattened legume to 36 cm long. Seeds 21, hard, black, around 2 cm long. (3-5)

Part used Dried seed

Crude drug Dried seed

Preparation of crude drug

Collect the seeds from the mature pods, wash thoroughly, spread on the sieve, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a cool and dry place.

Characteristic of crude drug

Ovoid, thick, brownish black, smooth texture.

Indication

Nausea and vomiting

Preparation & Dosage

Prepare an infusion of 3 ground seeds in 1 cup of hot water and add salt as needed. Drink the infusion at once. (Indonesia)

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Passiflora foetida



Scientific Name *Passiflora foetida* L.

Synonyms *Passiflora foetida* var. *arizonica* Killip, *P. foetida* var. *hastata* (Bertol.) Mast., *P. foetida* var. *hibiscifolia* (Lam.) Killip, *P. foetida* var. *hispida* (DC. ex Planch. & Triana) Killip ex Gleason, *P. hastata* Bertol., *P. hibiscifolia* Lam., *P. hispida* DC. ex Triana & Planch. (1)

Family Passifloraceae (1)

Common Name Stinking passion herb (1)

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	Taw suka
Cambodia:	Vor savmavprey	Philippines:	Pasionariang-mabaho, pasyonaryang-mabaho, prutas-baguio
Indonesia:	Rambusa, permot, nyomlang, ceplukan blungsung	Singapore:	Stinking passion flower
Lao PDR:	Phak buang, phak ham moi, phak ham hang	Thailand:	Ya rok chang, kra pong thong, kruea khon ta chang, pha khirieu hor thong
Malaysia:	Timun dendang, timin padang, letup-letup, pokok lang bulu, leletup	Vietnam:	Lac tien, day nhan long, day luoi, day bau duong

Description of the plant

Perennial climber, tendrillate. Stem cylindrical, hollow, clothed with rough hairs. Leaves simple, alternate, 3-lobed, the middle large, base cordate, apex acuminate, margins wavy with ciliate silky hairs, nerves palmate, densely pubescent on both sides. Flowers solitary in the leaf-axil, bisexual; involucre of 3 bracts; deeply divided into numerous filiform segments; calyx green, corolla white with a pale violet center; coronal violet; stamens 5, ovary and stigmatis, anthers

yellow; ovary superior, 1-celled. Seeds many, light brown to black, elliptic, 3-4 mm. (2-7)

Part used Dried aerial flowering part

Crude drug Dried aerial flowering part

Preparation of crude drug

Collect the aerial part of the plants, with stem, leaves and flowers, chop into small pieces, wash thoroughly, sun-dry or heat-dry (40°-60°C), and grind into fine powder. Keep in a well-closed container, protected from light and store in a dry place. (8)

Characteristic of crude drug

Stem segments hollowed, about 5 cm long, bearing tendrils and leaves, some with flowers and fruits. Stems and leaves densely pubescent. Leaves green or pale brownish yellow, broadly 3-lobed with acuminate apex and cordate base. Tendrils occurring in the axils of the leaves. (8)

Indication

Insomnia (Sleeplessness)

Preparation & Dosage

Prepare a decoction of 20-40 g of dried aerial parts (or siro, medicine wine with equivalent amount). Drink the decoction before bedtime. (7,8) (Vietnam)

Note It can be used under other forms, e.g. liquid extract and alcohol extract with the same dose of the above-mentioned preparation. (Vietnam)

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Phyllanthus emblica



Scientific Name	<i>Phyllanthus emblica</i> L.		
Synonyms	<i>Emblica officinalis</i> Gaertn., <i>Mirobalanus embilica</i> Burm. (1,2)		
Family	Phyllanthaceae (Euphorbiaceae) (2)		
Common Names	Emblic, emblic myrobalan, Indian gooseberry (2)		

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	Zibyu, hsee phyu
Cambodia:	Kantuotprey	Philippines:	-
Indonesia:	Kemlaka, mloko	Singapore:	-
Lao PDR:	Mak kham pom	Thailand:	Ma kham pom, kam thuat, kan-tot
Malaysia:	Melaka, malaka, kayu laka, laka-laka, toalang	Vietnam:	Me rung, me man, chum ruot nui, mac kham

Description of the plant

Deciduous tree, branches spreading. Leaves closely set along the branchlets, equal, symmetrically, like the leaflets of pinnate leaf, light green, glabrous, narrowly linear, sub-sessile. Inflorescence raceme in axillary fascicles on branchlets; flowers yellow or greenish yellow. Fruits flesh, globose with obscure lobed, pale yellow when ripe. (3-7)

Part used Fresh or dried fruit

Crude drug Dried fruit

Preparation of crude drug

Collect the fruits, remove the foreign matter, wash thoroughly, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry and cool place. (8)

Characteristic of crude drug

Spheroidal or flattened-spheroidal, 1.2-2 cm in diameter. Externally brown to dark green, with pale yellow granular prominences, wrinkles and 6 indistinct ribs. Texture hard and fragile. Endocarp yellowish-white, hard kernel-like, showing 6 indistinct ribs on the surface and several vascular bundles at the upper part of dorsal suture, cracking to 6 valves after dried. Seeds 6, subtriquetrous, brown. Odour, slight; taste, sour, astringent and then sweet. (8)

Indication

Cough

Preparations & Dosage

1. Chew 1 unripe fresh fruit each time, 3 times a day or many times as needed (9-11) (Lao PDR, Myanmar, Vietnam); or
2. Mix 2-3 pounded fresh fruits with a little salt added. Take orally, 3-4 times a day. (12) (Indonesia, Thailand); or
3. Grind the dried fruit into powder. Take orally half a teaspoon (2 g) of powder, 3 times a day. (9,10) (Myanmar)

Note In Malaysia, fermented liquor from the fruit can be used for relieving cough as well. (13) (Malaysia)

Contra-indication

None reported

Warnings & Precautions

1. Persons allergic or hypersensitive to emblic, its constituents, or members of the *Phyllanthus* family, e.g. *Phyllanthus urinaria* L., *Phyllanthus myrtifolius* (Wight) Müll.Arg., etc. should avoid using this herb. (14)
2. It should be used with caution in persons with iron deficiency or hypoglycemia. (14)
3. If you have or develop abdominal pain, nausea, fever, or vomiting while using emblic, consult a health care practitioner. (15)

Side effect

It may cause laxative effect, discontinue use if occurred. (15)

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Piper betle



Scientific Name	<i>Piper betle</i> L.		
Synonyms	<i>Artanthe hexagyna</i> Miq., <i>Betela mastica</i> Raf., <i>Chavica densa</i> Miq., <i>Cubeba seriboa</i> Miq., <i>Piper betel</i> Blanco., <i>Piperi betlum</i> (L.) St.-Lag. (1)		
Family	Piperaceae (2)		
Common Names	Betel, betel pepper, betel vine (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Sirih	Myanmar:	Kun ywet, kun
Cambodia:	Mlou	Philippines:	Ikmo, buyo, itmo, kanisi, mamin
Indonesia:	Suruh, sirih	Singapore:	Betel-leaf
Lao PDR:	Phou kheo mak	Thailand:	Phlu
Malaysia:	Sireh, sireh melayu, sireh china, sireh hudang, sireh carang	Vietnam:	Trau khong

Description of the plant

Perennial herb, slender creeper with adventitious roots. Stem stout, glabrous, sulcate, thickened at the nodes. Leaves simple, alternate, broadly ovate; base cordate; apex shortly acuminate, glabrous, shining green on both sides. Inflorescence pendulous, spike, axillary. Fruit coalescing, fully embedded in the pulp, concrescent with rachis. Seeds smooth, oblong to globose-obovoid, 2.25 - 2.6 mm long, about 2 mm in diameter. (3-10)

Part used Fresh leaf

Crude drug Not described since only fresh part is used.

Indications

1. Toothache
2. Skin allergies (Skin rash, hive, insect bites)

Preparations & Dosage

For Toothache

1. Chew 1 fresh leaf and bite it on the affected tooth for 1-2 minutes (11) (Almost AMS); or
2. Prepare the squeezed juice of fresh leaves. Apply the juice on the affected tooth (8) (Myanmar);
or
3. Prepare a decoction of 2-3 fresh leaves in 1 glass of water, with or without half a teaspoon of salt added, and filter through a cheesecloth or a strainer. Apply the filtrate as a gargle, especially before bedtime (12) (Indonesia, Malaysia)

Note In ASEAN countries, betel leaf is often taken with small pieces of areca nut and lime paste. It helps strengthen the tooth. In addition, chewing betel leaves early in the morning can also remove the foulness of the mouth, sweeten the breath and improve the voice. (12,13)

For Skin allergies (Skin rash, hive, insect bites)

1. Prepare a poultice of fresh leaves. Apply on the affected area, 2-3 times a day. (12) (Indonesia, Lao PDR, Vietnam); or
2. Prepare a paste of 1-2 fresh leaves with a little of liquor. Apply on the affected area. (14) (Thailand)

Contra-indication

None reported

Warning & Precaution

The chewing of betel leaves can be addictive. (15)

Side effect

None reported

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Plantago major



Scientific Name	<i>Plantago major</i> L.	
Synonyms	<i>Plantago borysthenica</i> Wissjul., <i>P. dregeana</i> Decne., <i>P. latifolia</i> Salisb. (1)	
Family	Plantaginaceae (2)	
Common Names	Broad-leaved plantain, common plantain, greater plantain (2)	
Local/Vernacular Names in AMS		
Brunei Darussalam:	Ekor angin	Myanmar: Ah gyaw paung ta htaung,
Cambodia:	Slab chrava kork	say gyaw paung ta
Indonesia:	Daun sendok, ki urat	htaung, se kyaw gyi
Lao PDR:	Nha en yuet	Philippines: -
Malaysia:	Ekor anjing, daun sejumbok, ekor angin	Singapore: Common plantain
		Thailand: Phak kat nam, ya en yuet
		Vietnam: Ma de, bong ma de

Description of the plant

Perennial herb. Rootstock erect wholly, underground. Leaves radical forming a rosette; blade spoon-shaped, 5-12 cm long, 3.5-8 cm wide. Inflorescence spike, axillary, lax, longer than leaves; Flowers small. Fruits capsule, oblong-ovoid, 3.5-4 mm long, transversely, circularly opening. Seeds numerous brownish or dull black, slightly compressed. (3-7)

Parts used Fresh or dried aerial part, fresh or dried leaf

Crude drugs Dried aerial part, dried leaf

Preparation of crude drugs

Aerial part Collect the plants, remove the roots, wash thoroughly, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry and cool place. (3,5,8)

Leaf Collect the leaves in forthcoming flowering time or during flowering time, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry and cool place. (9)

Characteristic of crude drugs

Aerial part and leaf Shrunken, crumpled, ovate, spoon-shaped, 7-10 cm long, 5-7 cm wide, apex, obtuse, brownish green to greenish; margins, entire. Petioles 5-10 cm long, broadened at base. Rootstock in pieces and variable size. (9) Odour, slight; taste, slightly bitter. (10)

Indication

Urinary tract disorders (Dysuria, lower urinary tract infection, urolithiasis)

Preparations & Dosage

1. Chop the fresh aerial parts or fresh leaves in pieces and prepare a decoction of 2 handfuls (10-20 g) of herbal materials in 3-4 glasses of water. Take orally 1 glass of the decoction, 3-4 times a day. (3,11) (Cambodia, Malaysia, Indonesia); or
2. Prepare a decoction of 1-2 handfuls dried aerial parts or 16-20 g of dried aerial parts in 4 glasses of water. Take orally 1 glass of the decoction, 3-4 times a day. (7,12) (Lao PDR, Malaysia, Vietnam); or
3. Prepare a decoction of 1 handful of dried leaves, with a little sugar added, in water. Take orally 1 tablespoon of such mixture, twice a day. (8) (Myanmar); or
4. Prepare a decoction of 160 g of dried leaves in $\frac{2}{3}$ cup of water, and mix with 1 pinch (1 g) of ammonium salt when the water is decreased to 4 teaspoons. Take orally 1 tablespoon of such mixture, twice a day. (8) (Myanmar)

Contra-indication

None reported

Warning & Precaution

Pregnant women and breast-feeding mothers should not use this herb. (13)

Side effect

None reported

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Psidium guajava



Scientific Name *Psidium guajava* L.

