Taxonomic Study on Twenty Species in East Dagon Myothit Township, Yangon Region

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Abstract

The present study deals with taxonomic study on twenty species in East Dagon Myothit Township. In this research, wild, hedge, avenue and ornamental plants are included in study area. The specimens were collected, preserved and identified. The detailed taxonomic description of 20 species belonging to 19 genera and 15 families grown in study area have been collected and studied. In the present research the taxonomic description of 4 species belong to 4 genera and 3 families in monocotyledons and 16 species belong to 15 genera and 12 families in dicotyledons. The collected species were systematically arranged according to APG IV (2016). The characteristics of families, the morphological characters of genera and taxonomic description of species were presented. The collected specimens were identified and classified by using available literature. The habit of plant specimens, L.S of flowers and T.S of ovary were photographed and mentioned about taxonomic description. Moreover the artificial key to the species were also presented. These species are valuable for medicinal uses.

Keywords: Taxonomic, identification of plant specimens

Introduction

Taxonomy is a dynamic science concerning with identification of plants, their nomenclature and classification. It is often considered to be synonymous with the term systematic or systematic botany. According to Lawrence (1951) taxonomy is science which includes identification, nomenclature and classification. The selected area, East Dagon Myothit Township is between North Latitudes16˚ 52' and 17˚ 1', and between East longitude 96˚ 11' and 96 18'. It has located Dagon University and 63 wards. The field area is 88.956 sq.km (21981.42acres). It was rich with wild trees, shrubs, herbs, climber, twiner and also cultivated ornamental, vegetables. The aims of the research work to enhance environment of the research area and provide basic knowledge about systematically identification and morphological characters of collected angiosperm species in East Dagon Myothit Township and to give a partial fulfillment of floristic information in study area.

Materials and Methods

The flowering plants of East Dagon Myothit Township, Yangon Region, were collected during the month from January to August 2022. All species were recorded by photograph. Field notes were made by precise location habitat type and detailed taxonomic plant descriptions were noted. The families were classified according to APG IV (2016). Identification of genera and species were carried out by referring available literatures such as Flora of Java (Backer 1963-1965), Flora of Ceylon (Dassanayake, 1980-2000) and Flora of Hong Kong (Hu Qi-ming & Wu De-lin, 2007-2009) and other available literatures. Myanmar names and English names were referred to Hundley and Chit Ko Ko (1987) and Kess *et.al*, (2003). The artificial key to the studied species was also constructed and Herbarium Sheets were made according to the method of Lawrance (1951).

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Results

The orders and families have been arranged according to the Angiosperm Phylogeny Group of classification APG - IV, 2016.

Table 1. List of collected species in the studied area

No.	Scientific name	Family	Group	Myanmar name
1.	***Alpinia galanga*** (L.) Willd.	Zingiberaceae	Monocot	Padagaw-gyi
2.	***Curcuma zedoaria*** (Christm.) Rosc.		Monocot	Taw-nanwin
3.	***Hymenocallis littoralis*** (Jacq.)Salisb.	Amaryllidaceae	Monocot	Pingu-hnin-pan
4.	***Aquarius cordifolius*** (L.) Christenh. & Byng	Alismataceae	Monocot	Nil.
5.	***Senna surattensis*** (Burm.f.) H.S.Irwin & Barrieby	Fabaceae	Dicot	Pyin-ban-shwe
6.	***Coccina grandis*** **(**L.) Voigt.	Cucurbitaceae	Dicot	Kin-bone
7.	***Passiflora foetida*** L.	Passifloraceae	Dicot	Sukar gale
8.	***Ludwigia adscendens*** (L.) H.Hara	Onagraceae	Dicot	Lay-nyin-pan
9.	***Syzygium samarangense*** (Blume) Merr. & L.M. Perry	Myrtaceae	Dicot	Hnin-thi-pan
10.	***Corchorus asetuans*** L.	Tiliaceae	Dicot	Gone-cho
11.	***Hisbiscus vitifolius*** L.	Malvaceae	Dicot	Taw-chinbaung
12.	***Malachra capitata*** (L.) L.	Malvaceae	Dicot	Sinma-hmwe-sok
13.	***Cleome rutidosperma*** DC.	Capparaceae	Dicot	Hin-galar-pyar
14.	***Cleome viscosa*** L.	Capparaceae	Dicot	Taw-hin-galar
15.	***Citrus aurantiifolia*** (Christm.) Sw.	Rutaceae	Dicot	Than-ba-ya
16.	***Murraya paniculata*** (L.) Jack	Rutaceae	Dicot	Yu-za-na
17.	***Persicaria chinensis*** (L.) H.Gross	Polygonaceae	Dicot	Maharga-kyan-sit
18.	***Portulaca oleracea*** L.	Portulaceae	Dicot	Mya-byit
19.	***Ipomoea alba*** L.	Convolvulaceae	Dicot	Taw-kazon
20.	***Operculina turpethum*** (L.) Silva Manso	Convolvulaceae	Dicot	Kyahin-ban

