

**Study on Some Useful Plants Angiosperm Growing in Nan Oo Pyin  
Pagoda and its Surrounding Area, Mong Kung Township  
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**Abstract**

In the present research, totally about 45 species of wild plants were collected in Nan Oo Pyin Pagoda and its surrounding area located in Mong Kung Township. The study was carried out in May, 2019. Among them, total of 20 species under 20 genera belonging to the families Annonaceae, Asphodelaceae, Commelinaceae, Zingiberaceae, Fabaceae, Rosaceae, Moraceae, Onagraceae, Melastomataceae, Cleomaceae, Hydrangeaceae, Theaceae, Apocynaceae, Plantaginaceae, Bignoniaceae, Lamiaceae and Adoxaceae will be mentioned. For each species with scientific name, local name, family, flowering period, morphological character and uses have been identified in this study. The inventory of useful plants in Mong Kung Township will partially accomplish the flora of Southern Shan State of Myanmar and give the valuable information of plant resources to further researchers who are interested in local species of that area in various ways.

**Keywords** : wild plants, morphological character.

**Introduction**

Man's history is not completed without looking at their plant uses because man survived by using plants for his basic requirements such as food, clothing and shelter and they also used for ornamentation, religious ceremonies and health care. Human searched plants and their part that could be released the illness and suffering since his early history to present times. The study area of present work Nan Oo Pyin Pagoda, Mong Kung township, Loilen District is located in the Southern Shan State in Myanmar. It is situated between 21° 36' 30" North and 97° 31' 50" East latitude. The total area of Mong Kung Township is 1459.17 square miles and elevation is 3451 meters above sea level. It was bounded on the north by Hsi Paw; on the east by Mong Tung, Kehsi Mansam and Mong Nawng; on the south by Lai Hka; and on the west by the western range of the Shan Hills and Lawk Sawk. There are mainly three tribes, Shan, Pa Laung and Pa-O, live in Mong Kung Township ([www.en.m.wikipedia.org](http://www.en.m.wikipedia.org)). Various herbal medicines derived from plant extracts are being used in the treatment of a wide variety of clinical diseases. Most of the areas are occupied by mountainous regions and are full of tea leaf plantation, wild vegetation and some cultivation area of medicinal plants.

**Materials and Methods**

Plant specimens were collected during May, 2019 from Mong Kung Township, Loilen District, Southern Shan State. All the collected specimens were recorded by photographs. Field notes were made of detail plants description, habitat types, date and precise location by using GPS. Identification of species was carried out by referring the references such as Flora of British India (Hooker 1879), Flora of Java (Baker 1965), Flora of Ceylon (Dassanayake 1980-2001), Flora of Hong Kong (2007-

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2009) and Flora of China (1995-2011). The scientific names were updated by referring to the web site of Plant of the World, Kew Science (<http://www.kew.org/science>). Local names were collected by Hundley and Chit Ko Ko (1987) and Kress *et al.* (2003). The plant specimens were dried by air, pressed and mounted according to reference (Lawrance 1951). The arrangement of the families was followed by the classification system of APG IV (2016). The genera and species arrangement under the families were again arranged in alphabetical order.

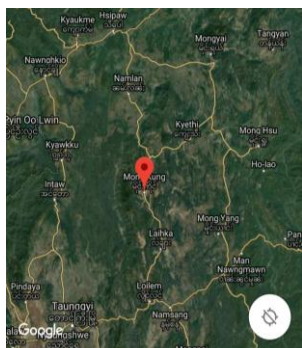


Fig.1 Map of Mong Kung Township in Study Area



Fig.2 Study Area of Nan OoPyin Pagoda and its Surrounding Area

## Result

1. Scientific name : *Annona squamosa* L.(Annonaceae)(Figure. A)  
 Localname : Awzar  
 Flowering time : May to November

Small tree, with aromatic wood and leaves, bark thin. Leaves alternate, simple, petiolate, leaf blade elliptic lanceolate to elliptic-oblong, base obtuse to rounded apex acute to obtuse, peculiar smell when crushed, exstipulate. Flower axillary, solitary or 2-4 flowered in fascicles, bisexual, actinomorphic, hypogynous, pale greenish white. Sepals 3, basally connate, thick; petals 3+3, ovate, triangular, greenish yellow outside, yellow glabrous reddish near the base inside. Stamens numerous, spirally arranged on the axis which forms a large convex receptacle, anthers ditheous, truncate connective; carpels numerous, unilocular, parietal placentation, one ovule in each locule, the ovary superior. Fruit aggregate of berries, united to form a single compound fruit, edible; seeds numerous, often embedded in a copious, white fleshy pulp, endospermic, black-brown.