Synonyms *Psidium cujavillus* Burm. f., *P. guajava* var. *cujavillum* (Burm.f.) Krug & Urb., *P. guajava* var. *guajava*, *P. guajava* var. *minor* Mattos, *P. pomiferum* L., *P. pumilum* Vahl, *P. pyriferum* L. (1,2)

Family Myrtaceae (2)

Common Names Common guava, guava (2)

Local/Vernacular Names in AMS

Brunei Darussalam:	Biabas	Myanmar:	Malaka
Cambodia:	Trapaek sruk	Philippines:	Bayabas, bayabo,
Indonesia:	Jambu biji, jambu klutuk		biabas, gaiyabat
Lao PDR:	Mak Si da, mak oi	Singapore:	Guava
Malaysia:	Jambu batu, jambu burung, jambu biji, jambu padang, jambu berasa	Thailand:	Farang
		Vietnam:	Oi

Description of the plant

Tree, up to 10 m high, much branched. Stems crooked, bark light to reddish brown, thin, smooth, continuously flaking. Leaves simple, opposite; stipules absent, petiole short, 3-10 mm long. Inflorescence, 1- to 3-flowered, axillary. Fruit ovoid or pear-shaped berry, 4-12 cm long, skin yellow when ripe, sometimes flushed with red. Seeds kidney-shaped or flattened seeds. (3-5)

Part used Fresh or dried leaf

Crude drug Dried leaf

Preparation of crude drug

Collect the leaves, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container, protected from light and store in a dry place.

Characteristic of crude drug

Oblong, slightly oval, apex acute, round or acuminate; base symmetrical, cordate; margin smooth

or dentate; venation reticulate; green. (6) Odour, when crushed characteristic; somewhat aromatic; taste, slightly bitter and astringent. (7)

Indication

Diarrhoea

Preparations & Dosage

1. Roast 5-7 fresh leaves to yellowish and then boil with 1 litre of water. Drink as needed until recovery (8,9) (Lao PDR, Thailand); or
2. Chew 3 leaves of fresh young leaves with 1 pinch of salt and then swallow it. Do this twice a day (10,11) (Indonesia, Malaysia, Thailand); or
3. Pound the fresh leaves and put into half a cup of boiling water. Squeeze the soaked leaves and drink the liquid all at once, twice a day (10) (Indonesia, Malaysia); or
4. Prepare a decoction of 5-10 fresh leaves or 1 handful of dried chopped leaves in 2 glasses of water. Drink the decoction, 2-3 times a day, until recovery (11-14) (Indonesia, Thailand); or
5. Prepare a decoction of 7 g of guava leaves and 5 g of sappan wood (*Caesalpinia sappan* L.) in 2 glasses of water. Drink the decoction, 3 times a day, after meals (12-14) (Indonesia); or
6. Prepare an infusion of 6-10 guava leaves in 2 glasses of boiling water. Drink 1 glass of the infusion as needed until recovery. (11) (Thailand); or
7. Grind 1 handful (3-6 g) of dried leaves into powder and prepare an infusion in half a glass of boiling water. Drink the infusion, 4-5 cups a day. (15,16) (Myanmar); or

Note In Thailand, a young fruit can also be used by sanding on a rough surface of the lid of earthenware with lime water and taken as needed. (9) (Thailand)

Contra-indication

None reported

Warnings & Precautions

1. It should not be used in non-viral diarrhoea.
2. It is not recommended to use for more than 3 consecutive days. (17)

Side effect

Excessive use may cause constipation. (14)

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Punica granatum



Scientific Name	<i>Punica granatum</i> L.		
Synonyms	<i>Punica florida</i> Salisb., <i>P. grandiflora</i> hort. ex Steud., <i>P. nana</i> L., <i>P. spinosa</i> Lam. (1)		
Family	Lythraceae (Punicaceae) (2)		
Common Name	Pomegranate (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Buah delima	Myanmar:	Tha le
Cambodia:	Trabaek	Philippines:	Granada, dalima
Indonesia:	Delima	Singapore:	-
Lao PDR:	Phi la	Thailand:	Thap thim
Malaysia:	Delima, dalima	Vietnam:	Luu

Description of the plant

Tree, 3-7 m high. Leaves oblong, 3-9 cm long, 2-3 cm wide, short petioles. Flowers solitary or in axillary clusters, scarlet in colour, 2-3 cm across with crumpled petals and hermaphroditic, different colours. Fruits subglobose, crowned by persistent calyx, possess a leathery red or yellowish-red rind. Seeds numerous, translucent, pinkish-red pulp. (3-6)

Part used Dried fruit rind

Crude drug Dried fruit rind

Preparation of crude drug

Collect the mature fruit, peel the rind, wash thoroughly, and dry in the shade for a few days. Keep in a well-closed container and store in a dry place. (7)

Characteristic of crude drug

Irregular, more or less concave fragments, some of which have the toothed, tubular calyx still enclosing the stamens and style. Easily breaking with a short corky fracture; externally rather rough, yellowish brown or reddish. Internally, more or less brown or yellow, and honey-combed

with depression left by the seeds. Odour, mild aromatic; taste, strong astringent. (8,9)

Indication

Intestinal parasite infestations (Roundworms and tapeworms)

Preparations & Dosage

To completely eradicate the intestinal parasites, it is recommended to take 2 tablespoons of castor oil as a laxative 2 hours after the last portion are taken to make sure that as many worms as possible are expelled before they recover as the following herbal preparations may not actually kill the parasites outright.

1. Prepare a mixture of $\frac{1}{4}$ portion of dried fruit rind and lime water. Take orally 1-2 tablespoons, once a day. (10) (Thailand); or
2. Prepare a decoction of 1 handful of dried chopped fruit rind in 2 glasses of water. Take orally the following dosage: for children, take 1-2 teaspoons of the filtrate, twice a day, before meals; for adults, take 1 tablespoon of the filtrate, every 4 hours, before meals. (11) (Thailand, Indonesia); or
3. Prepare a decoction of 5 g of dried fruit rind and 15 g of black turmeric rhizome (*Curcuma aeruginosa* Roxb.) in 2 glasses of water. Take orally, twice a day. (Indonesia); or
4. According to Malaysia's traditional knowledge, the dried fruit rind can be ground into powder, filled into capsule shells, if available, and taken orally. However, no dosage information is established. (7,12) (Malaysia)

Contra-indications

1. It is contra-indicated in persons allergic to pomegranate, any of its constituents, or any other members of the Punicaceae family. (13)
2. Persons allergic to peanut or hazelnut should avoid taking pomegranate as cross-reactivity was reported. (13)

Warnings & Precautions

1. Fruit rind should be used with caution in persons with diarrhoea, asthma, hypertension or hypotension, or hyperlipidemia. (13)
2. Persons with plant allergies seem to be at greater risk of developing allergic reactions to pomegranate. (13)

Side effect

Excessive dose may cause nausea, vomiting and dizziness. (4)

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Rhinacanthus nasutus



Scientific Name	<i>Rhinacanthus nasutus</i> (L.) Kurz		
Synonyms	<i>Dianthera paniculata</i> Lour., <i>Ecboliumdichotomum</i> (Blume) Kuntze, <i>Justicia nasuta</i> L., <i>Pseuderanthemum connatum</i> Lindau, <i>Rhinacanthus nasutus</i> (L.) Kuntze, <i>R. communis</i> Nees (1,2)		
Family	Acanthaceae (2)		
Common Names	Dainty spurs, snake jasmine, white crane flower (3,4)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Akar teriba	Myanmar:	Htaw la bat
Cambodia:	Chong ambok	Philippines:	Tagak-tagak, ibon-ibonan
Indonesia:	Akar temba, daun burung	Singapore:	-
Lao PDR:	Thong phan xang	Thailand:	Thong phan chang
Malaysia:	Chabai emas	Vietnam:	Kien co, bach hac, thuoc lac nho la, nam uy linh tien

Description of the plant

Small shrub, 1-2 m high. Stem erect, slender, branched. Leaves simple, oblong, 4-10 cm long, narrowed, pointed at both ends. Inflorescence spreading, leafy, hairy panicle, flower usually in clusters. Fruit capsule, club-shaped, 4 seeds. (4-8)

Parts used Fresh leaf, fresh flower, fresh root

Crude drug Not described since only fresh parts are used.

Indication

Fungal infection of the skin (Ringworm, tinea)

Preparations & Dosage

To completely eradicate ringworm or tinea, it is recommended to continue applying the following herbal preparations for at least 7 more days after the lesions appear healed.

1. Prepare a squeezed juice of fresh leaves and then prepare a mixture of leaves juice, and

- coconut oil. Apply on the affected area. (6). (Myanmar); or
2. Crush 1 handful of fresh leaves and then prepare a maceration in rubbing alcohol or rice whisky for 12 hours and filter. Apply the filtrate on the affected area, at least 3-4 times a day (9) (Lao PDR, Thailand); or
 3. Prepare a poultice of the pound leaves, benzoin and sulfur. Apply on the affected area. (10,11) (Malaysia); or
 4. Prepare a decoction of the fresh leaves or fresh roots. Apply the decoction on the affected areas. (12) (Philippines); or
 5. Prepare a mixture of young leaves and flowers, vinegar and lime juice. Apply by rubbing the mixture on the affected area. (10,11) (Malaysia)

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Sapindus rarak



Scientific Name	<i>Sapindus rarak</i> DC.		
Synonyms	<i>Dittelasma rarak</i> (DC.) Benth. & Hook. f., <i>D. rarak</i> Hook. f. ex Hiern (1,2)		
Family	Sapindaceae (1,2)		
Common Name	Soap nut tree (3)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	Kala kimmun, kinpadi,
Cambodia:	Sabou		magyi soo pauk, myauk
Indonesia:	-		min thwe khae
Lao PDR:	Kok mak sak, mak sa bu, mak hone	Philippines:	-
Malaysia:	Lerak, lerek	Singapore:	-
		Thailand:	Ma kham di khwai, masak, som poi thet
		Vietnam:	Bo hon

Note *Sapindus rarak* DC. is a native plant in the North of Thailand and Lao PDR. However, the commercially crude drugs available in Thailand are dried fruits of *Sapindus trifoliatus* L., imported from Indonesia, which can be used as a substitute for *Sapindus rarak* DC.