Artificial key to the studied species

1. Leaves parallel venation; flower usually 3 merous or multiples --2 Monocot group
1. Leaves reticulate venation; flower usually 4 or 5 or more merous ----5 Dicot group
    2. Root fleshy rhizome; flower zygomorphic; fertile stamen 1----------3
    2. Root fibrous; flower actinomorphic; stamens 6 or more----------4
3. Leaves sessile; bract pale green----------1. *Alpinia galangal* (L.) Willd.
3. Leaves petiolate; bract large pink purple or purple to green ----------
   ----------2. *Curcuma zedoaria* (Christm.) Rosc.
    4. Inflorescence spike; false corona present; axile placentation ----------
       ----------3. *Hymenocalis littoralis* (Jacq.) Sliab.
    4. Inflorescence verticillaster; false corona absent; basal placentation----------
       ----------4. *Echinodorus cordifolious* (L.) Griseb.
5. Shrubs or herb or small tree ----------6
5. Herbs or climbing herbs or veins ----------11
    6. Leaves compound; stamens 10 ----------7
    6. Leaves simple; stamens numerous ----------8
7. Flower zygomorphic; marginal placentation; gynophore present ----------
   ----------5. *Senna surattensis* Burm.

7. Flower actinomorphic; axile placentatin; disk present ----------
---16. *Murraya paniculata*(L.) Jack.
8. Stamens monadelphous; anther monothecous; stigma 5----------9
8. Stamens free; anther dithecous; stima 1----------10
9. Epicalyx present; deep puple at the center of the corolla --11. *Hisbiscus vitifolius* L.
9. Epicalyx absent; corolla yellow ----------12. *Malachra capitata* L.
10. Flower epigynous; carpel (2) ---9. *Syzygium samarangense* (Blume.) Merr.
10. Flower hypogynous; carpel (10) ----------
----------15. *Citrus aurantifolia* (Christm&Parz.) Sw.
11. Placentation parietal or basal ----------12
11. Placentation axile ----------16
12. Inflorescence head; stamens 8-10; anther monothecous; carpel 1 ----------
----------17. *Polygonum chinense* L.
12. Inflorescence cymes; stamens 3-numerous, carpel 2-3 ----------13
13. Leaves simple 3-5 lobe; flower actinomorphic; 5-merous ----------14
13. Leaves 3-5 foliolate; flower zygomorphic; 4-merous ----------15
14. Flower epigynous; synandrous; androgynophore absent ----------
----------6. *Coccina grandis* (L.) J.Voigt.
14. Flower hypogynous; androgynophore present -------7. *Passiflora foetida* L.
15. Stamens 4+2; petal violet ----------13. *Celome rutidosperma* Dc.
15. Stamens numerous; petals yellow ----------14. *Celome viscosa* L.
16. Leaves opposite; anthor monothecous ---------- 18. *Portulaca oleracea* L.
16. Leaves alternate; anther dithecous ---------- 17
17. Disk present; stigma bilobed ----------18
17. Disk absent; stigma capitate ----------19
18. Stem cylindrical; petals pink purple --- 19. *Ipomoea maxima* (L.) G.Don.
18. Stem 3-5 winged; petals white -------20.*Operculina turpethum* (L.) J.Silva.
19. Flower hypogynous; carpel (5); stamens10 -- 8. *Ludwigia adscendens* (L.) H.Hara.
19. Flower epigynous; carpel (10); stamens numerous-------10. *Corchorus asetuans* L.

1. *Alpinia galanga* (L.) Willd., Obs. 2. 1791 (Figure. 1)
Myanmar name - Padagaw- gyi
Flowering and fruiting period - May to July

Annual herbs, pseudostem erect, rhizome branched, aromatic. Leaves simple, alternate, sessile, leaf blade broadly elliptic, leaf margin entire, leaf base rounded, leaf tip acute. Inflorescence arising from rhizome, terminal. Flower cream color, bracteates, pedicellate; bisexual, zygomorphic, trimerous, epigynous. Sepals (3), connate with tube, glabrous. Petals (3), funnel shaped, tube slightly exceeding the calyx lobes, greenish-white. Labellum with lilac veins and cream botches, the remaining two fused to the base, glabrous. Fertile stamens 1, anther dithecous: superior. Carpel (3), 1ovule in each locule in T.S, axile placentation; style slender; stigma simple. Capsule spherical, orange to red; seeds black.