Part used : Fruit, leaves, bark and roots

Uses : Fruit – raw, sweet and creamy fruits as a dessert fruit. Leaves, shoots, bark and roots are used to treat diarrhoea and dysentery. The green fruits, seeds and leaves have effective vermifugal properties (Useful tropical plants).

2. Scientific name : *Hemerocallis fulva* (L.) L. (Asphodelaceae) (Figure. B)  
 Localname : Not known  
 Flowering time : May to November

Herbaceous, perennial with fleshy roots (rhizomes). Leaves alternate, simple, sessile, leaf blade linear, margin entire, apex acute, exstipulate. Flower terminal helicoidal cymes, 2-5 flowered, bisexual, actinomorphic, hypogynous. Perianth 3+3,

basally connected, funnel-shaped, broad petals with wavy margins, petaloid (reddish-orange, a paler orange strip down the centre of each tepal). Stamens 6, epiphyllous, the anther dithecal, dorsifixed; carpels (3), trilobular, axile placentation, two ovules in the locule, the ovary superior. Fruit capsule, ellipsoid.

Part used : Leaves, shoots, flower, rhizome and root

Uses : Leaves and young shoots are cooked. In Traditional Chinese Medicine this herb is also used to purify the blood. Flowers are used as ornamental. The rhizome shows antimicrobial activity, also used in tuberculostatic. The juice of the roots is an effective antidote in cases of arsenic poisoning. The root also has a folk history of use in the treatment of cancer - extracts from the roots have shown antitumour activity. A tea made from the boiled roots is used as a diuretic ([www.naturalmedicinalherbs.net](http://www.naturalmedicinalherbs.net)>herbs).

3. Scientific name : *Tradescantia pallida* (Rose) D.R. Hunt, K Bull. 30:452. 1975.  
(Commelinaceae) (Figure. C)

Local name : Not known

Flowering time : March to May

Evergreen perennial herb, succulent, fleshy stems suffused with purplish violet. Leaves alternate or spirally arranged, simple, sessile, leaf sheath present, leaf blade lanceolate-oblong to oblong-elliptic, base rounded to broadly cuneate, margins ciliate or ciliolate, apex acute, suffused with purplish violet, exstipulate. Flower terminal or often leaf-opposed, monochasial cyme, involucral bracts mostly spathe-like, bracts filiform, pale purple, bisexual, actinomorphic, hypogynous. Sepals 3, connate at the base, petaloid (pink); petals 3, ovate with claws fused at base, petaloid (pink). Stamens 6, epipetalous, the anther dithecal, dorsifixed; carpels (3), trilobular, axile placentation, two ovules in the locule, the ovary superior. Fruit capsules, 3-valved, ovoid, glabrous. Seeds minute, few, subpyramidal, endospermic.

Part used : The whole plant

Uses : Plant used by the Ayta communities from Porac, Pampanga, for sore eyes. Taiwanese compilation reports it to improve circulation and as anti-inflammatory and antitoxic. It is an economically important plant in the nursery and landscape trade (Useful tropical plants).

4. Scientific name : *Curcuma aromatica* Salisbury, Parad. Lond. 1: t. 96. 1807.  
(Zingiberaceae) (Figure. D)

Local name : Taw-sanwin

Flowering time : April to June

Perennial herb, pseudostem, with underground rhizomes inside yellow, fleshy, aromatic, fusiform tubers. Leaves alternate, simple, petiolate, leaf blade elliptic to oblong, base attenuate, apex narrowly caudate, exstipulate. Flower spikes cylindrical, on separate shoots arising from the rhizome, bract pinkish, sessile, bisexual, zygomorphic, epigynous. Sepals (3), infundibuliform, sparsely hairy, sepeloid; petals (3), oblong, funnel-form, corolla tube, villous at the throat, petaloid (pale yellow). Fertile stamen one, the anther dithecal, introrse, dorsifixed; lateral staminodes 2,

obovate-oblong, pale yellow, labellum obovate, deflexed, apex emarginated, pale yellow with dark yellow blotch. Carpels (3), trilocular, axile placentation, many ovules in each locule, the ovary villous, inferior. Fruit capsule, ellipsoid, 3-valved, dehiscent.

Part used : Inflorescence and rhizome

Uses : The inflorescence are eaten as boiled for vegetable. The rhizome can be dried, ground into a powder and then used as a substitute for turmeric (*Curcuma longa*) in curries. The rhizome is a pungent, bitter, cooling herb that improves digestion and stimulates the gall bladder and circulatory system, both checking bleeding and dissolving clots. The plant is also recognised as having strong antibiotic properties (Useful tropical plants).

