

TAXONOMIC STUDY ON NINE SPECIES OF ANGIOSPERMAE IN YAN LAW GROUP OF VILLAGES, KYAING TONG TOWNSHIP

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Abstract

The present study deals with the members of Angiospermae growing in Yan law group of villages, Kyaing Tong Township. Some Angiospermae from Yan law group of villages has been collected, identified and then morphological characteristic were studied. In this study, 9 species belonging to 8 genera of 7 families were identified and systematically arranged according to APG III system, 2009 (Angiosperm Phylogeny Group) with colored plates. All species are dicotyledonous. Artificial key to the species, detail description of individual species has also been described. In addition, their flowering period, Myanmar names and English names were also described.

Keywords: Taxonomy, Yan law group of villages

Introduction

Kyaing Tong Township is situated in Golden Triangle of Eastern Shan State of Myanmar. Yan law group of villages is located in Kyaing Tong Township. Yan law group of villages is bounded by Kyaing Tong in the east, Loi lon group of villages in the west, Hiaw kwal group of villages in the south and Wout song group of villages in the north. It lies between 21° 16' 20"-21° 17' 40" North Latitude and 99° 33' 50"-99° 35' 20" East Longitude. Yan law group of villages lies 806 meter above sea level. The area is about 40.65 kilometer square.

During the period from January to April 2018, an average monthly rainfall is 1.61 inches and 5 rainy days. This area almost gets no rain fall in February. The average maximum temperature is 29.53° C and average minimum temperature is 13° C. The coldest month of this area is February (10.6° C). The warmest month is March (32.4° C). The maximum percentage of

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humidity in January is 86 and the minimum percentage of humidity in February is 45.

Red-gray and yellow-grey sandy soils cover with mountain area and alluvial soils cover flat land and low land area.

Yan law group of villages is in the mountain deciduous forest region. The natural vegetation consists of herbs, shrubs, climbers, twiners, vines and woody trees. The families Rosaceae, Onagraceae, Loganiaceae, Acanthaceae, Lamiaceae, Plantaginaceae and Convolvulaceae are found in this area. The family Convolvulaceae (*Ipomoea triloba* L.) was commonly found in this area. The Loganiaceae (*Buddleja asiatica* Lour.) was rarely found in the study area.

In the present study 9 species belonging to 8 genera of 7 families under subclass Magnoliidae had been identified and fully described.

The aim and objectives of the present research are mainly to record the knowledge on the natural resources in study area, to get valuable information of Angiospermae to be used for other researchers and to provide invaluable taxonomic data and information in the compilation of flora of Myanmar in the future.