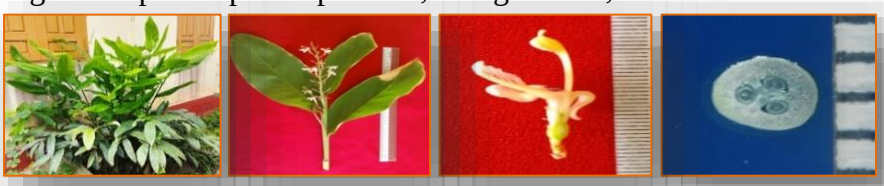

Fig.1. *Alpinia galangal* (L.) Willd.

2. *Curcuma zedoaria* (Christm.) Rosc. 8:354. 1807. (Figure. 2)

Myanmar name - Taw-nanwin
Flowering and fruiting period - June to October

Annual herb; rhizomes branched, aromatic. Leaves basal, petiolate, sheath; leaf margin entire to broadly undulate, leaf base attenuate, leaf apex aristate, dark purple botch on the center. Inflorescence terminal on pseudostem; spike 3-5 flowered. Flower pale yellow, bracteates, coma bract whitish at first, later becoming bright rose-pink or pink purple colour; fertile bracts ovate, tip recurved, rounded and deeply purple, sessile, bisexual, zygomorphic, trimerous, epigynous. Sepals (3), tubular, membranous, pale yellow, glabrous. Petal (3), funnel-shaped. Labellum yellow. Fertile stamen 1, filament flat, anther dithecous, fleshy, glabrous. Epigynous gland linear. Carpel (3), ovary inferior, many ovules in each locule in T.S, axile placentation; style filiform, stigma capitate. Fruit ovoid, smooth.

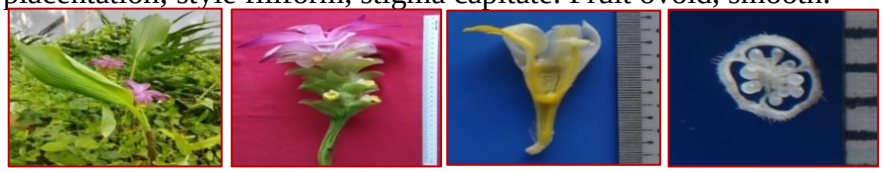

Fig.2 *Curcuma zedoaria* (Christm.) Rosc.

3. *Hymenocallis littoralis* (Jacq.) Salisb., Trans. Hort. Soc.London1:338. 1812 (Figure. 3)

Myanmar name - Pingu-hnin-pan
Flowering and fruiting period - Throughout the year

Perennial herbs; bulb subglobose. Leaves alternate, simple, smooth, the base cuneate, the margin entire and the apex acute, slightly folded along midrib, sessile. Inflorescence terminal, umbellate spike, with compress peduncle; with 2 spathes, 6-12 flowers. Flower white, bracteates, sessile, bisexual, actinomorphic, 3-merous, epigynous. Perianth with 6-tepals, united with a long tube. Stamens 6; connate at the base into a false corona; anthers versatile. Carpels (3), two-four ovules in each locule, axile placentation; style filiform. Fruit capsule.

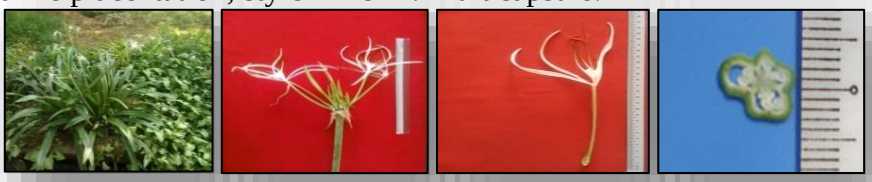

Fig.3 *Hymenocallis littoralis* (Jacq.) Salisb.