5. Scientific name : *Delonix regia* (Bojer) Rafinesque, Fl. Tellur. 2:92.1837.  
(Fabaceae)(Figure. E)

Local name : Sein-pan-gyi

Flowering time : March to October

Tree, about 20m tall, deciduous, large, with numerous branches, bark grayish brown. Leaves alternate, bipinnately compound leaf, petiolate, leaflets about 15-20 pairs, pinnae opposite, oblong, obliquely acute at base, obtuse at apex, margin entire, pulvinate, leafy stipules. Flowers terminal or axillary racemes, bright red colour; pedicellate, bisexual, zygomorphic, slightly perigynous. Sepals 5, lanceolate-ovate, outer surface is green and inner surface is red; petals 5, elliptic-orbicular, unequal, four petals preading scarlet or orange-red petals and a fifth petal upright standard, which is slightly larger and spotted with yellow and white. Stamens 10, the anther ditheous, basifixed; carpel one, unilocular, marginal placentation, many ovules in the locule, the ovary superior. Fruits legume, flat, covered with fine bristles, dark reddish brown; seeds compressed, obliquely oblong.

Part used : The whole plant

Uses : The plant is reported to antibacterial, antidiabetic, antidiarrhoeal, antifungal, antiinflammatory, antimalarial, antimicrobial, antioxidant, cardio-protective, gastro-protective, hepato-protective and wound healing activity. It is used in folk medicine to treat a range of disorders, including constipation, inflammation, rheumatoid arthritis, diabetes, pneumonia, and malaria (Useful tropical plants).

6. Scientific name : *Fragaria vesca* L. Sp. Pl. 1:494. 1753 (Rosaceae)(Figure. F)

Local name : Strawberry

Flowering time : April to September

Perennial herbs, stems together with petioles spreading pilose. Leaves alternate, trifoliolate compound leaf, imparipinnate, petiolate, leaflets ovate or oblong-ovate, obtuse, basally cuneate, with a few appressed hairs, adnate stipule. Flowers axillary cyme, pedicellate, bisexual, actinomorphic, hypogynous. Epicalyx 5 present, shorter than sepals. Sepals 5, ovate, calyx-lobes ovate, acuminate, sepaloid; petals 5, obovate, base tapering into a short claw, petaloid (white). Stamens numerous, the anther ditheous, dorsifixe; carpel numerous, unilocular, axile placentation, one ovule

in the locule, the ovary superior. Fruit aggregate fruit ripening red, ovoid. Achenes ovoid, not prominently rugose.

Part used : Fruit, leaves, and root

Uses : Fruit - raw, cooked or made into preserves. Sweet and succulent. Young leaves - raw or cooked. The leaves and the fruit are mildly astringent, diuretic, laxative and tonic. Added to salads or used as a pot-herb. The fresh or dried leaves are used as a tea substitute. The root has been used as a coffee substitute in India(Useful tropical plants).

7. Scientific name : *Rosa chinensis* Jacquin, Observ. Bot.

3:7.1768(Rosaceae)(Figure. G)

Local name : Hnin-si

Flowering time : April to November

Shrubs erect, branchlets terete, robust, prickles abundant, curved, stout, flat. Leaves alternate, pinnately compound leaf, imparripinnate, petiolat, rachis and petiole sparsely prickly and glandular-pubescent, leaflets 3–5, leaf blade broadly ovate or ovate-oblong, both surfaces subglabrous, base subrounded, margin acutely serrate, apex acuminate, adnate stipule. Flower axillary solitary cyme, pedicellate, bisexual, actinomorphic, hypanthium ovoid-globose,perigynous. Sepals 5, ovate, sepaloid; petals numerous, obovate, base cuneate, apex emarginated, petaloid (pinkish-orange). Stamens numerous, the anther ditheous, dorsifixed; carpel one, unilocular, basal placentation, one ovule in the locule, the ovary superior, nectar secreting disc present between stamens and carpels. Fruit a hip, formed from fleshy hypanthiumred, ovoid, glabrous.

Part used : Flower, bud and seeds

Uses : Flower buds and flowers are used as ornamental and brewed and eaten as a kitchen herb, as a soup. The seeds are a good source of vitamin E. The seeds can be ground and mixed with flour or added to other foods(Wikipedia).