Description of the plant

Evergreen tree, up to 42 m high. Leaves pinnately compound, (7-) 9-13-jugate, up to 50 cm long, glabrous. Leaflets subopposite to alternate, lanceolate-ovate, upper half rounded-attenuate to cuneate; apex obtuse to tapering acute-acuminate, mucronate; midrib slightly raised above.

Inflorescences up to 35 cm long, densely fulvous- to ferruginous-tomentellous. Flowers zygomorphic, white. Sepals flat, hardly petaloid, outside densely appressed long fulvous-hairy. Petals 4, lanceolate-ovate to elliptic, 3 by 1-2 mm, short-clawed, outside densely appressed long fulvous-hairy, woolly along the margin, disc semi-annular, glabrous. Filaments densely long-hairy outside and along the margin, the apical part excepted, in male flowers 2.5 mm, in female ones 1.2-1.5 mm. fruits subglobular, 2 by 1.8 cm, carinate, reddish brown, glabrous. Seeds subglobular, 1.2-1.5 cm in diameter. (4,5)

Part used Dried mature fruit

Crude drug Dried mature fruit

Preparation of crude drug

Collect the fruit, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry place. Remove the seed inside when used.

Characteristic of crude drug

Drupe, dry, subglobular, small, leathery-skinned, crumpled, brown to blackish. Seed, black. Odour, characteristic; taste, bittersweet. (6)

Indication

Cradle cap

Preparations & Dosage

1. Pound 4-5 fruits and prepare a decoction of fruits in 1 glass of water. Apply on the scalp, twice a day until recovery (7,8) (Lao PDR, Thailand); or
2. Pound 2-3 fruits, mix them with water and stir until becoming foam. Use as a shampoo, once a day. (6) (Thailand)

Contra-indication

None reported

Warnings & Precautions

1. It should not be applied into the eyes. (6)
2. Internal use should be avoided since it may cause nausea, vomiting and diarrhoea due to the toxic saponins content. (6)

Side effect

None reported

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Sauropus androgynus



Scientific Name	<i>Sauropus androgynus</i> (L.) Merr.		
Synonyms	<i>Aalius androgenus</i> (L.) Kuntze, <i>A. sumatrana</i> (Miq.) Kuntze, <i>Clutia androgyna</i> L., <i>Sauropus albicans</i> Blume, <i>S. indicus</i> Wight, <i>S. garderianus</i> Wight, <i>S. sumatranus</i> Miq., <i>S. zeylanicus</i> Wight (1)		
Family	Phyllanthaceae (Euphorbiaceae) (2)		
Common Names	Katuk, sweet leaf brush (3)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Cangkuk manis	Myanmar:	Ma shaw
Cambodia:	Ngub	Philippines:	Binahian, malunggay
Indonesia:	Asin-asin, babung, gerager, katuk	Singapore:	Sweet leaf bush
Lao PDR:	Phak wan baan	Thailand:	Phak wan, phak wan baan
Malaysia:	Cekur manis, cekup manis, tarok manis, asin-asin, cermela hutan	Vietnam:	Rau ngot

Description of the plant

Small shrub, 0.8-1.2 m high, much-branched. Stems slender, entirely glabrous. Leaves alternate, thin, elliptic-oblong or obovate, base obtuse, apex apiculate, dark green above, very pale beneath; petiole short; stipule minute triangular. Inflorescence axillary cyme, flower greenish-yellow. Fruits capsule, depressed globose with accrescent calyx, white. Seeds angular, black. (3-9)

Parts used Fresh leaf, fresh mature vine, fresh or dried root

Crude drug Dried root

Preparation of crude drug

Collect the plant, take only root, wash thoroughly, and sun-dry. Keep in a well-closed container and store in a dry place. (7)

Characteristic of crude drug

Root, as a whole or in pieces, of variable sizes.

Indications

1. Insufficient lactation
2. Fever

Preparations & Dosage

For Insufficient lactation

1. Prepare a sweet leaf soup. Eat as meals. (10) (Indonesia); or
2. Eat raw or cooked young shoot or leaves as salad. (3,5,6) (Malaysia, Philippines)

Note In Malaysia, the external use is applied by pounding the fresh leaves, prepared as a paste, and applying on the breast of nursing mothers to stimulate milk production.(11) (Malaysia)

For Fever

1. Prepare a decoction of 2 handfuls (30 g) of fresh root or mature vine in 4 glasses of water. Drink 1 glass of the decoction, 4 times a day, before meals and at bedtime. Stop taking when fever resolves, but no more than 3 days. (12) (Thailand)
2. Prepare a decoction of 100 g of dried roots in 8 glasses of water. Drink 1 glass of the decoction, 3 times a day, after meals (Lao PDR); or

Note In Malaysia, the decoction of roots is also used for fever but no dosage information is established. (13,14) (Malaysia)

Contra-indications

1. It is contra-indicated in persons allergic or sensitive to this plant. (14)
2. It is contra-indicated in persons with compromised respiratory function such as bronchial asthma, chronic obstructive airway diseases, and chronic smokers. (14)

Warning & Precaution

This plant should not be taken more than 50 g per day or consumed continuously for a long period of time. (14)

Side effects

1. Raw or fresh juice of this plant may lead to breathing difficulties. (14)
2. Latex of this plant can induce allergic reactions such as urticaria. (14)
3. The papaverine content in this plant can make it addictive and when consumed in large amounts. (14)
4. It may cause sedation, dizziness, diplopia, uncontrolled eye movements, nausea, vomiting, and weakness. (14)
5. Consumption of too much leaves may cause pains in the limbs. (14)

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Scoparia dulcis



Scientific Name	<i>Scoparia dulcis</i> L.		
Synonyms	<i>Ambulia micrantha</i> Raf., <i>Capraria dulcis</i> (L.) Kuntze, <i>Gratiola micrantha</i> Nutt., <i>Scoparia grandiflora</i> Nash, <i>S. nudicaulis</i> Chodat & Hassl., <i>S. procumbens</i> Jacq., <i>S. ternata</i> Forsk. (1)		
Family	Plantaginaceae (2)		
Common Names	Goat weed, scoparia weed, sweet broom, sweet broom weed, sweet broom wort (2-4)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Nini sopan tinggi, mimi sopan tinggi	Myanmar:	Dana thuka thagya bim
Cambodia:	Smav ey sey phsam srach	Philippines:	Mala-anis, sampalokan, saang-kabayo, lsisa, silhigon
Indonesia:	-	Singapore:	-
Lao PDR:	Sa em din, nha phien din yen	Thailand:	Krot nam, kratai cham yai, kancha pa, mafai deuan ha
Malaysia:	Teh makao, cha padang, pokok delis, bunga baik salam	Vietnam:	Cam thao dat

Description of the plant

Perennial erect herb, 0.3-1 m high, much branched, woody at the base. Stem cylindrical, glabrous, slightly angled. Leaves usually whorled in 3 or opposite, short-petioled, rhomboid or elliptic, base oblong, apex obtuse or obscurely acute, serrate. Flowers white. Fruits capsule small, subglobose. Seeds numerous, scrobiculate. (5-10)

Parts used Fresh leaf, dried whole plant

Crude drug Dried whole plant

Preparation of crude drug

Collect the plant, remove the foreign matters, wash thoroughly, and air-dry. Keep in a well-closed container and store in a cool and dry place. (9,11)

Characteristic of crude drug

A mixture of entire and broken, crisp, dark green rhomboid or elliptic leaves and cylindrical stems.

Indications

1. Herpes simplex (Cold sores, genital herpes) and herpes zoster (Shingles)
2. Cough
3. Fever

Preparations & Dosage

For Herpes simplex (Cold sores, genital herpes) and **herpes zoster** (Shingles)

Prepare a poultice of the fresh leaves. Apply on the affected area. (11) (Myanmar)

For Cough

Prepare an infusion of fresh whole plant and add some sugar to sweeten the infusion. Sip as often as needed. (12) (Malaysia)

For Fever

1. Prepare a decoction of 20-30 g of dried whole plants in 8 glasses of water. Drink the decoction as often as needed. (13) (Lao PDR); or
2. Prepare a decoction of 8-12 g of dried whole plants. Drink the decoction as often as needed. (9) (Vietnam)

Contra-indication

It is contra-indicated in pregnant women and breast-feeding mothers. (5)

Warning & Precaution

It should be used with caution in persons with diabetes and/or using insulin products. (14)

Side effect

It may cause an increase of blood pressure or heart rate. (14)

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Senna alata



Scientific Name	<i>Senna alata</i> (L.) Roxb.		
Synonyms	<i>Cassia alata</i> L., <i>C. bracteata</i> L.f., <i>C. herpetica</i> Jacq., <i>C. rumphiana</i> (DC.) Bojer, <i>Herpetica alata</i> (L.) Raf. (1)		
Family	Fabaceae (Leguminosae-Caesalpinaceae) (2)		
Common Names	Candle bush, candlestick senna, ringworm bush, ringworm shrub, ringworm senna, seven-golden-candlesticks (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Tamu sulok, paul, tarum, daun kurap, tarum suloh, gelenggang	Myanmar:	Thin baw mae zali, pwe mae zali, mae zali gyi
Cambodia:	Danghet	Philippines:	-
Indonesia:	Ketepeng cina	Singapore:	Ringworm bush, seven golden candlesticks
Lao PDR:	Ton khi lek ban, ton khi lek nhay	Thailand:	Chum het tet
Malaysia:	Gelenggang, lundanggan, daun kurap, gelenggang besar, gelenggang gajah	Vietnam:	Muong trau

Description of the plant

Perennial shrub, 1.5-3 m high, erect, branched shrub. Leaves pinnate, 40-60 cm long. Leaflets 16-28, oblong, 5-15 cm long, broad and rounded at the apex, small point at the tip. Leaflets gradually increase in size from the base towards the tip of the leaf. Inflorescences terminal and at the axils of the leaves, in simple or paniced racemes, 10-50 cm long. Flowers yellow, 4 cm in diameter, oblong; concave bracts 2.5-3 cm long. Pod rather straight, dark brown or nearly black, about 15 cm long and 1.5 cm wide. On both sides of the pods there is a wing which runs the length of the pod. Pod contains 50-60 flattened, triangular seeds. Fruit thick, flattened, margins

winged. Seeds numerous, more or less quadrangular or rhombiform, black. (3-8)

Parts used Fresh or dried leaflet, fresh flower

Crude drug Dried leaflet

Preparation of crude drug

Collect the leaves, wash thoroughly with water, cut into sections, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry place. (9,10)

Characteristic of crude drug

Entire or broken leaflets, greenish brown to brown, 5-15 cm long, 3-7 cm wide, oblong to obovate, minutely mucronate at the apex, base oblique, margin entire, pinnate reticulate venation, leathery. Odour, slightly aromatic; taste, slightly better. (11)

Indications

1. Constipation (Dry stool)
2. Fungal infection of the skin (Ringworm, tinea)

Preparations & Dosage

For Constipation (Dry stool)

1. Prepare a decoction of 1 handful or 12 dried leaflets, in 2 glass of water. Drink 1 glass of the decoction at bedtime. (12) (Thailand, Vietnam); or
2. Prepare a decoction of dried leaflets in water. Take orally 1 teaspoon of the decoction. (13) (Malaysia); or
3. Prepare a decoction of 1 pinch (2 g) of dried leaflets and 3 g of dried Coleus leaf (*Plectranthus scutellarioides* (L.) R.Br. or *Coleus atropurpureus* Benth.) in 2 cups of water. Drink the decoction once a day, before meals. (Indonesia); or
4. Prepare an infusion of 1-2 tea bags of powdered leaflets (3-6 g) in $\frac{1}{2}$ -1 glass of boiling water and brew for 10 minutes. Drink the infusion at bedtime. (12,14) (Thailand); or
5. Grind the dried leaflets into powder, add a little salt and stir well. Take orally about half a teaspoon of powder with water at bedtime. (9,10) (Myanmar); or
6. Mix powdered leaflets with honey and roll to make pills about the size of 1 little fingertip. Take 3 pills orally at bedtime. (12) (Thailand); or
7. Fry or roast 10 leaflets to yellowish colour, boil with 1 glass of water, add a little salt, and stir well. Drink 1 glass, once a day. (15) (Lao PDR); or
8. Eat the fresh young shoot leaves like salad (16,17) (Malaysia); or
9. Blanch 1 inflorescence or several young leaves. Eat with meals or as side vegetable with chilli paste. (12,18) (Malaysia, Thailand)

For Fungal infection of the skin (Ringworm, tinea)

To completely eradicate ringworm or tinea, it is recommended to continue applying the following herbal preparations for at least 7 more days after the lesions appear healed.