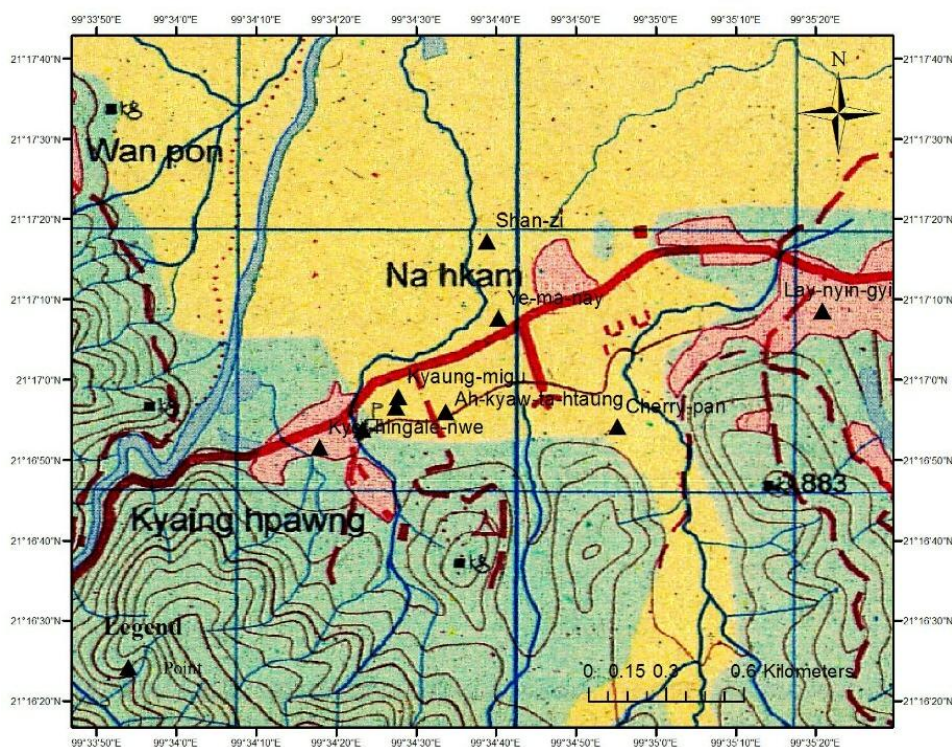


Figure 1. Location map of Yan law group of villages

(Source: Department of Geography, Bago University)

Materials and Methods

Some members of Angiosperm were collected from Yan law group of villages. The specimens were collected from January to April, 2018. The specimens were kept immediately into the plastic bags to identify and classify systematically. The collected specimens had been observed and noted in detail. In addition to construction of artificial key to the species, all the resulting species are systematically arranged into family according to APG III system, 2009 (Angiosperm Phylogeny Group). The specimens were recorded by photographs. The collected specimens were identified with the references of Flora of British India (Hooker, 1881-87), Flora of Java (Backer, 1965) and Flora of Ceylon (Dassanyake, 1980-2001).

Results

Table. List of the collected species (Subclass : Magnoliidae)

Super order	Order	Family	No.	Scientific name	Myanmar name
Fabids	Rosales	Rosaceae	1.	<i>Prunus cerasoides</i> D.Don.	Cherry-pan
			2.	<i>Prunus persica</i> (L.) Batsch	Shan-zi
Malvids	Myrtales	Onagraceae	3.	<i>Ludwigia octovalvis</i> (Jacq.) Raven	Lay-nyin-gyi
Lamids	Gentianales	Loganiaceae	4.	<i>Buddleja asiatica</i> Lour.	Kyaung-migu
	Lamiales	Acanthaceae	5.	<i>Lepidagathis hyalina</i> var. <i>semiherbacea</i> Clarke in Hook. f.	Unknown
		Lamiaceae	6.	<i>Gmelina arborea</i> Roxb.	Ye-ma-nay
		Plantaginaceae	7.	<i>Plantago major</i> L.	Ah-kyaw-ta-htaung
	Solanales	Convolvulaceae	8.	<i>Ipomoea triloba</i> L.	Unknown
			9.	<i>Merremia vitifolia</i> (Burm.f.) Hall. f.	Kyet-hingale-nwe

Taxonomic descriptions

1. Rosaceae (Juss. 1789)

1.1. *Prunus cerasoides* D.Don. Prod. Fl. Nepal. 239. 1825.

Myanmar name - Cherry-pan

English name - Indian Cherry

Flowering period - February to April

Deciduous trees, up to 12 m high, stems and branches terete, whitish, glabrous. Leaves simple, alternate; stipules laciniate, glandular, deciduous; petioles 0.7-1.5 cm long, with a pair of circular glands at the apex, grooved

above and provided with scales at the base; blades ovate or oblong lanceolate, 6-15 cm by 1.5-6 cm, more or less rounded or broadly cuneate at the base, sharply serrate along the margin, acuminate at the apex, membranous, glabrous. Inflorescences from lateral buds, fascicled or umbelled, often 3-flowered, glabrous; peduncles 0.5-1.5 cm long. Flowers white or pink, 2-3.5 cm in diameter, actinomorphic; bracts spatulate, 4 cm by 3 cm, toothed at margin; pedicels slender, 0.8-2 cm long. Calyx campanulate, slightly 5-lobed; lobes triangular, acute or obtuse, hypanthium tubular, widened towards the throat, 8-12 mm long, brownish red. Petals 5, free, obovate or suborbicular, 1 cm by 0.6-0.8 cm, pink, inserted at the mouth of hypanthium, erect. Stamens 30-35 in 2 rows, outer ones longer, adnate to the hypanthium; filaments filiform, variable in length; anthers dithecal, variable in length. Ovary inferior, ellipsoid, 1-celled, fleshy-juicy, glabrous, 2 ovules in the locule on pendulous placentae; style 0.5-1 cm long; stigma bifid. Fruits drupaceous, ellipsoid, 1.5 cm by 1 cm, yellowish red, glabrous. Stone bony, rugose and furrowed. (Figure 2. A)