8. Scientific name : *Morus alba* L. Sp. Pl .2: 986. 1753. (Moraceae)(Figure.H)

Localname : Posa

Flowering time : April to August

A deciduous tree, about 8.0-15.0 m tall, compact leafy crown, trunk with dark grey-brown, rough. Leaves alternate, simple, petiolate, leaf blade ovate to broadly ovate, irregularly lobed, base rounded to cordate, margin coarsely serrate to crenate, apex acuminate, stipules lanceolate, brownish membranous and hairy. Male flower pendulous, catkins, about 2.0-3.5 cm long, densely white hairy with lax flowers. Tepals 4, broadly elliptic, glabrous to hairy, sepaloid, inferior. Stamens 4, the anthers ditheous, basifixed. Female catkins ovoid, about 1.0-2.0 cm long, pubescent, peduncle about 0.5-1.0 cm long, pubescen. Tepals 4, suborbicular, glabrous, sepaloid, inferior. Androecium absent. Carpels (2), usually one carpel abortive, pendulous placentation, one ovule in the locule, the ovary ovoid, superior. Fruits syncarp red when immature, blackish purple, purple when mature, ovoid, ellipsoid, or cylindric, about 1.0-2.5 cm long, sweet and edible.

Part used : The whole plant

Uses : Fruit - A sweet taste, raw. Young leaves and shoots – cooked. The leaf makes a good vegetable, it is rich in carotene and calcium. The tree is a source of an edible manna. Young shoots can be used as a tea substitute. Extracts of the plant have been shown to have antibacterial and fungicidal activity. The leaves are antibacterial, astringent, diaphoretic, hypoglycaemic, odontalgic and ophthalmic. They are taken internally in the treatment of colds, influenza, eye infections and nosebleeds. The fruit has a tonic effect on kidney energy (Useful tropical plants).

9. Scientific name : *Oenothera albicaulis* Pursh (Onagraceae) (Figure. I)

Local name : La-thar-pan

Flowering time : May to August

Annual, biennial, or perennial herbs, caulescent, stem up to about 1.5ft tall. Leaves alternate, simple, subsessile, leaf blade oblanceolate or toothed to pinnatifid, base attenuate, margin weakly serrate to sinuate-pinnatifid, apex acute, exstipulate. Flower axils of upper leaves, racemes or corymbs, bisexual, actinomorphic, epigynous, opening near sunset or near sunrise. Sepals 4, sepaloid; petals 4, contorted, petaloid (white or rose-purple). Stamens 8, epipetalous, the anthers dithecous, versatile; carpels (4), tetralocular, axile placentation, many ovules in the locule, the ovary inferior. Fruits loculicidal capsule. Seeds lacking hairs.

Part used : Leaves, shoots, root and seeds

Uses : Leaves, young shoots, root and seeds are cooked, to be a staple food, but useful in an emergency. The plant has been used to treat swellings. A decoction of the root has been drunk and used as a lotion on muscle strains (Uses of plants for a future).

10. Scientific name : *Melastoma malabathricum* L. Sp. Pl. 2:390.1753.

(Melastomataceae) (Figure. J)

Local name : Say-o-poke

Flowering time : February to August

Shrubs, branchlets numerous, stem densely covered with hairs. Leaves opposite and discussate, simple, petiolate, leaf blade elliptic-oblong, base attenuate, apex acute, upper surface prominently lineolate, lower surface tomentose, 5-ribbed, drying dull-greenish. Flower terminal, solitary or subcapitate corymbose, bract boat-shaped, pedicellate, bisexual, actinomorphic, perigynous, densely paleaceous hairy. Sepal (5), campanulate, ovate-lanceolate; petals 5, contorted, obovate, petaloid (reddish purple). Stamens 5+5, five larger ones with yellow filaments and purple curved upper parts including the anther and five smaller ones with yellow and straight filament and yellow anthers, the anther dithecous, basifixed, apical pores dehiscence; carpels (5), pentalocular, axile placentation, many ovules in the locule, the ovary ovoid, superior. Fruits capsules, ovoid, irregularly dehiscent; seeds many, minute.

Part used : The whole plant

Uses : The young shoots are eaten as a fresh or cooked vegetable. A decoction of the leaves either alone or in combination with other plants, is used in the

treatment of stomach aches, indigestion, diarrhoea dysentery, and leucorrhoea. A decoction of roots and leaves is given to women after childbirth. The powdered leaves and roots may be sprinkled on wounds. The roots are simply sucked or may be used for making a gargle in treating toothache(Useful tropical plants).

11. Scientific name : *Cleome hassleriana* (Chodat) Iltis, Novon.

17:450.2007.(Cleomaceae) (Figure. K)

Local name : Pan-hinnga-lar

Flowering time : April to December

Annual herbaceous plant, about 1.0-1.5 m tall, sparsely branched and granular pubescent. Leaves alternate or spirally arranged, pinnately compound leaf, petiolate, leaflets 3-7, leaflets blades elliptic to oblanceolate, margin serrulate-denticulate, apex acute, spinous stipule present. Flower terminal or axillary from apical leaves, racemose, pedicellate, bisexual, zygomorphic, hypogynous, gynophore present. Calyx 4, each often subtending a basal nectary gland, sepaloid; corolla 4, distinct, petaloid (white, pink and purplish pink), often clawed. Stamens 4-6, unequal, the anther ditheous, basifixed; carpels (2), unilocular, parietal placentation, many ovules in the locule, the ovary superior. Fruit capsule, oblong, elongated with two dehiscent valves; seeds many, smooth, exalbuminous.