1. Prepare a paste of the equal quantities of fresh leaflets, garlic and a little of red lime paste. Apply the herbal paste on the ringworm of the skin, 3-4 times a day. For better result, scratch the skin with a piece of bamboo slice before applying the herbal paste in the first application. (12,18) (Malaysia, Thailand); or

2. Prepare a paste of 3-5 fresh leaflets with or without a small amount of salt added. Apply on the affected area, 2-3 times a day. For better result, scratch the skin with a piece of bamboo slice before applying the herbal paste in the first application. (12,13) (Lao PDR, Thailand); or
3. Prepare the paste of the fresh leaves and kerosene. Apply the paste on affected area. Repeat this treatment until recovery. (19) (Malaysia); or
4. Prepare the mixture of the squeezed juice of the fresh leaves, kerosene and slaked lime. Apply the mixture on affected area. Repeat this treatment until recovery. (18,20,21) (Malaysia); or
5. Roll the fresh leaflets. Rub onto the affected area. (17,22) (Malaysia); or
6. Prepare the squeezed juice of the fresh leaves (suitable amount). Apply the paste on the affected area, twice a day. (7) (Vietnam)

Note In Philippines, the candle bush leaflets are topically applied in a form of ointment for eradicating ringworm or tinea. (9) (Philippines)

Contra-indication

It is contra-indicated in children under the age of 12 and in persons with bowel obstruction, acute intestinal inflammation, ulcerative colitis, appendicitis, and abdominal pain of unknown origin. (4,14,23)

Warnings & Precautions

1. It should not be applied as a laxative for more than 7 consecutive days since it may cause laxative dependence. (4,14)
2. It should be used with caution in persons with inflammatory bowel disease. (14)

Side effects

1. It may cause mild abdominal discomfort such as colic, cramps and excessive dose may cause nephritis. (4,14,23)
2. Consecutive use may cause hypokalaemia or hypocalcemia. (14)

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Senna siamea



Scientific Name	<i>Senna siamea</i> (Lam.) H.S.Irwin & Barneby		
Synonyms	<i>Cassia arborea</i> Macfad., <i>C. florida</i> Vahl, <i>C. gigantea</i> DC., <i>C. sumatrana</i> Roxb., <i>C. siamea</i> Lam. <i>C. sumatrana</i> DC., <i>Senna sumatrana</i> (DC.) Roxb. (1,2)		
Family	Fabaceae (Leguminosae-Caesalpinaceae) (2)		
Common Names	Kassod tree, Siamese cassia, Siamese senna, Thai cassia (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	-	Myanmar:	Taw mezali, mezali
Cambodia:	Angkanh	Philippines:	Akasya
Indonesia:	Bujuk, dulang, johar	Singapore:	Kassod tree, Siamese cassia, jahar
Lao PDR:	Khi lek	Thailand:	Khi lek
Malaysia:	Jahor, jaha, sebusok, busok-busok, guah hitam	Vietnam:	Muong den

Description of the plant

Evergreen tree, up to 18 m high. Bark grey or light brown. Leaves alternate, pinnately compound, 23-33 cm long, with slender, green-reddish, tinged axis; leaflets 6-12 pairs on short stalks of 3 mm, rounded at both ends, with tiny bristle tip. Flower clusters upright at ends of twigs, many bright yellow flowers across, pentamerous. Fruits pod, numerous, long, narrow, dark brown. Seeds numerous, ovoid, shiny, dark brown, 8 mm long. (3-6)

Parts used Fresh or dried leaf, fresh flower, fresh shoot

Crude drug Dried leaf

Preparation of crude drug

Collect the leaves, wash thoroughly and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container and store in a dry place. (7)

Characteristic of crude drug

A mixture of entire and broken, brown leaflets and frequently rachillae of the compound leaf. Leaflets obovate-oblong, obtuse, emarginate or acute at the apex, base obtuse, margin entire. Odour, characteristic; taste, bitter. (7,8)

Indications

1. Constipation (Dry stool)
2. Loss of appetite (Anorexia)

Preparations & Dosage

For Constipation (Dry stool)

1. Grind the dried leaves into powder. Take orally half a teaspoon (2 g) of the powder at bedtime. (7) (Myanmar); or
2. Prepare a decoction of the dried leaves. Take half a teaspoon of the decoction before meals as needed. (7) (Myanmar); or
3. Prepare a decoction of 4-5 handfuls of the fresh leaves. Take the decoction at bedtime. (9) (Thailand); or
4. Boil young leaves or young flowers with sufficient water, strain the liquid off and re-boil the residue 2-3 times to get rid of bitterness. Use boiled leaves to make a curry, usually with roasted fish. Eat as food to help relieve constipation. (9) (Thailand)

For Loss of appetite (Anorexia)

Boil leaves, young shoots and flowers with sufficient water, simmer for 5-10 minutes, pour off the water, and re-boil. Strain, take only the boiled herbs and eat with chilli paste or make a curry. (10) (Thailand)

Contra-indications

1. It is contra-indicated in pregnant women, breast-feeding mothers and children. (4,5)
2. It is contra-indicated in persons with liver disease or persons on medication affecting liver function. (9)

Warnings & Precautions

1. Herbal laxatives from plants belonging to genus *Senna*, e.g. Siamese cassia, ringworm bush, etc. should not be used for more than 7 consecutive days since it may cause laxative dependence. (3)
2. Consecutive use of dried powdered leaves may induce hepatitis in some persons. (11,12)

Side effect

It may cause nausea, dyspepsia, abdominal pain, or diarrhoea. (3,4)

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Senna tora



Scientific Name	<i>Senna tora</i> (L.) Roxb.	
Synonym	<i>Cassia tora</i> L. (1,2)	
Family	Fabaceae (Leguminosae- Caesalpinaceae) (2)	
Common Names	Sickle senna, sicklepod, sicklepod senna (2)	

Local/Vernacular Names in AMS

Brunei Darussalam:	-	Myanmar:	Dan gywe
Cambodia:	Danghet chhneang	Philippines:	Katanda, baho-baho, balatong-aso, katandang-aso, monggo-monggohan
Indonesia:	Ketepeng sapi, ketepeng cilik	Singapore:	-
Lao PDR:	Nha lap mun	Thailand:	Chumhet Thai, chumhet lek, chumhet na
Malaysia:	Gelenggang kecil, gelenggang padang	Vietnam:	Thao quyet minh, muong lac

Description of the plant

Annual herb, 30-60 cm high. Stem stout, erect, glabrous. Leaves pinnate, 8-12 cm long; leaflets 3 pairs, obovate or oblong-obovate, 3-5 cm long, 2-3 cm wide, light green, fold inward or bend in the evening and open back during evening. Flowers yellow, short axillary peduncle. Fruits cylindrical pod, 10-15 cm long, 2-3 mm wide. Seeds numerous, small yellow. (3-8)

Parts used Fresh leaf, dried seed

Crude drug Dried seed

Preparation of crude drug

Collect mature pods, sun-dry or heat-dry (40°-60°C) and remove the seeds. Keep in a well-closed container and store in a dry place.

Characteristic of crude drug

Hard rhomboid-prismatic 3 to 6 mm long, 2 to 3 mm wide, with a beak at one end. Externally greenish-brown or yellowish-brown, smooth and glossy, with pale brown bands occurring on both sides. The hilum and micropyle are located on the beak side. Odour, foetid; taste, slightly bitter. (9)

Indications

1. Fungal infection of the skin (Ringworm, tinea)
2. Constipation (Dry stool)

Preparations & Dosage

For Fungal infection of the skin (Ringworm, tinea)

To completely eradicate ringworm or tinea, it is recommended to continue applying the following herbal preparations for at least 7 more days after the lesions appear healed.

1. Prepare a paste of 10-20 crushed fresh leaves with sufficient water or lime juice or alcohol. Rub over the affected area, 2-3 times a day. (3-5) (Lao PDR, Myanmar, Philippines)
2. Prepare a decoction of fresh leaves. Apply the decoction on the affected area, 2-3 times a day. (10) (Malaysia)

Note In Malaysia, the roasted seeds are also applied for eradicating ringworm or tinea but no detailed information is established. (10,11) (Malaysia)

For Constipation (Dry stool)

Roast 3-4 teaspoons (10-15 g) of dried seeds, grind into powder and pour the boiling water over. Drink the clear infusion at bedtime. (12) (Thailand)

Contra-indication

None reported

Warnings & Precautions

1. Laxative should not be taken for more than 7 consecutive days since it may cause laxative dependence. (9)
2. It should be used with caution in persons with inflammatory bowel disease. (9)

Side effects

1. It may cause mild abdominal discomfort such as colic, cramps and high doses may cause nephritis. (9)
2. Consecutive use may cause hypokalaemia or hypocalcemia. (9)

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Syzygium aromaticum



Scientific Name	<i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry		
Synonyms	<i>Caryophyllus aromaticus</i> L., <i>Eugenia aromatica</i> (L.) Baill., <i>E. caryophyllata</i> Thunb., <i>E. caryophyllus</i> (Spreng.) Bullock & S.G.Harrison (1,2)		
Family	Myrtaceae (2)		
Common Names	Clove, clove tree (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Cengkih	Myanmar:	Lay hnin
Cambodia:	Klam pou, khanphlou	Philippines:	-
Indonesia:	Cengkeh	Singapore:	Chengkeh, clove
Lao PDR:	Chanh chum, mak chone, dok chanh, ta pou home, sa make home	Thailand:	Kan phlu
Malaysia:	Cengkih, cingkeh	Vietnam:	Dinh huong