Distribution - Temperate Himalaya, South India, Nepal, mountainous regions of South China, Burma, Thailand, North Vietnam and North Laos (Trivengadumt as cited in Dassanayake 1981). According to Kress and Yin Yin Kyi (2003), this species was distributing in Chin State, Kachin State, Magway Division, Mandalay Division and Shan State of Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 16' 54.13", E 99° 34' 55.20", 824 meter, Dr. Tin Tin Maw, 4. 2. 2018, collected no. 2.

1.2. *Prunus persica* (L.) Batsch, Beytr. Entw. Pragm. Gesch. 1: 30. 1801.

Amygdalus persica L., Sp. Pl. 1: 472.1753.

Myanmar name - Shan-zi; Me-mon

English name - Peach

Flowering period - February to April

Deciduous trees, up to 6 m high; young twigs glabrous. Leaves simple, alternate, stipules linear, subulate, glandular, deciduous; petioles 0.5-1.5 cm long; blades broad, oblong-lanceolate, 7-15 cm by 1.5-5 cm, cuneate at the base with two sessile glands on the margin, uniformly crenate-serrate along the margin, long acuminate at the apex, membranous, glabrous. Flowers pink, 2.5-3 cm in diameter, actinomorphic; bracts ovate, tomentose outside; pedicels very short or sessile. Calyx campanulate, 5-lobed, oval-elliptic, obtuse, pubescent outside, hypanthium cupulate, 4-5 mm. Petals 5, free, orbicular or oblong, 1.5-2 cm by 1.2-1.5 cm, much expanded, concave, clawed, pink, showy. Stamens 20-40; filament filiform, 1-2 cm long; anther dithecal. Ovary inferior, globose, tomentose, 2 ovules in the locule on pendulous placentae; style slender, 1-1.5 cm long, villous at base, glabrous above; stigma capitate. Fruits drupaceous, globose, 3-5 cm in diameter, yellow or red, fleshy, tomentose. Stone deeply pitted and furrowed, very hard. (Figure 2. B)

Distribution - Native of China. Cultivated in temperate regions and in mountainous regions in tropical countries (Tirvengadam as cited in Dassanayake 1981). Kress and Yin Yin Kyi (2003) noted that this species was cultivated in Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 17' 17.24", E 99° 34' 38.92", 808 meter, Dr. Tin Tin Maw, 15.2.2018, collected no. 4.

2. Onagraceae (Juss. 1789)

2.1. *Ludwigia octovalvis* (Jacq.) Raven, Kew. Bull. 15: 476. 1962.

Oenothera octovalvis Jacq. Enum. Pl. Carib. 19. 1760.

Myanmar name - Lay-nyin-gyi

English name - Mexican primrose willow

Flowering period - April to July

Annual, robust herbs, sometimes suffrutescent; stems and branches puberulent or densely villous. Leaves simple, alternate; stipules minute, subsessile; blades linear to narrowly ovate, 1-12 cm by 1-4 cm, cuneate at the base, entire along the margin, acute at the apex, puberulous or glabrous on both surfaces. Flowers axillary and solitary, yellow, about 2 cm in diameter, actinomorphic; bracteoles reduced or up to about 1 mm long. Calyx tubular, 4-toothed; tube just above the ovary, 1-1.5 cm long; teeth triangular, acute, shorter than tube. Petals 4, broadly obovate, 0.5-1.8 cm long, emarginate, yellow. Stamens 8, free, inserted; filaments filiform, equal, 1-1.5 mm long, greenish white; anthers dithecous, oblong, 1 mm long. Ovary inferior, linear, 1-1.5 mm long, tetralocular or pentalocular, with many ovules on the axile placentae; style short; stigma thick, slightly 4-lobed, subglobose. Capsules cylindric, 2-4 cm by 2.5-5 mm, pale brown with 8 dark brown ribs, glabrous or villous, many-seeded, irregularly dehiscent. Seeds obovoid, 0.5-0.8 mm long, brown with a white, corky. (Figure 2. C)

Distribution - Throughout the tropics, portions of the distribution undoubtedly due to spread of man, especially on Pacific Islands (Wagner as cited in Dassanayake 1995). Kress and Yin Yin Kyi (2003), treated this species was distributed in Bago Division, Mandalay Division, Sagaing Division, Shan State, Taninthayi Division, Yangon Division of Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 17' 08.60", E 99° 34' 80.84", 810 meter, Dr. Tin Tin Maw, 10.4.2018, collected no. 9.