Part used : The whole plant

Uses : The bitter leaves are used as a vegetable after cooking, soaking or fermentation in order to reduce the bitterness. They are also added to soups and stews, pickled, or used as a flavouring in sauces. They are also used as a condiment where they are a substitute for mustard seeds. The leaves have various medicinal uses to be antirheumatic, disinfectant, rubefacient and vesicant. An infusion is taken internally and as an enema in the treatment of bronchitis. A decoction of the root is used to treat fevers. The whole plant is used in the treatment of scorpion stings and snake bites(Useful tropical plants).

12. Scientific name : *Hydrangea macrophylla* (Thunb.) Ser.(Hydrangeaceae)

(Figure. L)

Local name : Six month flower

Flowering time : Early summer to early winter

Shrubs, erect, branchlets, leaves, and inflorescences variously hairy. Leaves opposite and decussate, simple, petiolate, leaf blade orbicular to elliptic, margin serrate, apex acuminate, exstipulate. Flowers terminal and axillary, a corymbose cyme, pedicellate, unisexual, fertile or sterile, actinomorphic, epigynous. Sterile flowers few, sepals 4-5, ovobate, margin entire, petaloid, enlarged. Sepals sometime petal-like. Fertile flowers numerous, small, short pedicel, bisexual, actinomorphic, epigynous. Calyx tube 4-5, campanulate, adnate to ovary, persistent, petaloid(purple to blue); corolla lobes 4 - 5, free, ovate or spatulate, petaloid(purple to blue). Stamens 8-10, the anther ditheous, inserted on disc; carpels(2-5), axile placentation, many ovules in the locule, the ovary inferior. Fruit capsule, ovoid-globose,

variously dehiscent, many seeded; seeds brown, narrowly ellipsoid to fusiform, slightly compressed.

Part used : Flowers, leaves and roots

Uses : Flowers are used in Buddhist ceremonies. The leaves contain phellodulcin, a very sweet substance that can be used as a sugar substitute. The older leaves can be dried, powdered and used as a flavouring on foods. The young leaves and shoots are also eaten cooked. The leaves, roots and flowers are antimalarial, antitussive and diuretic(Uses of plants for a future).

13. Scientific name : *Camellia sinensis* (L.)Kuntze,Trudy

Imp.Peterburgsk.Bot.Sada. 10:195.1887. (Theaceae)(Figure. M)

Localname : Laphet

Flowering time :October to February

Evergreen small trees or shrubs, about 1-6 m tall, bark grayish brown, branchlets slender. Leaves alternate, simple, petiolate, leaf blade elliptic-oblong to obovate-oblong, base cuneate, margins sinuate-serrate, apex acute, shining, green glabrous above and paler hairy, stipulate. Flower axillary, solitary or 2-6 flowered in fascicles, white, pedicellate, bisexual, actinomorphic, hypogynous. Sepals 5, broadly ovate to suborbicular, sepaloid; petals 6-8, obovate to broadly obovate, basally connate, apex rounded, petaloid(white). Stamens numerous, partially connate to form ring or corolla tube, the anther dithecous, dorsifixed; carpels(3), unilocular, axile placentation, one ovule in the locule, the ovary globose, superior. Fruits capsule, subglobose-ellipsoid, 1- or 2-loculed with 1 seed per locule, pericarp; seeds globose-oblate, reddish brown or brown, glabrous, embryo thick, erect, exalbuminous and with high oil content.

Part used : Leaves and seeds

Uses : The leaves are infused in hot water and used as the drink that is commonly known as tea. Tea is also rich in tannin and is a possible cause of oesophageal cancer. Tea helps prevent tooth decay,blood clotting, and cancer and tumor. It also reduces blood cholestrol and helps weight loss. In our country,tea leaves are used not only as a beverage but also as a traditional dish in ceremony. The essential oil obtained from tea leaves are also used in perfume. The leaves are antimicrobial, antioxidant, antitumor, cardi tonic, diuretic, expectorant, stimulant and astringent. The seed cake has insecticidal activity, and has been proven to give effective control over a range of pests(Useful tropical plants).

14. Scientific name : *Schima wallichii* (DC.) Korthals, Verh. Nat. Gesch.

Ned.Bezitt.

