

Some Medicinal Useful Plants for Curing Asthma

Khin San Win¹, Cho Cho Myint², Yu Yu Tin³, Nyunt Nyunt San⁴

Abstract

Some plants used to cure asthma in traditional medicine have been studied. Some medicinal plants were collected and identified using literature moreover investigated by interviewing ten traditional practitioners in Mandalay and Meiktila. The survey aimed at identifying the plants used in the general Pharmacopoeia among the traditional practitioners who have a rich knowledge on the plants. In the present study asthma curing 12 species belonging to 12 genera of nine families were described with morphological characters, medicinal uses, part used and their relevant photographs.

Keywords: Medicinal plants, Asthma,

Introduction

Human beings survive by using plant resources for their basic needs, such as food, clothing, shelters and medicines since they have been evolved on the earth. Human searched plants and plant parts that would relieve pain and physical suffering. Many plants possess therapeutic properties which effects on human body these regarded as medicinal plants. Therefore, they serve as therapeutic agents as well as important raw materials for the production of traditional and modern medicines.

Asthma is a condition in which human airways narrow and swell and produce extra mucus. This can make breathing difficult and trigger coughing, wheezing and shortness of breath. For some people, asthma is a minor nuisance. For other, it can be a major problem that interferes with daily activities and may lead to life-threatening asthma attack. Asthma symptoms vary from person to person.

Asthma signs and symptoms include: shortness of breath, chest tightness or pain, trouble sleeping caused by shortness of breath, coughing and wheezing, a whistling or wheezing sound when exhaling (wheezing is a common sign of the asthma in children) , coughing or wheezing attacks that are worsened by a respiratory virus, such as cold or the flu. People with asthma can sometimes have asthma attacks. When this happens, their airways become inflamed and narrowed, making it hard to breaths. Asthma attacks can be serious and can also be fatal.

The outdoor and indoor pollution are a big part of the growing asthma problem. Asthma is a familiar and growing disease today. Tens of millions of people throughout the world suffer asthma.

According to interview of (10) Traditional practitioners, (34) species of plants used to cure asthma , among them 12 species belonging to 12 genera of nine families are identified and documented.

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Materials and Methods

Fresh plant parts treated for asthma diseases were collected between January, 2018 to November, 2019 from vicinity of Mandalay. This specimens were photographed and record the data. The interview data on the name and parts of the plants used, the mode of preparation and administration were collected during field trips. Ten Traditional practitioners were interviewed. Collected plants were identified by using Backer 1963-68, Hooker 1972-97, Flora of Ceylon 1996, Flora of Java and Kress et al, 2003. For the identification, the vegetative and reproductive parts of each plant were collected at the time of their flowering period. The scientific name of all the collected species were arranged alphabetical.

Results

Table 1. List of the studied species

No	Scientific Name	Family	Myanmar Name	Part used
1	<i>Acalypha indica</i> L.	Euphorbiaceae	Kyaung yo thay; Kyaung se pin	Leaves, root, the whole plant
2	<i>Achyranthes aspera</i> L.	Amaranthaceae	Kyatmauksuepyan; Nauk po	The whole plant
3	<i>Acorus calamus</i> L.	Acoraceae	Lin ne	Rhizome
4	<i>Calotropis gigantea</i> (L) R.Br.	Apocynaceae	Mayo gyi	Leaves, root, the whole plant
5	<i>Coccinina grandis</i> (L.)J. Voigt, Hort.	Cucurbitaceae	Kin mon/Kin bon	Leaves, fruit, the whole plant
6	<i>Croton calococcus</i> Kurz,	Euphorbiaceae	Kanakho galay/ Khway thay pan	Leaves, the whole plant
7	<i>Datura metel</i> L.	Solanaceae	Padaing phyu	Fruits
8	<i>Eclipta prostrata</i> (L.) L.,	Asteraceae	Kyeik hman	Leaves, the whole plants
9	<i>Eupatorium odoratum</i> L.,	Asteraceae	Bizat; Zarmany	Leaves
10	<i>Euphorbia hypericifolia</i> L.	Euphorbiaceae	Kywe kyaung min sae	The whole plant
11	<i>Morinda citrifolia</i> L.	Rubiaceae	Ye yo	Leaves , fruits
12	<i>Ocimum basilicum</i> L.	Lamiaceae	Pinsein	The whole plant

1. Scientific Name: *Acalypha indica* L.

Myanmar Name: Kyaung yo thay; Kyaung se pin

English Name : Indian copper leaf; Indian Acalypha

Family : Euphorbiaceae

Part used : Leaves, root, the whole plant

Annual, monoecious herbs. Leaves simple, alternate; stipules linear-lanceolate,; blades ovate to rhombic-ovate. Inflorescences terminal or axillary spikes, with staminate flowers clustered at the top and pistillate flowers at the base. Flowers unisexual, actinomorphic, bracteate, staminate flowers minute, yellow; bracts minute, caducous; Pistillate flowers, yellow to green., bracts large, reniform, multinerved, shallowly dentate, glabrous; Capsules ovoid or

subgloboid, dehiscent into three 2-valved cocci, completely enclosed by bract. Seeds void, pale brown, glabrous.