3. Loganiaceae (R. Br. ex Mart. 1827)

3.1. *Buddleja asiatica* Lour. Fl. Cochinch. 72. 1790.

Myanmar name	- Kyaung-migu; Kyaung-migo
English name	- Butterfly Bush
Flowering period	- January to March

Perennial, erect, unarmed shrubs or small trees, 1.5-6 feet, stems and branches terete or subterete, laterally compressed at the apex, grey white or fulvous-tomentose. Leaves simple, opposite and decussate, stipules linear; petiole 2-5 mm long; blades oblong to narrowly lanceolate; 3.5-15 cm by 1.5-5.5 cm, attenuate at the base, entire or crenate or toothed along the margin, acuminate at the apex, dull dark green above, more or less densely white-tomentose beneath. Inflorescences terminal, erect, dense to rather lax, paniculate spike drooping at the tip; primary peduncles 20-35 cm long, rigid to flaccid, narrow to rather thick. Flowers white, 5-8 mm in diameter, actinomorphic, fragrant; bracts linear, 2.5 mm long, pubescent. Calyx campanulate, 4-lobed, 2 mm long; lobes triangular, 1.5 mm long, acute at the apex, densely pubescent outside. Corolla salverform, 4-lobed, imbricate in bud, marcescent after anthesis, pubescent; tube straight or curved, 5.6 mm long, whitish cream, pubescent within, lobes sub-rounded, 2.5 mm long, subequal, overlapping to the left in bud, patent after anthesis, glabrous within. Stamens 4, free, inserted above the middle of the corolla-tube; anthers ditheous, ovate-oblong, subsessile, basifixed, pale yellow. Ovary superior, ovoid, 1 mm long, glabrous, bilocular, with numerous ovules in each locule on the axile placentae; style linear, glabrous; stigma thickened or 1-lobed. Fruits capsular, septicidally 2-valved, ellipsoid, 6-8 mm long, many seeded, glabrous. Seeds minute. (Figure 2. D)

Distribution - Malaya, Cochin-China, and China (Hooker 1885). According to Kress and Yin Yin Kyi (2003) stated that this species was widely distributed in Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 16' 57.83", E 99° 34' 27.82", 820 meter, Dr. Tin Tin Maw, 12.3.2018, collected no. 6.

4. Acanthaceae (Juss. 1789)

4.1. *Lepidagathis hyalina* var. *semiherbacea* Clarke in Hook. f. Fl. Brit. Ind. 4. 521. 1885.

Myanmar name	- Unknown
English name	- Curved Lepidagathis
Flowering period	- November to February

Perennial herbs, erect, up to 1m high; stems and branches subquadrangular, puberulous. Leaves simple, opposite and decussate, exstipulate; petioles fattened, 3-12 mm long; blades ovate-elliptic or ovate-lanceolate, 2.5-9 cm by 1.5-3.5 cm, obtuse at the base, entire along the margin, acute at the apex, tomentose on both surfaces. Inflorescences axillary or terminal dense spikes, 1-sided, usually clustered, peduncle 3-8 cm long. Flowers white, 7 mm in diameter, zygomorphic; bracts ovate-lanceolate, 5-9 mm long, sericeous without, glabrous within; bracteoles linear, 6-9 mm long, sericeous without, glabrous within. Sepals 5, unequal, one larger than others, linear-lanceolate, 5-8 mm long, mucronate, pubescent. Corolla distinctly 2-lipped, white with yellowish brown spots on the lower lip, glandular hairy without, puberulous within; tube 6 mm long, narrow at the base, slightly widened above, upper lip 2-lobed; lower lip 3-lobed. Stamens 4, didynamous, inserted; filaments filiform, 1-1.7 mm long, anthers ditheous, oblong, pale yellow. Ovary superior, oblongoid, 2.5-3 mm long, bilocular, with 2 ovules in each locule on the axile placentae; style filiform, 5-7 mm long, sparsely puberulous; stigma capitate. Capsules oblongoid, 5 mm by 1 mm, 2-4-seeded, glabrous. Seeds orbicular. (Figure 2. E)