4. ***Aquarius cordifolius*** (L.) Christenh. & Byng.Flgs 53.55 III to Kalif & Flo: 1857(Figure. 4)

Myanmar name - Ye-sabe
Flowering and fruiting period - January to August

Herbs, creeping burhead, fibrous roots arising from the rhizomes. Leaves simple, the petioles triangular; lamina ovate to elliptic, the base truncate to cordate, the margin entire, the tip acuminate. Inflorescence axillary and terminal racemes, verticillaster 3-9 whorls; 3 - 15 flowers. Flower white, bracteate, pedicellate, bisexual, actinomorphic, 3-merous, hypogynous. Sepals 3, ovate, persistent. Petals 3, white, deciduous. Stamens numerous, apostemonous; filament flat; the anther versatile. Carpel numerous, apocarpous, unilocular, one ovule in each locule in T.S; basal placentation, style short, stigma simple. Fruit achene, style and sepal persistent with seed, the seed ovoid.

Fig.4 ***Aquarius cordifolius*** (L.) Christenh. & Byng

5. ***Senna surattensis*** (Burm.f.) H.S. Irwin & Barneby, Mem. New York Bot. Gard 35: 81.1982. (Figure. 5)

Myanmar name - Pyiban-shwe
Flowering and fruiting period - December to March

Shrubs or small trees, stems and branches cylindrical, puberulous. Leaves alternate, unipinnately compound, paripinnate, petiolate, often glandular club-shaped glands on petioles and leaf rachis; leaflets 4 - 9 pairs, leaflets rounded-oblique at the base, entire at the margin, slightly emarginated at the apex; stipulate. Inflorescences axillary and terminal racemes, 10-12 flowered. Flower bright yellow, bracteates, pedicellate, bisexual, zygomorphic, 5-merous, hypogynous. Sepals 5, unequal, yellowish green. Petals 5, broadly elliptic, with short claw, unequal, deeply yellow. Stamens 10, filament unequal; anthers basifixed, dehiscing by apical pores. Carpel 1, sickle shaped, pubescent, marginal placentation; style stout; stigma simple; gynophore present. Pod compressed, glabrous dehiscent.

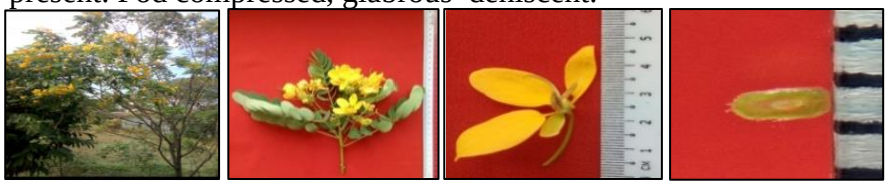

Fig.5 *Senna surattensis* (Burm.f.) H.S. Irwin & Barneby

6. *Coccinia grandis* (L.) Voigt Calc.59.1845 (Figure. 6)

Myanmar name - Kin-bone
Flowering and fruiting period - April to October

Climbing herbs, annual monoecious; scabrous hairy with tendrials. Leaves simple, alternate, petiolate; the lamina rentiform to triangular, 3-5 lobed, the base cordate, the tip acuminate, deep green, scabrous on both surfaces. Inflorescence axillary solitary cymose, female flowers in the same or different axils as male flower; puberscent. Male flower, bracteates, ovate, pedicellate, unisexual, actinomorphic, pentamerous. Sepals (5), green, pubescent. Petals (5), the tube campanulate; the lobe oblong, with green veins. Stamens (3), synandrous. Gynoecium absent. Female flower calyx and corolla the same as he characters of male flower. Androecium absent. Carpel (3), 2-3 ovules in each locule, parietal placentation; the style short, stigma 3-lobed. Fruit berry, ellipsoid, rigid line. Seeds many, embended in the red pulp.

Fig.6 *Coccinia grandis* (L.) Voigt

7. *Passiflora foetida* L., Sp. Pl. 2:959 (Figure. 7)

Myanmar name - Sukar gale, Taw sukar
Flowering and fruiting period - April to October

Herbaceous vines. Tendrils opposite with leaf, coiling and grisping. Leaves alternate, simple; petiolate; lamina broadly ovate, 3-lobed, cordate at the base, undulate and gland tipped hairs along the margin, acute to acuminate at the apex; stipulate. Inflorescence axillary and solitary. Flower purplish white; bracteates, bract-

3, pannatifid, persistent; bracteolate, bisexual, actinomorphic, pentamerous, hypogynous. Sepals (5), outer greenish glabrous, inner white, inferior. Petals 5, oblong, white; corona filamentous. Stamens 5, apostamenous, connate with androgynophore; filaments flat; anther oblong, dorsifixed. Carpels 3, 2-3 ovules in the locule in T. S, parietal placentation; style 3 or 4; stigma capitate. Fruit berry, orange or orange red; seeds many, light brown elliptic.