Description of the plant

Perennial shrub, 5-10 m high. Stem erect, branches numerous. Leaves elliptic, glabrous, 7-12 cm long, 3-6 cm wide, fragrant, pink, dark green when mature. Inflorescence terminal, 3-5 flowers on stalk, about 1.5-2 cm long, stamens numerous, white. Fruits drupe, oblong-ovoid, dark red when ripe, Seeds 1-2, oblong. (3-7)

Parts used Fresh or dried flower bud, fresh shoot, fresh leaf

Crude drugs Dried flower bud, clove powder, clove oil

Preparation of crude drugs

Flower bud Collect when turning from green to deep red but before blooming, remove foreign matter and flower stalks and sun-dry or heat-dry (40°-60°C). When completely dried, the colour of the flower buds will turn to dark brown. Keep in an air-tight container, protected from light and store in a dry and cool place. (8,9)

Clove powder Grind dried flower buds into powder. Keep in an air-tight container, protected from light and store in a dry and cool place. (8)

Clove oil Extract the oil from flower buds by steam distillation. Keep in a well-filled, air-tight container, preferably of glass, protected from light and store in a dry and cool place. (9)

Characteristic of crude drugs

Flower bud Bright reddish-brown to dark brown, 10-20 mm long, 2-3 mm in diameter, sub-cylindrical, slightly flattened, 4-sided hypanthium, an epigynous calyx of four thick divergent sepal. Odour, characteristic; taste, pungent, hot. (8,9)

Clove powder Dark brown in colour. Odour, pungently aromatic; taste hot. (8)

Clove oil Colourless to pale yellow, darker and thicker by age and exposure. Odour, resembling clove; taste, pungent, hot. (10)

Indications

1. Nausea and vomiting
2. Toothache

Preparations & Dosage

For Nausea and vomiting

1. Prepare a slurry of 1 g of powdered flower buds, sweetened by sugar. Take orally the slurry, 3 times a day (11-13) (Myanmar); or
2. Prepare a decoction of a few flower buds in 1 glass of water. Drink the filtrate as needed. (14) (Malaysia, Vietnam); or
3. Prepare a maceration of 40 g of powdered flower buds in 2 cups of ethanol (30-40%). Filter, press the herbal residue and mix the liquids obtained. Combine the filtrate and the pressed residue with sufficient solvent added. Allow the mixture to stand for 3 days and filter to obtain a clear liquid. Take orally 5-25 ml a day. (6) (Vietnam); or
4. Take 1-4 g of clove powder orally with water. (6) (Vietnam)

Note For internal use, the dosage recommended is 1-4 g per day.

For Toothache

1. Chew the flower bud and bite on the affected tooth (15) (Thailand); or

2. Chew the shoots and leaves and bite on the affected tooth (16) (Malaysia); or
3. Prepare a mixture of pounded cloves (dried flower buds) and alcohol or rice whisky. Apply the mixture onto the affected tooth (15) (Thailand); or
4. Dip the cotton bud in sufficient amount of clove oil until soaked. Apply the soaked cotton bud onto the affected tooth (11,12,15,17) (Indonesia, Malaysia, Myanmar, Thailand); or
5. Wrap the clove powder in cotton pad. Apply the cotton-wrapped flower bud or drip the clove oil onto the affected tooth (15) (Malaysia); or
6. Put the dry-fried and crushed cloves onto the affected tooth and cover it with a small piece of cotton wool (17) (Indonesia, Malaysia)
7. Grind a few flower buds, asam gelugor (*Garcinia atroviridis* Griff. ex T. Anderson), ginger, and pepper into powder and wrap all in gauze. Apply the medicated gauze onto the affected tooth (14) (Malaysia); or
8. Prepare a paste of few powdered flower buds of clove, asam gelugor (*Garcinia atroviridis* Griff. ex T. Anderson), star anise (*Illicium verum* Hook.f.), ginger and pepper. Apply the paste onto the affected tooth. (14) (Malaysia)

Contra-indication

It is contra-indicated in persons allergic to plants of the Myrtaceae family (e.g. clove, guava, eucalyptus, etc.) (18)

Warning & Precaution

Excessive dose may cause carcinogenesis, mutagenesis and impairment of fertility. (18)

Side effect

None reported

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Tamarindus indica



Scientific Name	<i>Tamarindus indica</i> L.		
Synonyms	<i>Tamarindus occidentalis</i> Gaertn., <i>T. officinalis</i> Hook., <i>T. umbrosa</i> Salisb. (1)		
Family	Fabaceae (Leguminosae-Caesalpinioideae) (2)		
Common Names	Indian tamarind, tamarind (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Asam java	Myanmar:	Ma kyee, ma gyi
Cambodia:	Ampil	Philippines:	Sampalok, sambagi, salomagi, tamarindo, sambag
Indonesia:	Asam, asam jawa, tambaring	Singapore:	Asam jawa tamarind
Lao PDR:	Kok mak kham	Thailand:	Ma kham, bak ham, som kham
Malaysia:	Asam jawa, asam, celagi	Vietnam:	Me

Description of the plant

Evergreen tree, up to 30 m high. Bark stem ark rough, fissured, and greyish-brown. Leaves alternate, compound; leaflets 10-18 pairs, opposite, narrowly oblong. Flowers pale yellow or

pinkish, lax spikes, about 2.5 cm wide. Fruits pod, indehiscent, subcylindrical. Seeds 3-10, approximately 1.6 cm long, irregularly shaped, testa hard, shiny, smooth. (3-8)

Parts used Fresh fruit pulp, fresh young leaves

Crude drug Not described since only fresh part is used.

Indications

1. Constipation (Dry stool)
2. Insufficient lactation
3. Cough

Preparations & Dosage

For Constipation (Dry stool)

1. Soak 1 kg of fruit pulp from ripe pods in 2 litres of water for 4 hours, decant the clear solution, boil until reduced to 1 litre, and add sufficient amount of sugar to make tamarind juice. Take 1-4 tablespoons, once a day at bedtime or early morning. (5,9) (Myanmar); or
2. Prepare tamarind juice from 10-20 pods (70-150 g) of tamarind with the addition of some salt. Drink as beverage. (10) (Thailand); or
3. Prepare a mixture of tamarind juice, Javanese ginger and brown sugar in 1 glass of water. Drink the mixture as needed. (11) (Malaysia); or
4. Take the pulps from 2-3 finger lengths of fresh pods, remove the seeds and mix with sugar as needed in 1 glass of hot water. Drink at once. (Indonesia); or
5. Use 10-20 pods (70-150 g) of tamarind. Eat the fruit pulp dipped in a little salt, followed by plenty of water. (10) (Thailand); or
6. Eat fruit pulp from 2-3 ripe pods. (12) (Philippines)

Note In Malaysia, seeds' coat and bark are also used for constipation but no dosage information is established. (13) (Malaysia)

For Insufficient lactation

Prepare a decoction of 1 handful of fresh young leaves in 2 glasses of water. Drink the decoction, twice a day. (Indonesia)

For Cough

1. Take the pulps from 2-3 thumb-sized pods, mix with a glass of water, add a small amount of salt (1 teaspoon) and stir thoroughly. Sip 1 teaspoon as needed. (Lao PDR); or
2. Suck a small piece of fruit pulp of tamarind dipped in a little salt (10) (Thailand); or
3. Sip tamarind juice with the addition of some salt or sugar. (10,14) (Malaysia, Thailand)

Contra-indication

None reported

Warnings & Precautions

1. It should be used with caution in persons taking non-steroidal anti-inflammatory drug (NSAID); particularly, aspirin and ibuprofen, as tamarind increases the absorption of NSAID and hence it may increase the risk of bleeding of digestive tract. (15-17)
2. For pregnant women and breast-feeding mothers, it is safe to take tamarind at the amount present in food, but larger amount for medicinal purposes should be avoided. (8)

Side effect

Excessive consumption may cause diarrhoea. (8)

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Tinospora crispa



Scientific Name	<i>Tinospora crispa</i> (L.) Hook. f. & Thomson		
Synonyms	<i>Menispermum crispum</i> L., <i>Tinospora mastersii</i> Diels., <i>T. thorelii</i> Gagnep., <i>T. rumphii</i> Boerl. (1,2)		
Family	Menispermaceae (2)		
Common Names	None known		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Ratnawali, akar nawali, aratnawali	Myanmar:	Hsin don ma new, hsin tha ma nwe
Cambodia:	Bandol pich	Philippines:	Makabuhay, makabuhai, panauan, paliaban, pangiauban
Indonesia:	Bratawali, butrowali	Singapore:	-
Lao PDR:	Kheua khao hor	Thailand:	Boraphet, chung ching, chettamun nam
Malaysia:	Akar putarwali, petawali, batang wali, akar seruntum	Vietnam:	Day ky ninh, day coc, day than thong

Description of the plant

Woody climber with tuberous roots. Young stems smooth, older ones very prominently tuberculate with exceedingly bitter, milky sap with long filiform aerial roots and leafy shoots. Leaves broadly ovate to orbicular, 7-14 cm long, 6-12 cm wide, spirally, palmately. When the leaves shed, the flower clusters begin to emerge. Flowers scented, unisexual. Fruit elliptic, up to 2 cm long, orange. (3-7)

Part used Fresh or dried mature stem

Crude drug Dried stem

Preparation of crude drug

Collect the mature stem, chop into small pieces, about 5-10 mm long and sun-dry or heat-dry

(40°-60°C). Prepare powdered form by grinding pieces of dried stem. Keep in a well-closed container and store in a dry place. (4)

Characteristic of crude drug

Cylindrical, transverse or oblique pieces. Externally earthy brown with lenticulate patches, finely striated longitudinally; internally creamy yellow showing radiating xylem. Odourless; taste, intensely bitter. (4)

Indication

Fever

Preparations & Dosage

1. Prepare a decoction of 5-10 cm long of mature fresh stem, chopped into small pieces, in 2-3 glasses of water. Drink half a glass of the decoction, twice a day (5,8,9) (Malaysia); or
2. Prepare a decoction of 45-50 cm long (30-40 g) of mature fresh stem, chopped into small pieces, in sufficient water. Drink the decoction, twice a day before meals (10,11) (Thailand); or
3. Prepare a decoction of 1 pinch of dried chopped stems in 2 glasses of water. Drink the decoction, 2-3 times a day (Indonesia); or
4. Prepare a mixture of the powdered dried stem of this plant and ginger powder in ratio 2:1. Take orally 1 tablespoon (15 g) of the mixed powder, twice a day. (12) (Myanmar)

Note In Malaysia, the fresh leaf, root and stem are also prepared as a tonic for relieving fever but no dosage information is established. (13,14) (Malaysia)

Contra-indication

It is contra-indicated in persons with elevated liver enzymes, in pregnant women, breast-feeding mothers, and children. (8,12,15)

Warning & Precaution

Consecutive use of this plant should be avoided as it may cause drug-induced hepatitis. (11,15)

Side effect

Consecutive use of this plant may cause hepatitis in some persons. (11,15)

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Zingiber montanum



Scientific Name	<i>Zingiber montanum</i> (J.König) Link ex A. Dietr.		
Synonyms	<i>Amomum cassumunar</i> (Roxb.) Donn, <i>A. montanum</i> J. Koenig, <i>Zingiber cassumunar</i> Roxb., <i>Z. purpureum</i> Roscoe (1,2)		
Family	Zingiberaceae (2)		
Common Name	Cassumunar ginger (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Banglai	Myanmar:	Gyin yaing, taw gyin
Cambodia:	-	Philippines:	-
Indonesia:	Bengal ginger, cassumar ginger, cassumunar ginger, broad- leaved ginger, zerumbet ginger	Singapore:	-
		Thailand:	Phlai
		Vietnam:	Gung tia, gung do, gung dai
Lao PDR:	Varn phay		
Malaysia:	Bongelai, bonglai, bolai kuning, bolai putih		

Description of the plant

Perennial herb, rhizome yellow. Pseudo stem up to 1.5 m high. Leaves simple, oblong-lanceolate, apex acute, base narrowing and clasping the stem by long sheaths. Inflorescence on a separate shoot without leaves, cylindrical spike grown from the rhizome. Flowers white or pale yellow. Fruits capsules, globose. (3-5)

Part used Fresh rhizome

Crude drug Not described since only fresh part is used.