Used described to cure asthma in Traditional Medicine: Wet roots of Kyaungyo that are boiled in water till one third is left to produce medicine which can be drunk. Wet leaves are fried in oil to produce medicinal diet. A little of diet can be eaten two times a day in morning and at night to cure asthma (U Khin Maung Kyi). Kyaung yo that leaves are crushed and squeezed into liquid. The liquid of Kyaung yo that and that of Tama leaves are mixed in equal weight to produce medicine. A half teaspoon or a teaspoon of the medicine, according to the age, can be fed children suffering congested in the chest being blocked with phlegm. Then they will get relief from congestion as phlegm and mucous are discharged by defecating and vomiting (U Tun Kyaw, Daw San Myint Nwe).



2. Scientific Name: *Achyranthes aspera* L.

Myanmar Name: Kyatmauk sue pyan; Nauk po

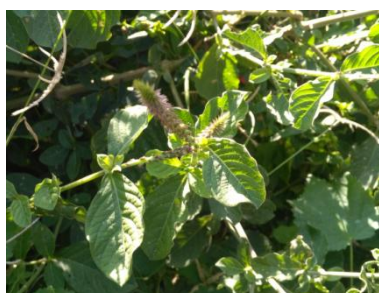
English Name : Prickly chaff flower

Family : Amaranthaceae

Part used : The whole plant

Annual erect herbs to subscandent or straggling. Leaves simple, opposite, exstipulate; blades elliptic-oval or oblong, gradually narrowed below. Inflorescences terminal dense spikes with many-flowered. Flowers whitish or pale green to red or purple, apetalous, sessile, reflexed after anthesis; bracts ovate with a spinescent tip, persistent; bracteoles 2, deltoid, ovate, with a spinescent tip. Utricles oblongoid, one-seeded. Seeds globoid or oblongoid, brown.

Used described to cure asthma in Traditional Medicine: The whole plant of Kyatmauk sue pyan plant is incinerated, made into powder and then cooked into yotekhamu salt. Then a pe' of yotekhamu salt and five kyat thar of honey are mixed to produce medicine. A teaspoon of that medicine for a draught, if taken three times a day can cure asthma (U Khin Maung Kyi, U Kyaw Naing Oo). The whole plant of Kyatmauk sue pyan plant is air dried and put into a pot. The pot is sealed and heated with a very strong fire until the ash left. The ash has been made into salt. One ywe (1.36 gm) of this salt can be taken orally two times per day to cure asthma (U Tun Kyaw).



3. Scientific Name: *Acorus calamus* L .

Myanmar Name: Lin ne

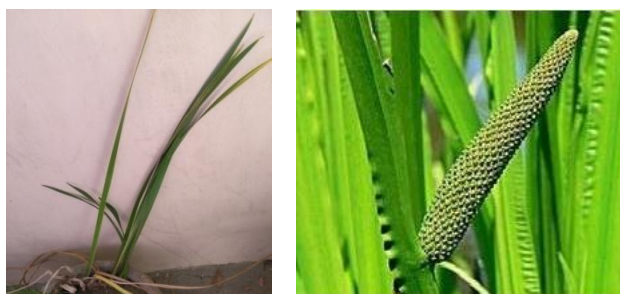
English Name : Sweet flag

Family : Acoraceae

Part used : Rhizome

Perennial erect herbs; rootstock stout, creeping with long fibrous roots from the lower surface; stem grooved at one side and ribbed at the opposite, glabrous. Leaves ensiform or linear. Peduncle long. Spathe leaf-like, not enclosing the spadix. Spadix cylindrical, obtuse. Tepals 6, oblong-ovate, slightly curved; margin membranous. Stamens 6; filaments flat,; anthers suborbicular. Ovary obconical, trilobular with many pendulous ovules in each locule; stigma sessile. Seeds obconical.

Used described to cure asthma in Traditional Medicine: The rhizomes of Lin ne is air dried and ground into powder. A teaspoon (1 g) of powder is mixed with honey can be drunk three times a day for the treatment of asthma (Daw Khin Thet Tun). The rhizome of Lin-ne are air dried and powdered, This powder can be dissolved with sesame oil or castor oil, which is applied as ointment on the chest to relief asthma. (Daw Khin Myo Myint).