Fig. 7 *Passiflora foetida* L.

8. *Ludwigia adscendens* (L.) H.Hara 28 (10): 291, 1953 (Figure. 8)

Myanmar name - Lay-nyin-pan
Flowering and fruiting period - April to November

Perennial floating herbs, with spongy bladders and rooting at the nodes, pneumatophore; stem reddish, brown. Leaves alternate, simple, petiolate, lamina oblong, margin entire, base acute, apex rounded; stipule minute. Inflorescence axillary and solitary. Flower white; bracteates; bracteolate, pedicellate, bisexual, actinomorphic, pentamerous, epigynous. Sepals 5, linear lanceolate, sepaloid, persistent. Petals 5, obovate, broadly emarginate at the apex, white with yellow spots at the base. Stamens 10, apostamenous, anther basifixed. Carpels (5), one ovule in each locule in T.S, axile placentation; style stout; stigma capitate. Capsule thick-walled, glabrous. Seeds pale brown.

Fig.8 *Ludwigia adscendens* (L.) H.Hara

9. *Syzygium samarangense* (Blume.) Merr. & L.M. Perry 19: 115.1938. (Figure. 9)

Myanmar name - Hnin-thi-pan
Flowering and fruiting period - March to September

Small tree; branches cylindrical. Leaves simple, opposite and decussate, petiolate; leaf elliptic oblong, leaf apex acute, leaf margin entire, the base rounded, glabrous; exstipulate. Inflorescence terminal and axillary cymes, dropping panicles. Flower white to yellowish white, fragrant, pedicellate, bisexual, actinomorphic, tetramerous, epigynous. Sepals 4, aposepalous, connate with cup like hypanthium, persistent. Petals 4, white to yellowish white, caducous, superior. Stamens numerous, apostamenous, with 5-7 series; anther dithecous, dorsifixed. Carpel (2), many ovules in each locule in T.S, axile placentation; the style filiform; stigma simple. Fleshy berry, broadly pyriform, pale pink to light red, glabrous; seeds 1-2, small rounded.

Fig. 9 *Syzygium samarangense* (Blume.) Merr. & L.M. Perry

10. *Corchorus aestuans* L. Syst.Nat. ed.10, 1079.1759(Figure. 10)

Myanmar name - Gone cho

Flowering and fruiting period - July to October

Annual erect herbs or shrubs, red- brown. Leaves alternate, simple; petiolate, red, pubescent; lamina ovate-elliptic, leaf base rounded, sparsely hairy on both surfaces, stipulate, linear-lanceolate, greenish-red, pubesccents. Inflorescence axillary, 2-3 flowered cymes. Flower yellow, pedicellate, bisexual, actinomorphic, pentamerous, hypogynous. Sepals 5, lanceolate, apex acute, pinkish. Petals 5, slightly mucronate at the tip, oblong ovate, imbricate, yellow, papery. Stamens numerous, apostamenous, filaments unequal, anther dorsifixed. Carpels (3), one ovule in each locule, axile placentation, style flat, stigma capitate. Fruit capsule, 3 valved, with membranous wings on angles.

Fig.11 *Corchorus aestuans* L.

11. *Hisbiscus vitifolius* L. Sp.Pl 2:693. 1753 (Figure. 11)

Myanmar name - Taw-chinbaung

Flowering and fruiting period - September to March

Shrubs or perennial herbs, stem pubescent. Leaves alternate, simple, petiolate; leaf blade sub-orbicular in outline, distinctly 3-5 lobed, base cordate, the margin serrate, the apex acute; stipulate. Inflorescence axillary solitary. Flower yellow and deep purple or macroon in the center; pedicellate, bisexual, actiomorphic, pentamerous, hypogynous. Epicalyx 5-7 . Sepals (5), connate with tube, campanulate, persistent. Petals 5, campanulate, imbricate. Stamens numerous, monadelphous; anther monothecous, dorsifixed. Capels (5), two ovules in each locule in T.S, axile placentation; style filiform, stigma 5. Fruit capsule,. Seeds black.

Fig.11 *Hisbiscus vitifolius* L.