Distribution - Endemic (Cramer as cited in Dassanayake 1998). Kress and Yin Yin Kyi (2003) recorded that this species was cultivated in Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 16' 53.76", E 99° 34' 23.36", 830 meter, Dr. Tin Tin Maw, 27.1.2018, collected no. 1.

5. Lamiaceae (Martinov. 1820)

5.1. *Gmelina arborea* Roxb., Hort. Beng. 46. hyponyn. 1814.

Myanmar name	- Ye-ma-nay
English name	- White teak
Flowering period	- March to April

Perennial, deciduous, unarmed trees, to 18 m high; stems and branches terete or quadrangular while young, stout, woody, solid, glabrous; barks smooth, pale ashy-grey or grayish yellow with blackish patches; internodes 3-6 cm long. Leaves simple, opposite and decussate; exstipulate, petioles cylindric, terete, 5-12 cm long, canaliculate above, reddish green, puberulent or glabrous; blades broadly ovate, 8-25 cm by 7-17 cm, cordate or truncate at the base, with 2 shining glands at the insertion of leaf, entire along the margin, acute to acuminate at the apex, coriaceous, tomentose or glabrous above, densely fulvous tomentellous with stellate hairs beneath. Inflorescences terminal paniculate cymes; penduncles terete, 4.5-8 cm long, stout, green, puberulous. Flowers yellow, about 3-3.5 cm in diameter, zygomorphic, large, showy, fragrant; bracts linear-lanceolate, 0.4-1 cm long, acute at the apex, yellowish green and turned to brown, glabrous within and densely tomentose without, caducous. Calyx broadly campanulate, equally 5-toothed, brown or brownish green without, green within, densely tomentose without, glabrous within, persistent; tube about 4 mm long, with 2 glands at the anterior side without; lobes ovate, 2 mm long, acute to acuminate at the apex. Corolla funnel-shaped, bilabiate, 5-lobed, brownish yellow without, bright yellow within; tube distinctly curved, 1.5-2.5 cm long, widen at the mouth of tube, tomentose without, glandular-hairy within, lobes unequal in size and shape, broadly ovate to orbicular, 1-2 cm by 1-1.5 cm, obtuse to acute at the apex, the upper lip shortly bifid, sparsely short-white ciliate, the lower lip 3-lobed with a central large one. Stamens 4, free, didynamous, slightly exserted, attached at the base of the widened part of corolla tube; filaments stout, 1.3-2 cm long, slightly thickened at the base, yellow, puberulous; anthers dithecal,

oblong-lanceolate, brown or black. Ovary superior, globose, 3.5-4.5 mm long, green, glabrous, tetralocular, with one ovule in each locule on the axile placentae; style filiform, 1.5-2 cm long, slightly exserted, glabrous; stigma ligulate. Drupes ovoid or obovoid-pyriform, 1.2-1.8 cm in diameter, juicy, 1 or 2-seeded, orange-yellow when ripe, glabrous. Seeds oblong. (Figure 2. F)

Distribution - Native from Pakistan, Bhutan, and India east through Bangladesh, Burma, and Thailand to Indo-China, Malaya and Indonesia, north to southern China; introduced in many parts of tropical Africa, South America, and elsewhere (Harold Moldenke and Alma Moldenke as cited in Dassanayake 1983). According to Kress and Yin Yin Kyi (2003), this species was distribution in Bago Division, Kachin State, Mandalay Division, Shan State, and Yangon Division of Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 17' 07.65", E 99° 34' 40.34", 816 meter, Dr. Tin Tin Maw, 30.3.2018, collected no. 8.

6. Plantaginaceae (Juss. 1789)

6.1. *Plantago major* L. Sp. Pl. 112. 1753.