Indication

Muscle pain (Muscle ache, muscle soreness)

Preparations & Dosage

1. Prepare a poultice of fresh rhizome without water added. Apply the poultice on the affected area (6) (Myanmar); or
2. Prepare a poultice of fresh rhizome with eucalyptus oil added as needed. Apply the poultice on the affected area (Indonesia); or
3. Separately crush fresh cassumunar ginger rhizome, turmeric rhizome and lemongrass into small pieces, about 2 mm in size. Mix the crushed herbs with slices of kaffir lime peel, tamarind leaves, soap nut acacia leaves, and sufficient amount of salt and camphor. Wrap the whole herbal mixture in a piece of cotton cloth and tightly tie with a cotton string to obtain a round herbal compress ball with a handle, called "Luk Prakob" in Thai. Steam Luk Prakob and apply as hot herbal compress on the affected area of the body. Apply hot herbal compress, 1-2 times a day. Keep the used Luk Prakob in a refrigerator to reuse 3-4 times before discarding. (7,8) (Thailand); or
4. Deep fry 2 portions of sliced fresh rhizomes in 1 portion of cooking vegetable oil. Add some menthol, camphor and borneo camphor. Apply the medicated oil to the affected area. (8) (Thailand); or
5. Boil 2 glasses of fresh rhizome juice with half a glass of sesame oil and allow to cool. Apply the medicated oil to the affected area, 2-3 times a day. (6) (Myanmar)

Contra-indication

None reported

Warning & Precaution

It should not be applied on the sensitive areas such as eye, eyelid, lip, or fresh wound. (9)

Side effect

None reported

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Zingiber officinale



Scientific Name	<i>Zingiber officinale</i> Roscoe		
Synonyms	<i>Amomum zingiber</i> L., <i>Curcuma longifolia</i> Wall. (1,2)		
Family	Zingiberaceae (2)		
Common Name	Ginger (2)		
Local/Vernacular Names in AMS			
Brunei Darussalam:	Halia	Myanmar:	Gyin, gyin tet, gyin sein
Cambodia:	Khnhey	Philippines:	Luya, agat, laya
Indonesia:	Jahe, halia	Singapore:	Common ginger
Lao PDR:	Khing	Thailand:	Khing
Malaysia:	Halia, halia pedas, alia, halia padi	Vietnam:	Gun, gung thuoc, sinh khuong

Description of the plant

Perennial herb, 30-100 cm high, rhizome horizontal, tuberous, much partite, greyish-yellow outside, pale yellow within. Leaves alternate, distichous, oblong-lanceolate, attenuate at the base, sharply pointed at the apex, 15-20 cm long, 2 cm wide, sub-sessile on glabrous sheath, dark green on both sides, slightly shining on the upper. Inflorescence spike, ovoid; scape up to about 20 cm high, growing from rhizome; clothed with numerous bracts; bracts imbricate. Fruits capsule. (3-8)

Part used Fresh or dried rhizome

Crude drugs Dried rhizome, dried sliced rhizome, ginger powder

Preparation of crude drugs

Rhizome Collect the rhizomes in winter, remove the fibrous roots and soil, wash thoroughly, and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container, protected from light, and store in a dry place. (9,10)

Sliced ginger rhizome Slice the fresh rhizomes first and sun-dry or heat-dry (40°-60°C). Keep in a well-closed container, protected from light, and store in a dry place. (9,10)

Ginger powder Grind the dried sliced ginger rhizome into powder. Keep in an air-tight container, preferably of glass, and store in a dry place. (11,12)

Characteristic of crude drugs

Rhizome Irregular in shapes, often branched, 3-7 cm long, 0.5-2 cm thick. Externally greyish-yellow or pale brown with longitudinal wrinkles. Texture compact, fracture greyish white or yellowish white, starchy, with distinct annular stria. Odour, aromatic; taste, pungent. (13-15)

Sliced ginger rhizome Irregular in shapes, cut longitudinally or obliquely with fingered branches. Externally greyish yellow to pale yellowish brown, with longitudinal wrinkles. Cut surface greyish white or greyish yellow, with longitudinal fibres. Texture compact, fracture fibrous. Odour, aromatic; taste, pungent. (15)

Ginger powder Yellowish white to yellowish brown, fine powder. Odour, aromatic; taste, pungent. (16)

Indications

1. Nausea and vomiting
2. Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)
3. Common cold

Preparations & Dosage

For Nausea and vomiting

1. Cut the fresh rhizome into pieces and roast it. Pound the roasted pieces of rhizome, squeeze the juice from the paste into a cup of hot coffee and let it stand for 5 minutes. Drink the mixture while still hot (17) (Malaysia); or
2. Prepare a decoction of 2-5 slices of fresh rhizome in half a glass of water. Drink the decoction, 3 times a day (4) (Cambodia); or
3. Prepare a paste of the fresh rhizome. Mix half a teaspoon (2 g) of paste with 1 litre of water. Drink the mixture 4-5 cups a day, after meals (18) (Myanmar); or
4. For postoperative nausea & vomiting: Take orally 1 teaspoon (1-2 g) of ginger powder 1 hour prior to surgery or 2-3 ginger capsules (each containing 500 mg of ginger powder) 1 hour before a gynecological laparoscopy (19) (Thailand); or
5. For motion sickness: Take orally 1 teaspoon (1-2 g) of ginger powder or prepare as an infusion in 1 cup of boiling water. For preventive purpose, take the same dose, 30 minutes to 1 hour prior to travelling (20,21) (Thailand); or
6. Put 1 tablespoon of dried rhizome powder in a cup, add hot water and a little palm sugar and stir gently. Drink 3 times a day. (22) (Indonesia); or
7. Prepare a decoction of 4-8 g of dried rhizome or powdered rhizome. Drink the decoction,

once a day. (7) (Vietnam)

Note In Malaysia, the external use is applied in a form of paste. The paste is prepared from the ginger rhizome, flower and fruit of nutmeg, jintan putih (*Cuminum cyminum* L.), 1 glass of coconut milk, and 1 teaspoon of eucalyptus oil, and applied on the stomach. (23) (Malaysia)

For Digestive disorders (Flatulence, feeling of fullness after a heavy meal, indigestion)

1. Prepare a decoction of slices of fresh or dried rhizome in sufficient water. Drink the decoction, 3 times a day (10,18,24) (Cambodia, Malaysia, Myanmar); or
2. Take orally 1 teaspoon (1-2 g) of ginger powder, 2-4 times a day (18,20,21) (Myanmar, Thailand); or
3. Put 1 tablespoon of dried rhizome powder in a cup, add hot water and a little palm sugar, and stir gently. Drink 3 times a day (22) (Indonesia); or
4. Prepare a decoction of 4-8 g of dried rhizome or powdered rhizome. Drink the decoction, once a day (7) (Vietnam); or
5. Use young rhizome. Eat fresh. (24) (Malaysia)

For Common cold

1. Roast 1 thumb-sized rhizome and then mash it. Prepare an infusion in a cup of hot water. Drink 3 times a day. (22) (Indonesia); or
2. Prepare a decoction of ginger rhizome with coriander. Drink the decoction, 3 times a day. (25) (Malaysia); or
3. Boil 3 thumb-sized ginger rhizomes with 3 finger lengths of lemon grass and some palm sugar with 3 cups of water until 1½ cups left. For adults, drink 1½ cups, 3 times a day; for children, drink ½ cup, 3 times a day. (22) (Indonesia, Malaysia)

Contra-indication

It is contra-indicated in persons with gallstones or peptic ulcer or in children under 5 years old. (10,22,26)

Warnings & Precautions

1. Excessive dose of ginger may cause gastric ulcer. (25)
2. Persons taking anticoagulants or antiplatelets or those with blood coagulation disorders should consult their physician prior to self-medication with ginger. (11)
3. Persons with gallstones should consult their physicians before using ginger preparations. (11,26)

Side effect

Ginger may cause abdominal discomfort, heartburn, and diarrhoea. (26,27)

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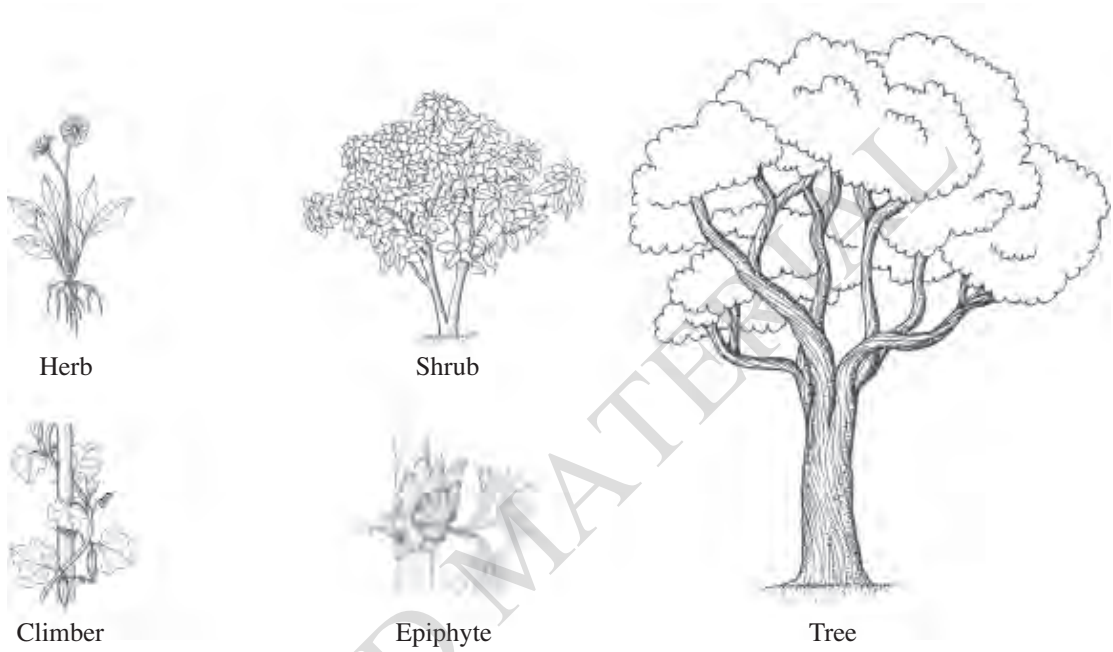
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Annex