12. *Malachra capitata* (L.) L. DC. Prodr. 1:440; syst.ed. 12:458.1767. (Figure. 12)

Myanmar name - Sinma-hmwe-sok

Flowering and fruiting period - June to November

Annual erect herbs; green-reddish brown, pubescent. Leaves alternate, simple, petiolate, pubescent, lamina roundish to cordate, the base cordate, the margin crenate-serrate, the tip rounded-acute, stipulate. Inflorescence terminal and axillary 4-10 flowers. Flower bracteate, pedicellate, bisexual, regular, actinomorphic, pentamerous, hypogynous. Sepals (5), persistent. Petals 5, yellow. Stamens numerous, fused, monadelphous; the anther monothecous, dorsifixed. Carpel (5), one ovule in each locule in T.S, axile placentation; style terminal and slender; the stigma five lobes. Fruit dehiscence capsule, subglobose, brown stiff hairs. Seeds 5, sub rentiform.

Fig.12 *Malachra capitata* (L.)L.

13. *Celome rutidosperma* DC. 1:241.1824. (Figure. 13)

Myanmar name - Hnin-galar-pyar

Flowering and fruiting period - June to September

Erect herbs; stem quadrangular. Leaves alternate, 3-foliolate compound, petiolate, the central leaflets slightly larger than the lateral ones, leaflets rhomboid-elliptic, cuneate at the base, entire and ciliate along the margin, acute at the apex. Inflorescence solitary axillary. Flower pedicelalte, bisexual, zygomorphic, tetramerous, hypogynous. Sepals 4, linear-lanceolate, green, inferior. Petals 4, apopetalous, valvate, oblong ovate, bluish violet, inferior. Stamens 2+4, tetradynamous, apostamenous, filaments unequal, pink; anther brown, dithecous, basifixed. Carpels 2, two ovules in the locule in T.S, parietal placentation; style very short; stigma peltate; gynophore present. Fruit capsule. Seeds dark-brown, depressed-globular.

Fig.13 *Celome rutidosperma* DC.

14. *Celome viscosa* L. Sp. Pl. 673. 1753. (Figure. 14)

Myanmar name - Taw-hin-glar

Flowering and fruiting period - May to November

Annual herbs, stems viscoid, quadrangular, densely pubescent. Leaves alternate, palmately compound, 3-5 foliolate, the middle one largest, petiolate, viscid pubescent; lamina elliptic-ovate, margin entire, apex acute, base acute, pubescent on both surface. Inflorescence axillary and solitary cyme. Flower yellow, pedicellate, bisexual, actinomorphic, tetramerous, hypogynous. Sepals 4, apex acute, green, inferior. Petals 4, elliptic-ovate, imbricate, glabrous, yellow. Stamens numerous, apostamenous, anther dithecous, basifixed. Carpel 2, ovary superior, pubescent with viscoid hairs, greenish yellow, one locular, 2-3 ovules in each locule in T.S, parietal placentation; style stout, stigma capitate. Fruit sliques, with viscid hairs, seed many.

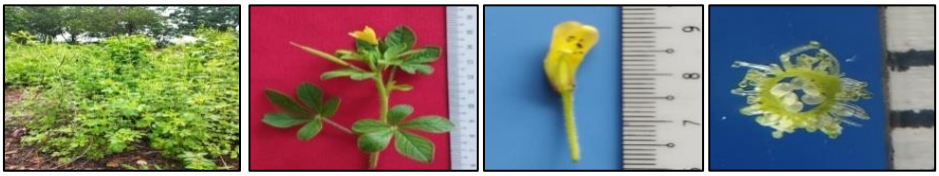

Fig.14 *Celome viscosa* L.

15. *Citrus aurantiifolia* (Christm.) Sw., J. Wash Acad. Sci. 3:465, 1913. (Figure. 15)

Myanmar name - Than-ba-ya

Flowering and fruiting period - December to March

Evergreen small tree, with short stiff sharp spines, aromatic, glandular. Leaves alternate, unifolioate, aromatic, petiolate, narrowly winged; lamina ovate, apex

obtuse, the margin broadly crenate, leaf base slightly rounded; oil gland present. Inflorescence axillary or terminal. Flower fragrant, bracteates, pedicellate, bisexual, actinomorphic, tetramerous, hypogynous. Sepals (4), persistent. Petals 4, white. Stamens numerous, polyandrous, two-whorled; the filaments flattened, the anther basifixed. Carpels (10), 1-2 ovules in each locule in T.S, axile placentation; the style thick and stout, stigma globose; the nactery disc present. Fruit hesperidium, globose, pericarp very thin, very densely glandular, juice very sour. Seeds small ovate.

Fig.15 *Citrus aurantiifolia* (Christm.) Sw.