4. Scientific Name: *Calotropis gigantea* (L) R.Br.

Myanmar Name: Mayo gyi

English Name : Giant swallow-wort; vercum; crown plant

Family : Apocynaceae

Part used : Leaves, root, the whole plant

Perennial erect, undershrubs or shrubs, milk-juicy; stems and branches cylindrical, woolly. Leaves simple, opposite and decussate, blades pandurate-ovate, densely woolly beneath. Inflorescence axillary umbelliform cymes with many flowers. Flowers lilac or white; bracts ovate-linear, coronal scales 5, staminal, radiating from large staminal column, dorsally spurred, exceeding the anther tips; pollinia solitary in each cell, pendulous. Fruits follicular, solitary or sometimes in pairs, ellipsoid, recurved from an oblique base, many-seeded. Seeds ovate, compressed, comose.

Used described to cure asthma in Traditional Medicine: Milky latex secreted from the bark or petiole of Mayo gyi and five kyat thas of honey are mixed to make medicine. A teaspoon of the at a time, if eaten three times a day regularly, can cure asthma (U Khin Maung Kyi, U Moe Thein). Pyinsangapa(five parts of plants) of Mayo gyi is dried and incinerated into ash. The ash is soaked in water for four days and cooked into salt. A Ywe seed of the salt(About 0.136 gm) is taken with lemon juice two times a day for a week to relieve asthma(U Moe Win, Daw Aye Aye Nwe). A teaspoon of the liquid crushed and squeezed out of mayo gyi leaves is taken with a ywe seed of salt (0.136 gm) to relieve asthma (Daw San Sint Sint, Daw San Myint Nwe).



5. Scientific Name: *Coccinina grandis* (L.)J. Voigt, Hort.

Name: *Coccinina grandis* (L.)J. Voigt,

Hort. Myanmar Name: Kin mon/Kin

bon

English Name : Ivy gourd; Small gourd; Scarlet gourd

Family : Cucurbitaceae

Part used : Leaves, fruit, the whole plant

Perennial dioecious tendrillar climbers with tuberous roots. Leaves simple, alternate, exstipulate; blades ovate, 5-angular or palmatifid. Pistillate flowers axillary and solitary; the staminate ones fasciculate in the leaf-axils, white. Pepo indehiscent, oblongoid or cylindric, smooth, with longitudinal striae, red-pulpy, scarlet when ripe, many-seeded. Seeds ovate, compressed, finely warty.

Used described to cure asthma in Traditional Medicine: Tender King- bon fruits tasting bitter are dried and made into powder which is mixed with honey to produce medicine. A petha (1.020 gm) of the medicine, if taken three times a day, can cure asthma (U Khin Maung Kyi). Pyinsangapa(five parts or the whole plant)of King bon is boiled in water to produce boiled medicinal liquid which can be drunk to cure asthma (Daw San Sint Sint, Daw San Myint New).



6. Scientific Name: *Croton calococcus* Kurz, Joun.

Myanmar Name: Kanakho galay/Khway thay pan

English Name : Hairy fruit croton

Family : Euphorbiaceae

Part used : Leaves, the whole plant

Annual, erect, monoecious, stellate-hairy herbs. Leaves simple, alternate; blades ovate-lanceolate or ovate-elliptic. Inflorescences usually axillary or at the trifurcation of branches, apparent terminal racemes, bearing staminate flowers at the upper portion and pistillate flowers at the lower portion. Flowers unisexual, actinomorphic, bracteate. Staminate flowers yellowish-white. Pistillate flowers green. Fruits schizocarpic, dehiscent into 2-valved 3 cocci, ovoid, 3-seeded, 3-lobed, stellate-pubescent. Seeds oblongoid, brown, smooth, carunculate.

Used described to cure asthma in Traditional Medicine: Pyinsangapa (five parts of plant) of Kanakho is crushed and boiled in water till one third of liquid is left to produce medicinal liquid. A half tea cup of the liquid for a dose, if taken three times a day, can relieve asthma (U Khin Maung Kyi).

**7. Scientific Name: *Datura metel* L.**

Myanmar Name: Padaing phyu

English Name : Downy thorn apple; metel thorn apple

Family : Solanaceae

Part used : Fruits

Annual erect herbs; stems and branches glabrous, often pale purple while young. Leaves simple, alternate, exstipulate; blades ovate. Inflorescences uniflorous cymes. Flower axillary, intwig-forked, solitary, white or pale purple, regular, actinomorphic, bisexual, pentamerous, hypogynous. Calyx tubular, 5-lobed, pale yellow; lobes triangular, acuminate, plicate in bud. Corolla tubular-funnel shaped with 5 acumens; tubes long, basally angulate; limb plicate in bud. Stamens 5, free, included, epipetalous. Disc annular. Ovary ovoid, bistrifid, basally tetralocular, apically bilocular with many ovules in each locule on the axile placentae; style long; stigma bifid. Fruits capsule, pendulous, spinescent, many-seeded. Seeds subreniform, compressed, brown.