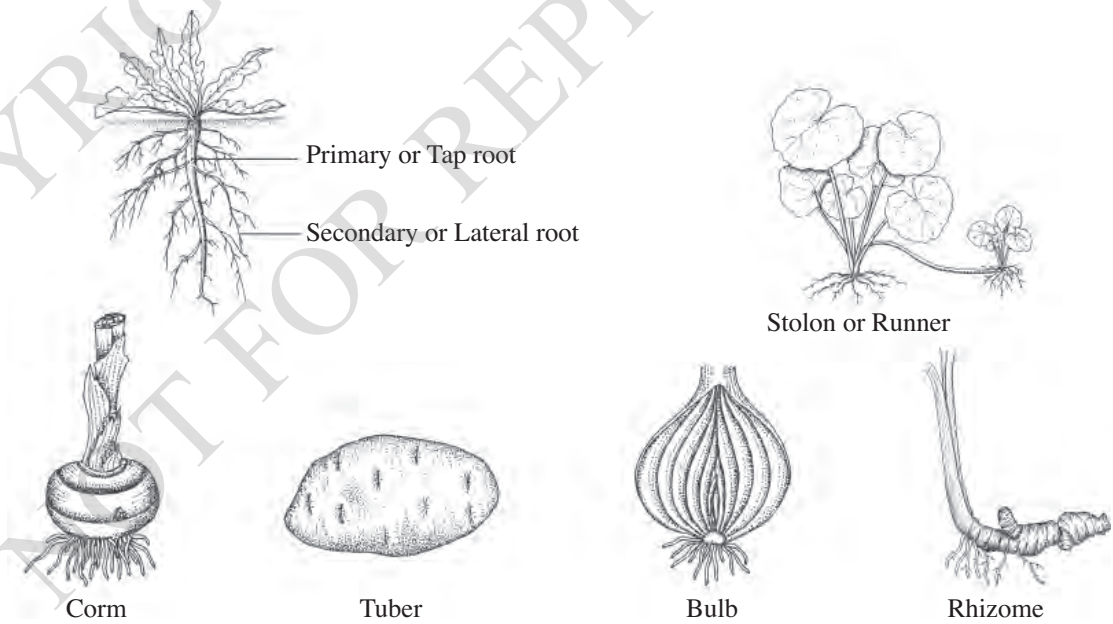
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Plant Habit



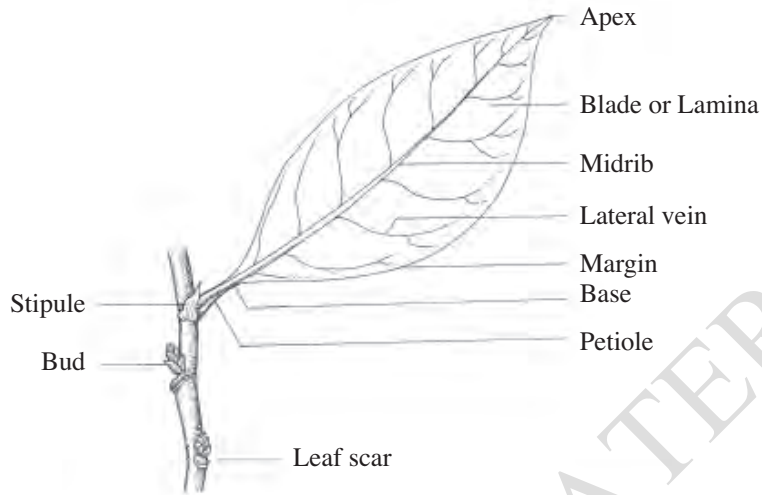
Root or Subterranean stem



Annex

Source: Subcommittee on the Preparation of Monographs of Selected Thai Materia Medica. Monographs of Selected Thai Materia Medica. Vol. 1 Bangkok: Amarin Printing and Publishing; 2009. p. 271-291.