Bot.143.1842. (Theaceae)(Figure. N)

Localname : Thityah, Thitya-ni

Flowering time : April to May

Trees about 10-15 m tall, young branches grayish brown.Leaves alternate, simple, petiolate, leaf blade elliptic to broadly elliptic, leathery, base broadly cuneate, margin entire, apex bluntly acute, abaxially pale green becoming brown,



stipulate. Flower axillary, solitary or 3 in a cluster, white, fragrant, pedicellate, bisexual, actinomorphic, hypogynous. Sepals 5, semiorbicular, sepeloid; petals 5, broadly obovate, petaloid(white). Stamens numerous, the anther ditheous, basifixed; carpels(5), pentalocular, axile placentation, two to three ovules in each locule, the ovary superior, globose. Fruits capsule, subglobose, brown, splitting into 5 valves, white lenticellate; seeds reniform, together with wing.

Part used : Stem, bark and flower`

Uses : The sap from the stem is used in the treatment of ear infections. The bark is used as an antiseptic for wounds. The astringent corollas are used to treat uterine disorders and hysteria(Useful tropical plants).

15. Scientific name : *Holarrhena pubescens* Wallich ex G.Don, Gen.Hist.4:78.  
1837. (Apocynaceae)(Figure. O)

Localname : Lettok-gyi

Small deciduous trees, about 10 m tall, bark rough, pale brown, latex milky white. Leaves opposite, simple, petiolate, leaf blade broadly ovate, base obtuse, apex acuminate, margin entire, glabrous, exstipulate. Flowers axillary or leaf opposite, corymbose cymes, creamy white, pedicellate, bisexual, actinomorphic, hypogynous. Calyx lobes (5), oblong-lanceolate, glandular within at base, sepeloid; corolla (5), salvar shaped, oblong, petaloid(creamy-white), slightly fragrant, mouth with a ring of hairs. Stamens 5, epipetalous, the anthers ditheous, sagitate; carpels (2), bilocular, parietal placentation, many ovules in the locule, the ovary superior. Fruit follicles linear with whitish; seeds oblong, with tuft of silky brown hairs at the apex.

Part used : The whole plant

Uses : The bark has anthelmintic, astringent, febrifugal, stomachic and tonic properties. A hot decoction of the stem bark is used as a gargle to treat toothache. The bark and the leaves are applied externally to treat scabies, boils, ulcers and haemorrhoids. A powder prepared from the roots and leaves is administered to stop haemorrhages after childbirth and nose bleeding. The oil from the seeds is considered to possess similar properties to the bark. The root is said to be abortifacient, antidote, aphrodisiac, galactagogue and laxative. An infusion is taken to stimulate milk production, to treat constipation, asthma, abdominal pains and infertility. When boiled in milk, it is applied against snakebites and is used in the treatment of venereal diseases. The leaves, pounded in water, are taken to cure stomach-ache. The juice from the fruit is taken to treat cough(Useful tropical plants).

16. Scientific name : *Angelonia angustifolia* Benth  
[Plantaginaceae(Scropulariaceae)] (Figure.P)

Local name : Ye-hmwe-pan, Moe ne dawna

Flowering time : June to September

Perennial herbaceous plants, erect about 2 cm tall. Leaves opposite and decussate, simple, sessile, leaf blade narrowly linear, margin serrate, apex acuminate, stipulate glands with both surface, glabrous, foliage is slightly aromatic. Flower

axillary and terminal spike, bluish purple, sessile, bisexual, zygomorphic, hypogynous. Calyx (5), unequal, shortly tubular, sepaloid; corolla (5), two-lipped, lower lip larger than upper, extended, upper lip erect, petaloid (violet to blue), dark violet spots with the center. Stamens (2+2), didynamous, connected at the corolla tube, the anther ditheous, basifixed; carpels (2), bilocular, axile placentation, many ovules in each locule, the ovary superior. Fruits capsule, subglobose.

Part used : Leaves and flowers

Uses : Anti-inflammation, analgesic, anti-hyperlipidemic. Flowers are used as ornamental.

17. Scientific name : *Jacaranda mimosifolia* D. Don. Bot. Reg. 8:631, t.631.1822.  
(Bignoniaceae)(Figure.Q)

Localname : Sein-pan-pya

Flowering time : March to May

Tree, about 5.0-15.0 m tall, deciduous and with an attractive spreading crown, thin and grey-brown bark. Twigs slender, zig-zag and light reddish brown in color. Leaves alternate, bipinnately compound leaf, about 24.0-45.0 cm long, pinnae elliptic to elliptic-oblong, margin entire, apex acuminate, exstipulate. Flowers terminal and axillary, panicles raceme, pedicellate, bisexual, zygomorphic, hypogynous. Calyx (5), campanulate, truncate, pubescent, teeth linear, sepaloid; corolla (5), funnel-shaped or bell-shaped, petaloid (purplish blue). Stamens 4, didynamous, staminode present, the anther ditheous, basifixed, disc shallow capular, fleshy; carpels (2), bilocular, axile placentation, anatropous ovule in the locules, the ovary subsessile, disc present, superior. Fruit capsules drying reddish brown, compressed orbicular, wing present; seed non-endospermic, embryo straight, winged seeds.

