

General Survey of Medicinal Plants for Vegetables

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Abstract- Some vegetables are used to cure many diseases. All specimens were collected from Sintgaing Township, Kyaukse District, Mandalay Region. In this study, five species belonging to five genera of three families were collected namely *Capsicum frutescens* L., *Solanum melongena* L., *Lycopersicon esculentum* Mill. *Momordica charantia* L. and *Hibiscus esculentus* L. The outstanding features, chemical constituents, part uses, medicinal uses of these plants have been described and presented with photographs.

Indexed Terms- Vegetables, Genera, Chemical constituents, part uses, and medicinal uses.

I. INTRODUCTION

Medicinal plants are widely used in non-industrialized societies, mainly because they are readily available and cheaper than modern medicines. The medicinal plants include various types of plants. It is use of plants for medicinal purpose. Now a days, herbs refers to any part of the plant like fruit, seed, stem, bark, flower, leaf, root as well as non woody plants (Farooq et al. 2012).

Lemon is one of the most important members of the large Rutaceae family. It is used throughout the world. Lemon come from a beautiful evergreen tree. It is native to Asia but grown around the world for its distinctive sour taste. It is an excellent preventative medicine and have a wide range of uses in domestic medicine (Mohammad 2018).

Allium cepa is a worldwide culinary and therapeutic spice belonging to the family Liliaceae. The onion, also known as the bulb onion or common onion, is a vegetable that is the most widely cultivated species of the genus Allium (Thongpoon 2014).

Millingtonia hortensis (Bignoniaceae) commonly had known as Cork tree. It is important medicinal plant in

Southern Asia ranging from India, Burma, Thailand and South China. The stem bark is used traditionally as mainly lung tonic, anti-asthmatic and antimicrobial. It is important medicinal plant in Southern Asia ranging from India, Burma, Thailand and South China. Millingtonia hortensis, a native deciduous tree ranges from Indai, Myanmar, Thailand and south China, is often cultivated as an ornamental tree in yards, gardens (Nagaraja and Padmaa 2011).

Moringa oleifera is the most widely cultivated species. The leaves are used in traditionally used as anti-diabetic, anti-bacterial, anti-headache, anti-hypertensive, anti-fever and anti-inflammatory herbal drug. Various parts of the plant have been scientifically established to possess some medicinal properties such as abortifacient (root, flower and gum), anti-hypertensive (flower and seed), hypolipidemic (flower), anti-inflammatory (root and flower) and anti-ulcerogenic (stem bark) potentials (Omotoso et al. 2017).

Senna is a natural medicine containing sennocides that are derived from the leaves of the Senna plant. The origin of Senna is native to Coastal north Australia, Southeast Asia, Africa and the West India. The plant is harvested from the wild for local use as a food and medicine. Young leaves are cooked and eaten as a vegetable (Isitua et al. 2007).

II. MATERIALS AND METHODS

The specimens of Citrus lemon (L.) Burm.f., Moringa oleifera Lam., Senna surattensis (Burm.f) H.S.Irwin & Barneby, Millingtonia hortensis L. and Allium cepa L., were collected from Sintgaing Township, Kyaukse District, Mandalay Region. The collected plants were identified with the help of literature such as Hooker 1885 and Dassanayake 1987. The fresh specimens were pressed, dried, and

preserved at Department of Botany, Kyaukse University.

III. RESULTS

A. *Citrus limon* (L.) Burm. f.

Family Name - Rutaceae
 Local Name - Than ba yo
 English Name - Lemon
 Part used - Fruits, leaves
 Flowering and fruiting period - Throughout the year

1) Outstanding Features

Perennial shrubs to small trees, branches usually thorny. Leaves unifoliolate compound, spirally arranged, exstipulate, petiole narrowly winged, leafblade oval to oblong, obtuse at the base, crenulate along the margin, acuminate at the apex, pellucid dotted, glabrous. Inflorescence terminal and axillary cymes, 5 to 7 flowers. Flower bisexual, actinomorphic, hypogynous, white. Calyx campanulate, 5 lobed, lobe obscure, slightly acute. Petal 5, oblong, white. Stamens 20 (10+10); filament filiform; anther dorsifixed, disc annular. Ovary superior, globose, multilocular, one ovule in each locule, axil placentation; style stout, glabrous; stigma capitate. Fruit hesperidium, ellipsoid, segments consist of pulp vesicle filled with sap. Seeds ovoid, glabrous, white.