Leaf part



Leaf type



Simple leaf



Pinnately compound leaf



Palmately compound leaf



Odd-pinnate or Imparipinnate

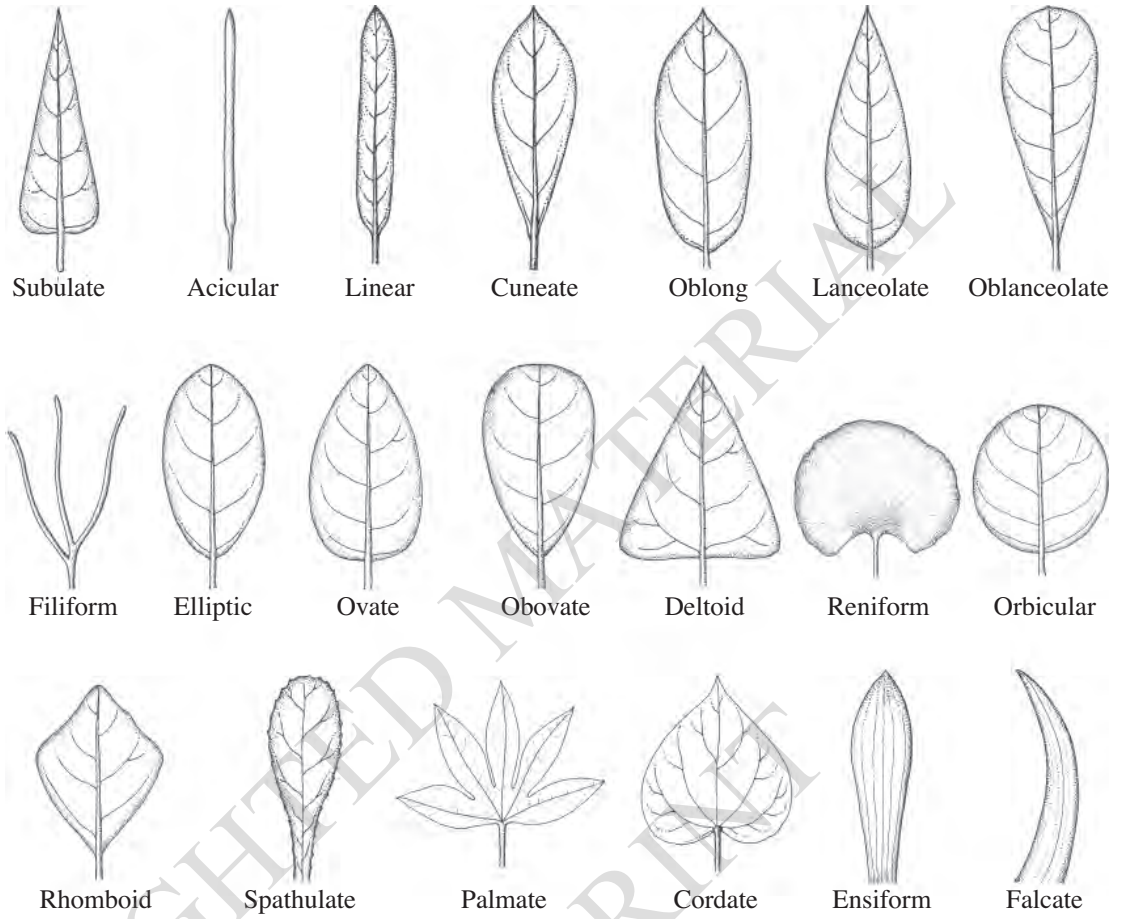


Even-pinnate or Paripinnate

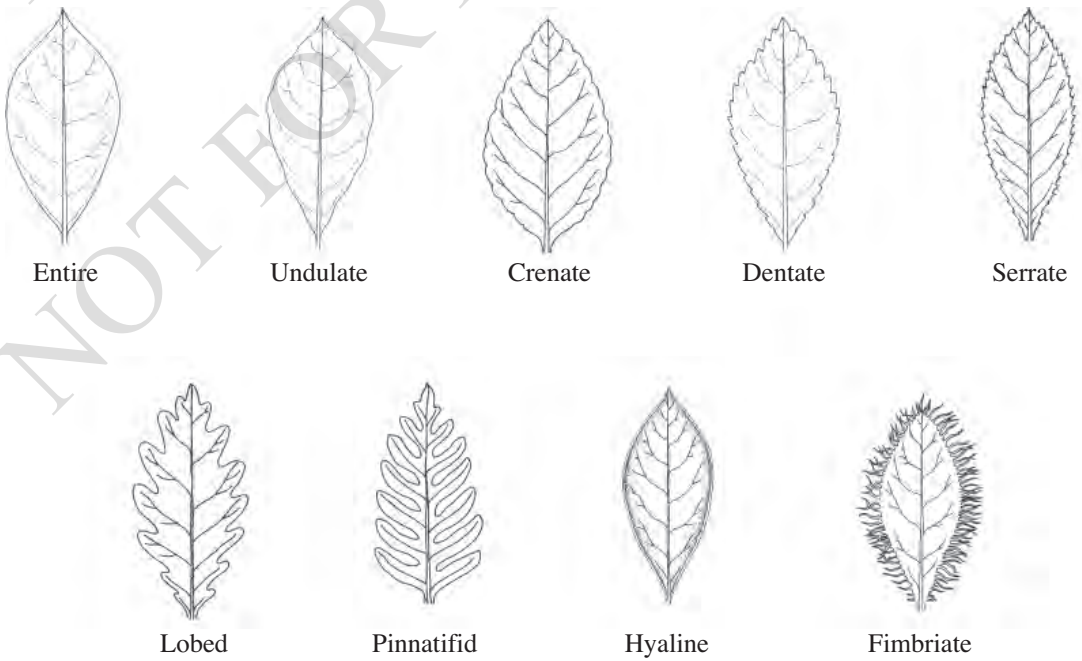


Bipinnate

Leaf shape



Leaf margin



Leaf apex



Caudate



Cuspidate



Mucronate



Acute



Acuminate



Obtuse



Truncate



Emarginate



Retuse

Leaf base



Attenuate



Cuneate



Oblique



Obtuse



Truncate



Cordate



Sagittate



Hastate



Auriculate



Peltate

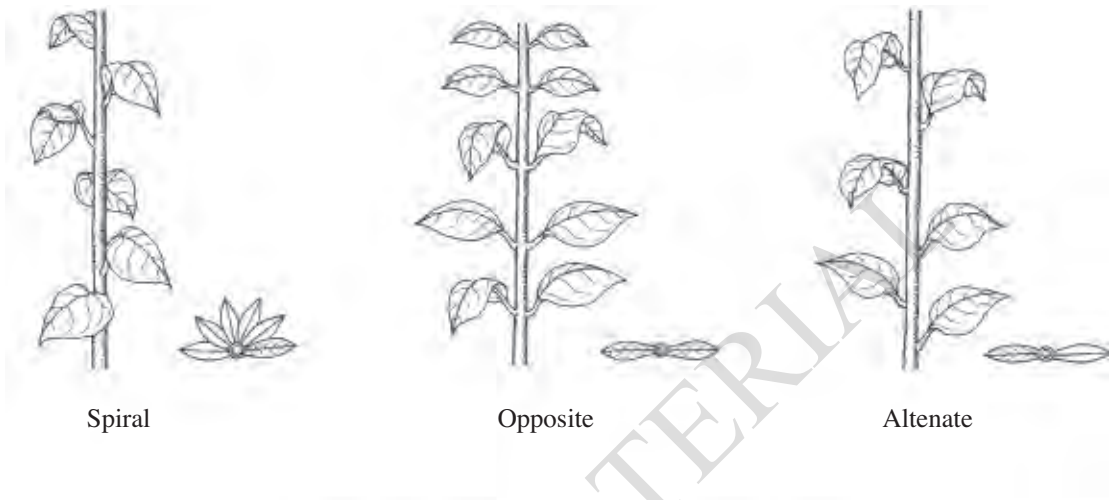


Perfoliate



Amplexicaul

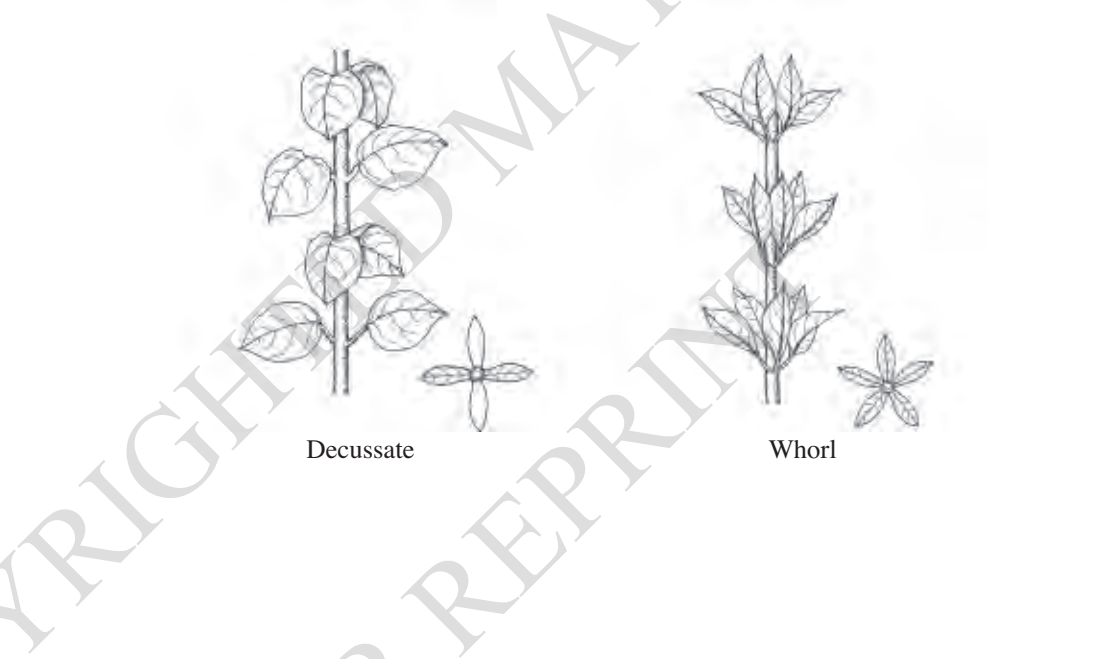
Phyllotaxy



Spiral

Opposite

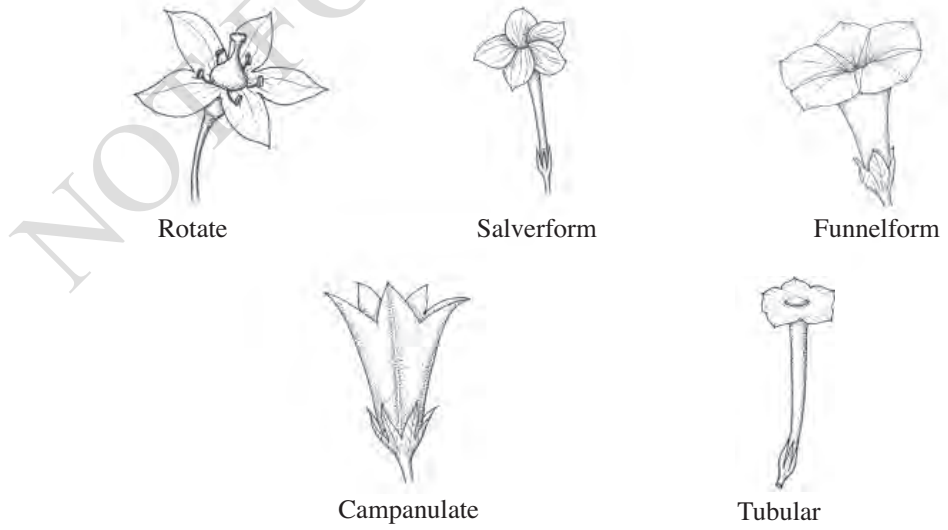
Alternate



Decussate

Whorl

Gamopetalous



Rotate

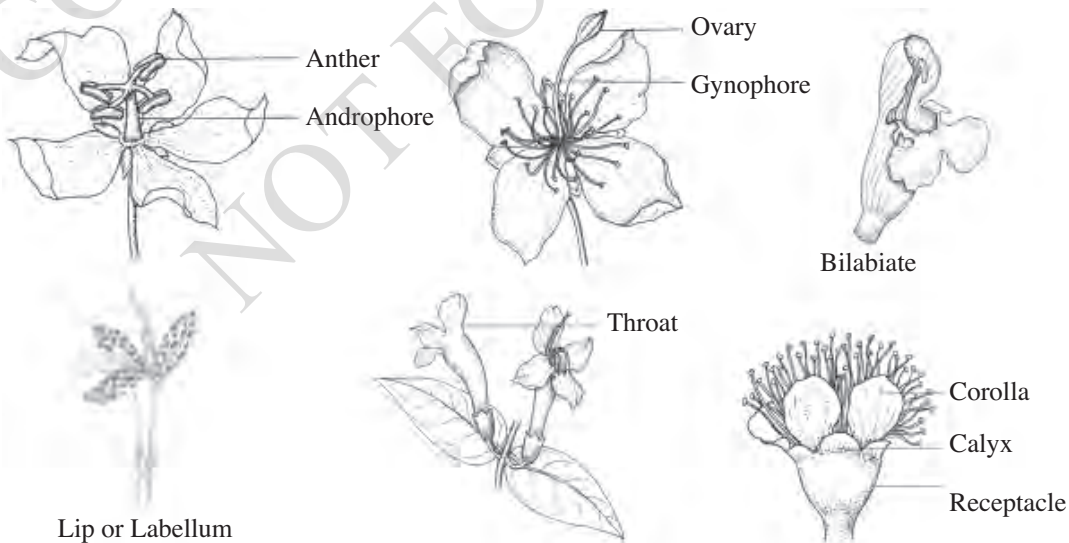
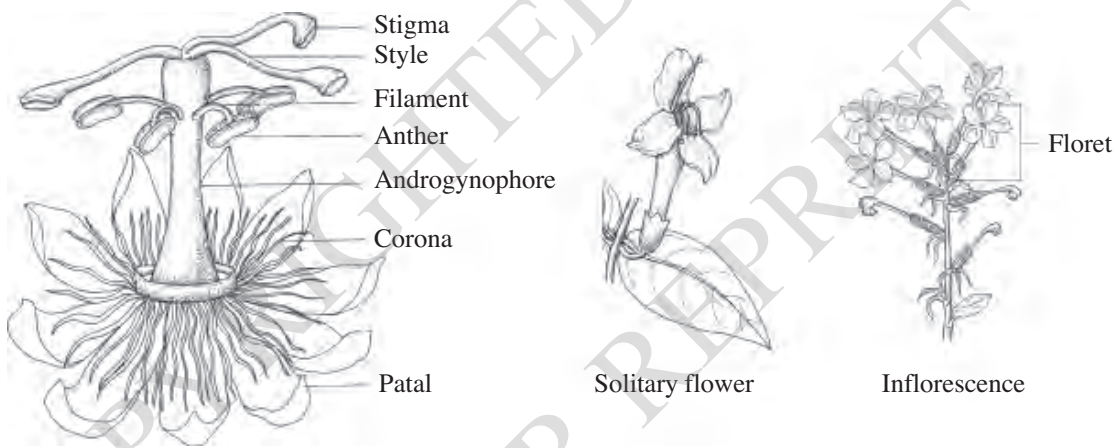
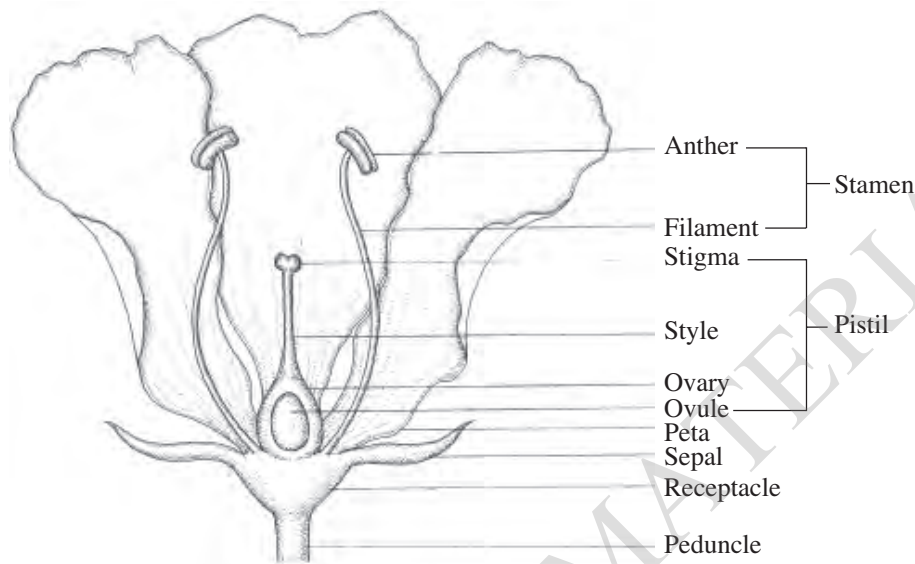
Salverform

Funnelform

Campanulate

Tubular

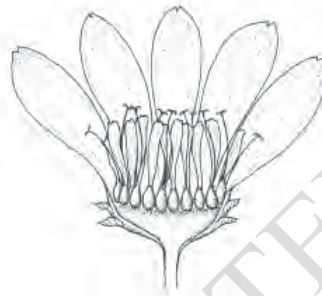
Flower part



Inflorescence type



Raceme



Head or Capitulum



Spike



Spadix



Corymb



Umbel



Compound umbel



Panicle



Scapose

Fruit type



Simple fruit



Aggregate fruit



Multiple fruit

Fleshy fruit



Drupe



Pepo or Gourd



Berry



Hesperidium



Pome

Dry fruit and Dry dehiscent fruit



Loculicidal capsule



Septicidal capsule



Poricidal capsule



Circumscissile capsule



Follicle



Legume



Silique

Dry indehiscent fruit



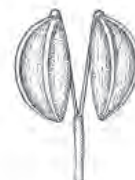
Achene



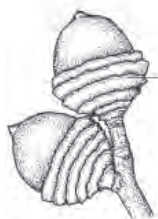
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Samara



Schizocarp



Cupule



Nut



Torus

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