Part used : The whole plant

Uses : The bark and roots are used in the treatment of syphilis. The leaves are used as vulnerary. Hepatitis, to ease neuralgia and varicose veins, leukemia, gonorrhea, bacterial infection, wounds and skin infection. The timber is yellowish-white, a hard, moderately heavy, fine textured, easy to work, and is used for carpentry. It is used for poles and for making small items such as tool handles and carvings (Useful tropical plants).

18. Scientific name : *Oroxylum indicum* (L.) Kurz, Forest Fl. Burma.  
2:237.1877. (Bignoniaceae)(Figure. R)

Localname : Kyaung-sha

Flowering time : September to December

Medium sized trees, bark thick, surface brownish-grey, corky, the young stem glabrous. Leaves opposite and decussate, decomposed, imparipinnate, rachis about 50.5 cm long, stout, glabrous, leaflets 3-5 in each pinnae, opposite; petiolule about 0.3-2.0 cm long, glabrous, slender; lamina ovate, base cordate, oblique, apex acuminate, margin entire, glabrous. Flowers terminal raceme, bracts distinct, pedicellate, bisexual, zygomorphic, hypogynous, reddish-purple outside, pinkish-yellow within in colour. Calyx (5), campanulate, glabrous, limb truncate or obscurely

toothed; corolla (5), campanulate, large, fleshy, petaloid (reddish-purple outside, pinkish-yellow within in colour). Stamens 5, epipetalous, the posterior one shortest, the filaments inserted below the base of the corolla tube, hairy at base, the anther ditheous, oblongoid, connective with a short mucrone, basifixed; carpels (2), bilocular, axile placentation, many ovules in the locules, the ovary sessile, contracted at the base, superior. Fruit a capsule, 2 valved, compressed, tapering at both ends; seeds winged all around except at base.

Part used : Bark, seed, root, leaves and flowers

Uses : Young leaves and flowers - raw or cooked. The cooked flowers, buds and young pods are highly esteemed as a vegetable. Young fruits are cut into pieces, boiled and eaten with rice. The unripe seed is grilled and served with chilli sauce. The seed is also an ingredient of Chyavanprash, a famous Ayurvedic food tonic. The various parts of the plant are rich in flavonoids and glycosides and trials have shown various activities in the body. The stem bark and root have been shown to have antimicrobial activities against a range of both gram-positive and gram-negative bacteria and also the yeast *Candida albicans*. The bitter bark of the root is astringent, blood purifier and tonic. A decoction of the leaves is drunk as a treatment for stomach-ach. The seed is expectorant and laxative. A decoction is used in treating coughs, bronchitis and gastritis. The seeds are applied externally to ulcers (Useful tropical plants).

19. Scientific name : *Premna herbacea* Roxburgh, Fl. Ind. ed. 1832. 3:80. 1832.  
(Lamiaceae) (Figure. S)

Local name : Not known

Flowering time : August to December

Perennial herbs, about 9 cm tall, woody rhizomes, sparsely yellow-brown pilose or glabrous branches. Leaves simple, opposite and decussate, sessile, leaf blade ovate to oblong to spatulate, base cuneate, margin sparsely crenulate above, apex rounded, dark green, exstipulate. Flower terminal and axillary, paniculate capitate corymbs, white, pedicellate, bisexual, actinomorphic, hypogynous. Sepals 2-lipped, 5-toothed, cup-shaped, outside pubescent, petaloid (yellow), glandular; petals slightly 2 lipped, 4 lobed, cup-shaped, purple in bud, petaloid (greenish white or creamy color). Stamens 4, didynamous, the anther ditheous, dorsifixed; carpels (2), bilocular, the ovary superior. Fruit drupes, succulent, glossy, black when mature.

Part used : Leaves and rhizomes

Uses : The ripe fruits are occasionally eaten. The juice from roots and rhizomes is used in India to treat dropsy, cough, asthma, fever, rheumatism and cholera. Treating dropsy, cough, asthma, fever, rheumatism and cholera (Useful tropical plants).

20. Scientific name : *Sambucus nigra* L.ssp.*canadensis*(L.)R.bolli  
(Adoxaceae)(Figure. T)

Localname : Pa-le-pan

Flowering time : Early Summer

Shrub, stem lenticellate, about 9.5 m tall. Leaves opposite, pinnately compound leaf, leaflets 5-7, leaf blade oval to ovate, margin serrate, apex acute, surface glabrous, stipules inconspicuous. Flower corymbose, bracteole minute, pedicellate, bisexual, actinomorphic, epigynous. Calyx 5-toothed, minute, sepaloid; Corolla (5), almost round lobes, petaloid(white). Stamens 5, the anther dithecous, dorsifixed; carpels(3), trilocular, axile placentation, one ovule in the locule, the ovary inferior. Fruit globose, black; pyrenes oblong, 3.5 mm long, surface rugose.