Chemical constituents: Calcium, potassium, magnesium, sodium, citric acid and limonene.

Medicinal uses: The leaves are used in stomachic and tonic. The fruits are used in sore throat, carminative and hypertension.

Specimen examined: Sintgaing Township, Kyaukse District, and Mandalay Region.



Figure 1. *Citrus limon* (L.) Burm. f. A. Habit, B. Inflorescences

B. *Moringa oleifera* L.
 Family Name- Moringaceae
 Local Name-Dan da lun
 English Name- Drum stick
 Part used- Leaves and seeds
 Flowering and fruiting period-Throughout the year

1) Outstanding Features

Perennial, deciduous trees. Leaves tripinnately compound, alternate, exstipulate, petiole swollen at the base, leaflets 3 to 9 pairs, opposite, leafblade ovate to oblong, Inflorescence axillary panicles, Flower bisexual, zygomorphic, pentamerous, hypogynous, creamy or greenish white. Sepal 5, ovate, pale green. Petal 5, obovate, unequal, posterior smaller, lateral ascending, anterior larger. Stamens 5, free; filament filiform; anther monotheous; staminodes 5, alternating with stamens. Gynophore present. Ovary superior, unilocular with many ovules, parietal placentation; style filiform; stigma simple. Capsule pendulous, longitudinally ridged. Seeds numerous, compressed, 3 wing.

Chemical constituents: Alkaloid, flavonoid, phenolic compound, natural sugar and vitamin.

Medicinal uses: The leaves are used in hypertension, diuretic, sore throat. The seeds are treated in diabetes, scabies, and earache.

Specimen examined: Sintgaing Township, Kyaukse District, and Mandalay Region.



Figure 2. *Moringa oleifera* L. A. Habit, B. Inflorescences

C. *Senna surattensis* (Burm.f)
 Family Name - Caesalpiniaceae
 Local Name - Pyi ban nyo
 English Name - Unknown
 Part used - Leaves and barks

Flowering and fruiting period - July to October

1) Outstanding Features

Perennial, small trees. Leaves unipinnately compound, alternate, exstipulate, petiolate, leaflets 5 to 9 pairs, opposite, leafblade ovate to oblong. Inflorescence axillary or terminal racemes. Flower bisexual, zygomorphic, pentamerous, hypogynous, yellow, bracteate, pedicellate, bright yellow. Sepal 5, ovate, pale green. Petal 5, oval to oblong, shortly clawed, distinctly vein, bright yellow. Stamens 5, free; filament unequal; anther ditheous. Ovary superior, oblong, unilocular with many ovules, marginal placentation; style filiform, slightly curved; stigma simple. Pod oblong, flattened. Seeds ovate, numerous, compressed.

Chemical constituents: Magnesium, calcium, potassium, sodium and iron.

Medicinal uses: Leaves and barks are used in diabetes.

Specimen examined: Sintgaing Township, Kyaukse District, and Mandalay Region.

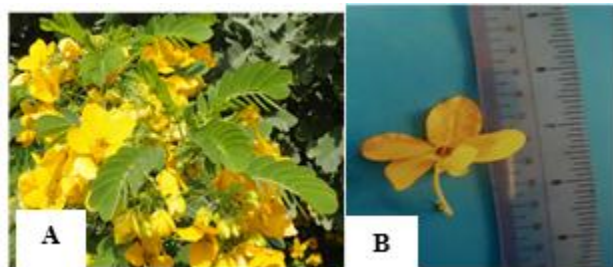


Figure 3. *Senna surattensis* (Burm.f) H.S.Irwin & Barneby A. Habit, B. Flower

D. *Mellingtonia hortensis* L.

Family Name - Bignoniaceae
 Local Name - Egayit
 English Name - Indian cork tree
 Part used - Leaves and roots
 Flowering and fruiting period - October to February

1) Outstanding Features

Perennial trees with furrowed, corky bark. Leaves bipinnately compound, opposite, alternate, exstipulate, petiolate; leaflets 3 to 9 pairs, oval to

lanceolate, cuneate at the base, sinuate along the margin, acuminate at the apex. Inflorescence axillary panicles, branched, numerous flower. Flower bisexual, zygomorphic, hypogynous, creamy or white. Calyx 5, dentate, pale green. Corolla tubular, 5 lobed, widened at the top, cream color. Stamens 4, didynamous, inserted; filament filiform; anther unequal. Ovary superior, bilocular, numerous ovules in each locule, axil placentation; style long; stigma 2. Fruit septicidal capsule, oblongoid, 2 valved, compressed. Seeds numerous, flat, wing.