Myanmar name - Ah-kyaw-ta-haung; Se-gyaw-paung-ta-haung

English name - Plantain

Flowering period - December to March

Perennial herbs, stems erect, to about 10 cm long. Leaves simple, alternate or radical, radical rosette, exstipulate, petioles channelled, 2-9 cm long, villous, sheathing at base, densely hairy when young; blades elliptic, broadly elliptic or ovate, 5-16 cm by 1.5-7.5 cm, more or less broadly cuneate at the base, entire or more often dentate along the margin, obtuse at the apex, glabrous or sparsely hairy, densely villous when young. Inflorescences axillary spike, peduncles erect or ascending, more or less arcuate, 5-30 cm long, furrowed, nearly glabrous; spike 5-20 cm long, with flowers more or less distant towards the base. Flowers greenish white, small, sessile,

actinomorphic; bracts elliptic, 1-2 mm long, green, pale and membranous along the margin, glabrous or ciliolate with short hairs, keeled. Calyx 4-lobed; lobes ovate, 2-2.5 mm long, subequal, green, pale and membranous at margins, glabrous, with keel extending to tip. Corolla salverform, 3-5 mm long, 4-lobed, tube oblong-ovoid, lobes lanceolate, narrowly ovate, acute reflexed between the sepals, glabrous. Stamens 4, exserted, epipetalous; filaments filiform 5 mm long; anthers dithecous, 1 mm long, white. Ovary superior, ovoid, bilocular, with many ovules in each locule on axile placenta; style simple; stigma bifid. Fruits capsular, ovoid, 5 mm long, attenuate at apex and truncate, purplish, glabrous. Seeds mostly many, ovoid-oblong or angular, 1-1.5 mm long, black-brown. (Figure 2. G)

Distribution - Also in Nilgiri Hills in Peninsular India, Himalayas, China (Dassanayake 1996). Kress and Yin Yin Kyi (2003) recorded that this species was distributing in Kachin State, Magway Division, Mandalay Division and Shan State of Myanmar

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 16' 55.97", E 99° 34' 33.72", 822 meter, Dr. Tin Tin Maw, 5.2.2018. collected no. 3.

7. Convolvulaceae (Juss. 1789)

7.1. *Ipomoea triloba* L. Sp. Pl. 161. 1753.

Myanmar name	- Unknown
English name	- Little Bell; Threelobe morning glory
Flowering period	- December to March

An annual, terrestrial, prostrate or twining herbs; stems cylindrical, solid, glabrous or pubescent. Leaves simple, alternate, exstipulate, petioles 1.5-13 cm long, sparsely tuberculate, glabrous; blades broadly ovate to orbicular, 2.5-8.5 cm by 2-7 cm, angular or rounded at the base, entire or coarsely dentate or deeply 3-lobed, obtuse or acute and mucronulate at the apex, glabrous or sparsely pilose. Inflorescences axillary, sub-umbelliform

cyme; peduncles 1.5-13 cm long, angular, minutely verruculose, glabrous. Flowers lavender or pinkish purple, 1.2-1.5 cm in diameter, actinomorphic; bracts 2, lanceolate to ovate-lanceolate, about 2 mm long; pedicels 2.5-9 mm long, angular, minutely verruculose, glabrous. Sepals 5, oblong to elliptic-oblong, subequal, 4.5-9 mm by 2.7-3 mm, entire and ciliate along the margin, obtuse to acute and mucronate at the apex, slightly reflexed, sparsely pubescent on the outer surface. Corolla funnelform, 5-lobed; tube 10-12 mm by 3 mm, the throat dark purple; lobes 8-10 mm long. Stamens 5, included; filaments subequal, 5-9 mm long, hairy and dilated at the base, white, anthers ditheous, ovate-oblong, white. Ovary superior, ovoid, 1-2 mm long, densely hirsute, bilocular, with 2-ovules in each locule on the axile placentae; style 8-10 mm long, included; stigma 2-lobed, globose, white. Capsules subglobose, 5-7 mm long, brown, bristly pubescent. Seeds 4 or fewer, subrotund, 3-3.5 mm long, black, glabrous. (Figure 2. H)

Distribution - An American species whose major region of distribution is the West Indian Island; now a pantropical vine found throughout Malaysia, the Pacific Islands and tropical Asia (Austin as cited in Dassanayake 1980). Kress and Yin Yin Kyi (2003) stated that this species was distributing in Yangon Division of Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 16' 56.58", E 99° 3' 4' 27.49", 821 meter, Dr. Tin Tin Maw, 18.2.2018, collected no. 5.