16. *Murraya paniculata* (L.) Jack Ex. Hook. Bot. Mise 2:79.1832. (Figure. 16)

Myanmar name - Yu-zana
Flowering and fruiting period - May to October

Shrub or small tree, sparsely pubescent. Leaves alternate, 2 - 6 leaflets, petiolate, leaf blade ovate to elliptic, leaf blade, apex rounded to acuminate, the margin entire, leaf base acute, glabrous. Inflorescence terminal and axillary corymb. Flower fragrant, pedicellate, bisexual, actinomorphic, pentamerous, hypogynous. Sepals (5), persistent. Petals 5, imbricate, white. Stamens 5+5. Carpel (2), one ovule in each locule in T.S, axile placentation, stigma capitate, disc present. Fruit berry, orange to red.

Fig.16 ***Murraya paniculata*** (L.) Jack.

17. *Persicaria chinensis* (L.) H.Gross Sp. Pl. 363, 1753. (Figure. 17)

Myanmar name - Mahargar-Kyan-sit
Flowering and Fruiting period - July to November

Perennial herbs, stem erect. Leaves alternate, simple, petiolate, with two auricles at the base, the lamina ovate, the base truncate, the margin entire, the apex acute-acuminate, violet spots on upper surface; ochreate stipule. Inflorescence terminal and axillary small head. Flower white, bracteates, pedicellate, bisexual, actinomorphic, pentamerous, hypogynous. Tepals (5), connate at the base, persistent. Stamens 8-10, 2-series; filament flat, unequal, anther dorsifixed. Carpel 1, monocarpellary, ovary superior, one ovules in the locule in T.S, basal placentation; style slender, 3-cleft, white, stigma capitate. Fruit achene, enclosed by persistent parienth, seeds brown, smooth.

Fig.17 ***Polygonum chinense*** (L.) H.Gross

18. *Portulaca oleracea* L., Sp. Pl. 1.445(1753) (Figure. 18)

Myanmar name - Myae-byit / Myet-htauk

Flowering and fruiting period - May to August

Annual herbs, prostrate stem, succulents. Leaves opposite, simple, petiolate, subsessile, leaf blade obovate-oblong to linear oblong, attenuate at the base, entire at the margin, emarginate at the apex. Inflorescence axillary and terminal, subtended by 4 leaved involucre. Flower bracteates, sessile, bisexual, actinomorphic, pentamerous, perigynous. Sepals 2, concave, sepaloid, persistent. Petals 5, obovate, emarginate with mucronate notch, yellow. Stamens 7-12. Carpel 5, ovoid, glabrous, many ovules in the locule, axile placentation; style slender, stigma 4-5 fids, sticky. Fruit capsule. Seeds reniform.

Fig.18 *Portulaca oleracea* L.

19. *Ipomoea alba* L. G. Don. Hort. Brit., ed. 2: 372. (Figure.19)

Myanmar name - Taw - kazun

Flowering and fruiting period - April to August

Perennial climbing herbs. Leaves alternate, simple, petiolate, lamina broadly ovate, apex acuminate, margin entire, base cordate, glabrous on both surface. Inflorescence axillary. Flower bracteate, pedicellate, bisexual, actinomorphic, pentamerous, hypogynous. Sepals 3+2, ovate oblong, sepaloid, persistent. Petals (5), infundibuliform, pink purple. Stamens 5, filaments unequal, pubescent at the base, pinkish, the anther basifixed. Carpel (2), two ovule in each locule, axile placentation; style filiform, white, stigma bilobed, annular disc present. Fruit capsule, 2 - 4 seeds.

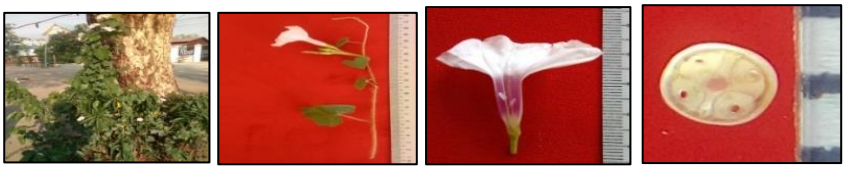

Fig. 19 *Ipomoea alba L.*

20. *Operculina turpethum* (L.) Silva Manso Enum. Subst.Bras.16.1836 (Figure. 20)

Myanmar name - Kyahin-pan

Flowering and fruiting period - December to March

Veins, perennial, 3 - 5 winged, angular. Leaves alternate, simple, petiolate, the lamina broadly ovate, the base truncate, the margins entire, the tips mucronate to acute, pubescent. Inflorescences axillary cymes. Flower bracteate, pedicellate, puberulent; bisexual, actinomorphic, pentamerous, hypogynous. Sepals 2+3, persistent. Petals (5), funnel-shaped. Stamens 5, epipetalous; the filament equal, hairs at the base, the anther basifixed. Carpel (2), false septum present, two ovule in each locule in T.S, axile placentation, stigma bilobed, capitate; annular disc present. Fruit