Part used : Leaves, flower and bark

Uses : Young shoots are said to be edible when cooked and to be used as an asparagus substitute. The flowers are used to make elderflower water which is used in confectioneries. The fruit is normally cooked and used in pies, jams, jellies, sauces, bread etc. A tea made from the inner bark and root bark is diuretic, emetic and a strong laxative. A decoction of the leaves in a bath is used as a febrifuge and for treating measles. The fresh juice of the fruit, evaporated into a syrup, is laxative (Useful tropical plants).



**A.***Annos squamosa*



**B.***Hemerocallis fulva*



**C.***Tratescantia pallida*



**D.***Cucurma aromatica*



**E.***Delonix regia*



**F.***Fragaria vesca*



**G.***Rosa chinensis*



**H.***Morus alba*



**I.***Oenothera albicaulis*



**J.***Melastoma malabathricum*



**K.***Cleome hassleriana*



**L.***Hydrangea macrophylla*



**M.***Camellia sinensis*



**N.***Schima wallichii*



**O.***Holarrhenopsis*



**P.***Angelonia angustifolia*



**Q.***Jacaranda mimosifolia*



**R.***Oroxylum indicum*



**S.***Premna herbacea*



**T.***Sambucus nigra*

### Discussion and Conclusion

The present research deals with taxonomic study on the flowering plants growing in Nan Oo Pyin pagoda and its surrounding area in Mong Kung Township, Loilen District, Southern Shan State. Altogether 45 species belonging to 42 genera of 28 families have been study. Among them, total of 20 species under 20 genera belonging to the 17 families will be mentioned. According to update of the Angiosperm Phylogeny Group classification system, the orders and families of flowering plants were arranged by APG IV(2016), the numbers of orders, most members of the family are arranged in the present research. Then, the genera and species are arranged alphabetically. The members of families found in study area are Annonaceae, Asphodelaceae, Commelinaceae, Zingiberaceae, Fabaceae, Rosaceae, Moraceae, Onagraceae, Melastomataceae, Cleomaceae, Hydrangeaceae, Theaceae, Apocynaceae, Plantaginaceae, Bignoniaceae, Lamiaceae and Adoxaceae. A total of 8 species are tree (including small tree), 4 species are shrubs, 8 species are herbs have been studied. Of these Dicotyledons comprise 17 species spread over 17 genera and 14 families, while Monocotyledons are represented by 3 species belonging to the 3 genera under 3 families.

Simple leaves are found in 13 species, compound leaves are 7 species. In the present study, the inflorescences are variable in type and position. The racemose type are floral in 6 species, cymose types are 11 species, spikes are two species and catkins is one species. Hypogynous flower are 13 species, perigynous flowers are 3 species and epigynous flowers are 4 species have been studied. The superior ovary are 16 species and inferior are 4 species. The characters have observed in the present research were agreement with those described by Flora of British India (Hooker 1881-87), Flora of Java (Baker 1965), Flora of Ceylon (Dassanayake 1980-2001), Flora of Hong Kong (2007-2009) and Flora of China (1995-2011). Some families according to APG III(2011) were absolutely changed to new accepted families in system of APG IV(2016). Some genera are transferred to an updated family in APG IV (2016), such as the genus *Cleome* in Capparaceae is separated from Cleomaceae and the genus *Angelomia* in Scrophulariaceae is transferred to Plantaginaceae. The family Hydrangeaceae consists of 5 genera and 20 species in the Checklist of Myanmar (Kress *et al.* 2003). There are one genera and one species in present study area. According to the Checklist of Myanmar (Kress *et al.* 2003) stated that Theaceae family consists of II genera and 45 species. There are two genera and two species in the study area.

These plants can be found in a wide range of habitats, both wild and domestic, including home gardens and road sides. The most widely used plant parts in the preparation of remedies are the stem, barks, leaves, flowers, buds, fruits and seeds. The young leaves and shoots are raw, cooked as vegetables. Some plants are used as a famous Ayurvedic food tonic. The majority of Shan ethnic people use the plants in the particular treatments such as itchy, diuretic bleeding, analgesic, bronchitis, stomach aches, indigestion, diarrhoea, dysentery, inflammation, etc., which are indications of the frequencies of ailments in the area. Therefore, traditional medicinal plants and their usage in therapy play a very important role in the health care system in Myanmar.

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