7. 2. *Merremia vitifolia* (Burm. f.) Hall. f., Bot. Jahrb. Syst. 16: 552. 1893.

Convolvulus vitifolius Burm. f., Fl. Ind. 45. t. 18. f. 1. 1768.

Myanmar name - Kyet-hingale-nwe; Sa-pyit-nwe

English name - Grape leaf; wood rose

Flowering period - January to April

Annual, terrestrial, twining herbs; stems cylindrical, green to purplish green, glabrous or patently hirsute with white or fulvous hairs. Leaves simple;

alternate, exstipulate, petiole 2.5-16 cm long, cylindrical, green to purplish green, glabrous or patently hirsute; blades orbicular in shape, palmately 5-7 lobed, 5-19 cm by 3.5-17 cm, the lobes broadly triangular to lanceolate, broadly cordate at the base, weakly dentate to crenate along the margin, acuminate or acute to obtuse and mucronulate at the apex, green, sparsely to densely hairy on the lower surface, hairy or glabrous on the upper surface. Inflorescences axillary cyme of 1-7-flowers; peduncles 1.2-16 cm long, cylindrical, green to purplish green, glabrous or patently hirsute. Flowers bright-yellow, 4.5-5 cm in diameter, slightly zygomorphic, bracts 2, lanceolate, 1.3-2 mm by 1.2-1.5 mm; pedicels cylindrical, 1-1.8 cm long, thickened to the distal portion, glabrous or patently hirsute. Sepals 5, oblong to ovate-oblong, subequal, the outer two 1-1.5 cm by 3-5 mm, the inner three 1.2-1.8 cm by 5.5-6 mm, entire along the margin, obtuse or acute and mucronulate at the apex, reddish green to green, sparsely hirsute or glabrous, with glandular pellucid dots, accrescent in fruits. Corolla funnel-shaped, 5-lobed; tube gibbous on one side, 2.3-3.5 cm by 6-10 mm, bright yellow and paler towards the base; lobes 1.7-2.7 cm long, rounded to obtuse, bright yellow, glabrous. Stamens 5, inserted; filaments unequal, the shorter ones 3.5-5.5 mm long, the longer ones 1.2-1.5 cm long, hairy and dilated at the base; anthers dithecal, ovate-lanceolate to oblong, 3.5-4 mm long. Ovary superior, ovoid, 1-1.8 mm by 1-1.5 mm, glabrous, tetralocular with one ovule in each locule; style 0.8-1.8 cm long, inserted; stigmas 2, globose. Capsules subglobose to depressed-globose, 1.2-1.5 cm by 0.8-1.5 cm, straw-coloured, glabrous; pericarp papery. Seeds 4 or fewer, 4.5-6.5 mm by 2.5-4.5 mm, brownish black, glabrous. (Figure 2. I)

Distribution - Found from India and Ceylon to Indo-China eastward throughout Malaysia (Austin as cited in Dassanayake 1980). Kress and Yin Yin Kyi (2003) recorded that this species was reported from Myanmar.

Specimen examined - Eastern Shan State; Kyaing Tong Township, Yan law group of villages, N 21° 16' 52.56", E 99° 34' 17.96", 834 meter, Dr. Tin Tin Maw, 23.3.2018, collected no. 7.

An artificial key to the studied species:

1. Ovary inferior..... 2
1. Ovary superior..... 4
 2. Tree; petals 5; stamens numerous; fruits drupaceous 3
 2. Herb; petals 4; stamens 8; fruits capsular..... 3. *Ludwigia octovalvis*
3. Stipules laciniate; bracts spatulate; ovary glabrous; drupe less than 1.5 cm in diameter.....1. *Prunus cerasoides*
3. Stipules linear, not laciniate; bracts ovate; ovary tomentose; drupe more than 3 cm in diameter.....2. *Prunus persica*
 4. Leaves alternate..... 5
 4. Leaves opposite and decussate..... 7
5. Inflorescences spike; corolla 4-lobed.....7. *Plantago major*
5. Inflorescences cymose; corolla 5-lobed.....6
 6. Leaf-blades 5-7-lobed, flowers bright yellow, more than 4 cm in diameter.....9. *Merremia vitifolia*
 6. Leaf-blades 3-lobed; flowers pinkish purple, less than 2 cm in diameter.....8. *Ipomoea triloba*
7. Flowers actinomorphic; corolla 4-lobed; stamens equal.....4. *Buddleja asiatica*
7. Flowers zygomorphic; corolla 5-lobed; stamens didynamous..... 8
 8. Tree; inflorescences cymose; fruits drupaceous.....6. *Gmelina arborea*
 8. Herb; inflorescences spike; fruits capsular.....
 -5. *Lepidagathis hyalina* var. *semiherbacea*

Discussion and Conclusion

The present study deals with the plants growing in Yanlaw group of villages, Kyaing Tong Township. Totally, 9 species belonging to 8 genera of 7 families under subclass Magnoliidae had been studied in the present paper. All the species presented in this study are dicotyledonous plants.

The families in this research paper are Rosaceae, Onagraceae, Loganiaceae, Acanthaceae, Lamiaceae, Plantaginaceae and Convolvulaceae under the subclass Magnoliidae. They are arranged according to the classification of APG III system, 2009.

Among the species in the present study, the species of *Ipomoea triloba* L. is commonly found in this area. The species of *Buddleja asiatica* Lour. is rarely found. Among the 9 species, *Buddleja asiatica* Lour. is shrub, *Prunus cerasoides* D.Don., *Prunus persica* (L.) Batsch and *Gmelina arborea* Roxb. are trees, the rest species are herbs. Except *Buddleja asiatica* Lour., *Lepidagathis hyalina* var. *semiherbacea* Clarke and *Gmelina arborea* Roxb. are opposite leaves and others are alternate. Flower of *Lepidagathis hyalina* var. *semiherbacea* Clarke, *Gmelina arborea* Roxb. and *Merremia vitifolia* (Burm.f.) Hall. f. are zygomorphic, but the rest species are actinomorphic. Except *Prunus cerasoides* D.Don., *Prunus persica* (L.) Batsch and *Ludwigia octovalvis* (Jacq.) Raven are inferior ovary, others are superior ovary. *Prunus cerasoides* D.Don. and *Prunus persica* (L.) Batsch. are pendulous placentation while the others are axile placentation. Fruits of *Prunus cerasoides* D.Don., *Prunus persica* (L.) Batsch. and *Gmelina arborea* Roxb. are drupaceous, but those of others species are capsular.

Prunus persica (L.) Batsch. is found in the study area used for edible. *Prunus cerasoides* D.Don. and *Gmelina arborea* Roxb. are used for ornamental plants. All 9 species are also medicinally important plants. *Ludwigia octovalvis* (Jacq.) Raven included the IUCN (International Union for the Conservation of Nature) Red list of threatened species.

According to the data collected, it can be noted that 9 species from 8 genera are distributing. The collected species are identified and described with comments on their scientific names, Myanmar names and coloured plates. It is hoped that this research of present investigation have contributed towards a better understanding of 9 species distributed in Yan law group of villages for its paper utilization in the other researchers in various field of study. Finally, it is also hoped that this research paper will provide invaluable taxonomic data and information in the compilation of flora of Myanmar in the future.



A. *Prunus cerasoides* D.Don. B. *Prunus persica* (L.) Batsch. C. *Buddleja asiatica* Lour.



D. *Buddleja asiatica* Lour. E. *Lepidagathis hyalina* F. *Gmelina arborea* Roxb.
var. *semiherbacea* Clarke

G. *Plantago major* L.H. *Ipomoea triloba* L.I. *Merremia vitifolia* (Burm. f.)
Hall.f.

Figure 2

Acknowledgements

I would like express my sincere to Dr. San San Mar, Rector and Dr. Khin San San Win, Pro-rector, Kyaing Tong University, for their permission to conduct this research paper. I wish to express deepest thanks to Dr. Thandar Soe, Professor and Head, Department of Botany, Kyaing Tong University, for her invaluable suggestion and permission to this paper.

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