Fig.20 *Operculina turpethum* (L.) Silva Manso

Discussion and Conclusion

The present study deals with taxonomic study on Angiosperm in East Dagon Myothit Township, Yangon Region. In present study, 20 species of flowering plants belong to 19 genera of 15 families.According to the Angiosperm Phylogeny Group classification for the orders and families of flowering plants APG IV (2016), the numbers of order, most members of families are arranged in present research. Then, Myanmar names of collected specimens were referenced to Hundley and Chit Ko Ko (1987), Kress *et al.* (2003). The observed 19 species belong to family Zingiberaceae, Amaryllidaceae, Alismataceae, Fabaceae, Cucurbitaceae, Passifloraceae, Myrtaceae, Onagraceae, Malvaceae, Tiliaceae, Capparaceae, Rutaceae, Polygonaceae, Portulaceae, and Convolvulaceae. Zingiberaceae, Amaryllidaceae and Alismataceae are monocots and the remaining species are dicots.

The collected specimens of 14 species are herbs, 6 species are shrubs and small trees. *Alpinia galangaln* (L.) Willd. and *Curcuma zedoaria* (Christm) Rosc. have leafy pseudostem. *Passiflora foetida* L. and *Coccina grandis* (L.) J. Voigot., are tendrial climmberagree with Dassanayake (1996, 1997), Qi-ming (2007-2009), and Backer (1963, 1965). Simple leaves are found in 15 species and compound leaves are found in 5 species. *Senna surattensis* Burm. *Celome rutidosperma* DC., *Celome viscosa* L. and *Murraya paniculata* (L.) Jack. have 3-5 palmately, *Citrus aurantifolia* (Christm & Pannz) Sw. is unifoliolate compound leaves are agree with Wu et al., (1994), Qi-ming (2007-2009), and Backer (1963, 1965).Inflorescences of *Polygonum chinense* L. is head, *Echinodrous cordifolius* (L.) Griseb. is verticillaster, *Portulaca oleracea* L. is cyme with subtended by 4 leaves involucre and remaining species are racemes and cymes, are agree with Dassanayake (1987, 1998), Qi-ming (2007-2009), and Backer (1963, 1965). Flowers of 17 species are actinomorphic and 3 species are zygomorphic. *Coccina grandis* (L.) J. Voigot. is monecious, agree with Dassanayake (1985, 1998), Qi-ming (2007-2009), and Backer (1963, 1965). Epicalyx are found in *Hisbiscus vitifolius* L. and *Corchorus asetuans* L. are agree with (Dassanayake, 1991), (Qi-ming, 2007), and (Backer 1963).

Sepals of 16 species are aposepalous and 13 species are synsepalous. Among then *Portulaca oleracea* L. has 2-sepals. *Ipomoea maxima* (L.) G.Don. and *Operculina turpethum* (L.) J.Silva. have 3 large outer and 2 smaller in inner. agree with (Dassanayake, 1980, 1983, 1985, 1990, 1991) and (Qi-ming 2007-2009).Petals of *Alpinia galangal* (L.) Willd. has fleshy largest labellum, *Hisbiscus vitifolius* L. has deep purple in the centre, are agreed with Dassanayake (1985, 1998), Qi-ming (2007-2009), and Backer (1963, 1965).

Stamens of *Alpinia galangal* (L.) Willd. and *Curcuma zedoaria* (Christm) Rosc. has 1 stamens. 2 species of Malvaceae family have monadelphous. *Passiflora foetida* L. has androgynophore, agreement with Backer (1963, 1965), Dassanayake (1983, 1998), Qi-ming (2007-2009).Carpel of *Senna surattensis* Burm. has marginal placentation, *Echinodrous Coccina grandis* (L.) J.Voigt., has basal placentation and the remaining species are axile placentation. *Ipomoea maxima* (L.) G.Don. and *Operculina turpethum* (L.) J.Silva. have bilobed stigma agree with (Dassanayake, 1980, 1983, 1990, 1996), Simon Gardner (2007) and (Qi-ming 2007-2009).In

conclusion, the present research work can investigated the valuable information and wide knowledge for the students, local people and enhances their environment and provide opportunities for educational scientific researches.

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