Chemical constituents : Alkaloid, flavonoid, glycoside and phenolic compound.

Medicinal uses : The leaves are used in sore throat and tonic. The roots are treated in hypertension, asthma, tuberculosis and cancer.

Specimen examined : Sintgaing Township, Kyaukse District, and Mandalay Region.

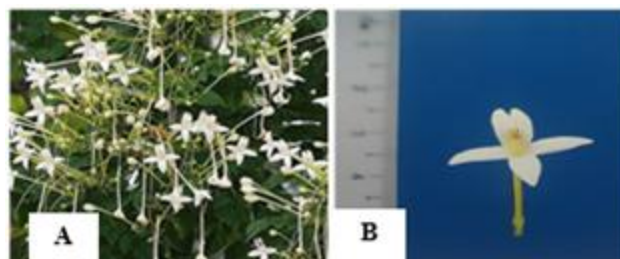


Figure 4. *Mellingtonia hortensis* L. A. Habit, B. Flower

E. *Allium cepa* L.

Family Name - Liliaceae
 Local Name - Kyet thun ni
 English Name - Onion
 Part used - Bulbs
 Flowering and fruiting period - November to February

1) Outstanding Features

Annual or biennial herbs, very short pseudostem, flattened, formed by sheathing leaf base. Leaves alternate, overlap, erect, straight, terete, overlap, spirally arranged, parallel vein. Inflorescence terminal, cymose umbel spherical, 50-200 flowers, surrounded by a membranous spathe, peduncle long. Flower bisexual, actinomorphic, hypogynous, white, tepals in two whorls, free, ovate, greenish white. Stamens 6, free, filament simple; anther ditheous. Ovary superior, trilocular, two ovules in each locule,

axil placentation; style simple, stigma trilobe. Fruit loculicidal capsule, smell. Seeds black, wrinkled after drying.

Chemical constituents: Glucose, sucrose, calcium, magnesium, iron and zinc.

Medicinal uses: The bulb are used in anthelmintic, anticancer, antiseptic antiinflammatory, hypertension, and diabetes, diuretic and carminative.

Specimen examined: Sintgaing Township, Kyaukse District, and Mandalay Region.

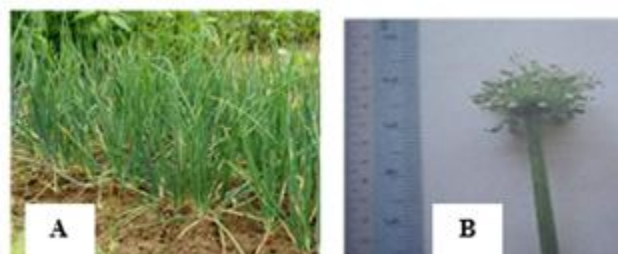


Figure 5. *Allium cepa* L. A. Habit, B. Inflorescences

IV. DISCUSSION AND CONCLUSION

In this research work, taxonomic description and medicinal plants of the Citrus lemon (*L.*) Burm.f., *Moringa oleifera* Lam., *Senna surattensis* (Burm.f) H.S.Irwin and Barneby, *Mellingtonia hortensis* L. and *Allium cepa* L., have been investigated.

Plants have played an important role in traditional medicine since ancient time. Plants provide natural elements to human body, circulatory system and nervous system. Apart from their divergent views on the nature of man, health and diseases, they differ primarily in the mode of development and application of medicines. Men of traditional medicines use plants and plant parts and their preparation are rather simple and crude.

Man has always depended on plants for his various needs. Ancient and recent have used them as sources of medicine. The traditional and modern medicines vary widely in their philosophical foundations. Apart from their divergent views on the nature of man, health and disease, they differ primarily in the mode of development and application of medicines. Men of traditional medicines use plants and plant parts and

their preparation are rather simple and crude (Sivarajan 1995).

The use of plants in traditional medical practice has a long drawn history, and remains the mainstay of primary health care in most of the third world. Traditional medicines are used by about 60% of the world population in both developing and developed countries where modern medicines are predominantly used. An estimated 60-80% Africa's and Latin America's population depends solely on herbal remedies for its primary health care needs (Isitua et al. 2007).

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