Used described to cure asthma in Traditional Medicine: Padaing fruits are incinerated and a teaspoon (1g) of the ash can be dissolved with lemon juice is taken orally once a day to cure asthma (U Moe Thein and U Tun Kyaw).



8. Scientific Name: *Eclipta prostrata* (L.) L., Mant

Myanmar Name: Kyeik hman

English Name : False daisy, Trailing Eclipta

Family : Asteraceae

Part used : Leaves, the whole plants

Perennial, erect or procumbent herbs; stems and branches cylindrical, reddish, appressed-pubescent or rigid. Leaves simple, opposite and decussate, subsessile, exstipulate; blades elliptic-oblong or oblong-lanceolate. Inflorescence solitary or geminate, in the upper leaf-axils or terminal. Heads heterogamous, radiate; involucre campanulate; involucral bracts 2-seriate, elliptic; receptacle convex, paleaceous; paleae linear, caducous. Marginal flowers 1- to 2-seriate, liguliform, pistillate, fertile; inner ones numerous, disciform, bisexual, fertile, not exceeding the involucre. Achenes triquetrous, obovate-oblongoid, thinly white-hairy at the top, black; pappus hairs absent.

Used described to cure asthma in Traditional Medicine: Pyinsangapa (five parts) of kyeik hman are crushed and squeezed into liquid called thetthu liquid is mixed with honey and a reasonable amount of the liquid is taken according to the age to relieve asthma (Daw San Sint Sint, Daw San Myint Nwe). Pyinsangapa is mixed with about three or four segments of garlic and then boiled till one third of liquid is left. A teacup of the liquid at one time, if taken thrice a day, can heal asthma (U Khin Maung Kyi).



9. Scientific Name: *Eupatorium odoratum* L.,

Myanmar Name: Bizat; Zarmany

English Name : Jamani

Family : Asteraceae

Part used : Leaves

Perennial, smelling shrubs; branches climbing and overhanging, green, densely tomentose. Leaves simple, opposite, exstipulate; blades deltoid-ovate. Inflorescences axillary or terminal paniculiform corymbs. Heads homogamous; involucre tubular; involucral bracts 3- to 5-seriate, the outer ovate and the inner ones linear-lanceolate, greenish-striated; receptacles convex, naked. Flowers disciform, purple, multiserial, exceeding the involucre. Achenes elliptic-lanceolate, 5-angled, brown, sparsely hairy along the angles or ribs; pappus hairs uniseriate, unequal, filiform, spinulose, whitish or pale brown when dry.

Used described to cure asthma in Traditional Medicine: Bizat leaves are boiled with enough water till one third of the water is left. A green tea bowl (130 ml) of liquid can be drunk three times a day to cure asthma (U Moe Thein). Bizat leaves are crushed and squeezed. A teaspoon (4ml) of liquid can be taken orally two times a day for the treatment of asthma (U Kyaw Naing Oo)



10. Scientific Name: *Euphorbia hypericifolia* L.

Myanmar Name: Kywe kyaung min sae

English Name : Milk weed

Family : Euphorbiaceae

Part used : The whole plant

Annual, monoecious, milky-juicy herbs; stems and branches terete, sparsely crisped pubescent. Leaves simple, opposite and distichous; blades elliptic-oblong. Cyathia forming a axillary or terminal, many-fid, dense, fascicled cyme on a short pubescent stalk with 2 leafy bracts at every fid. Flowers unisexual, the pistillate one surrounded by the numerous staminate flowers, each flower with articulate pedicels and minute scales at the base, apetalous. Stamen one; anther ditheous, yellow. Ovary ovoid, Capsules trigonous, dehiscent into 2-valved 3-cocci, 3-seeded, 3-lobed, pale greenish brown, slightly hairy to subglabrous. Seeds sub-quadrangular-oblong, with thin white mucous wall, minutely carunculate.

Used described to cure asthma in Traditional Medicine: The whole plant of Kywe kyaung min sae is crushed and squeezed into liquid. A teaspoon (4ml) of liquid can be taken orally three times a day to cure asthma (U Moe Thein, U Moe Win & Daw Aye Aye Nwe).

**11. Scientific Name: *Morinda citrifolia* L.**

Myanmar Name : Ye yo

English Name : Noni

Family : Rubiaceae

Part used : Leaves , fruits

Perennial large shrubs or small trees. Leaves simple, opposite and decussate; stipules interpetiolar, triangular or obovate, slightly connate at the base, enveloping the young shoots; blades narrowly to broadly elliptic or obovate. Inflorescences axillary or terminal dichasial cymes aggregated into dense globose heads. Flowers white fragrant, actinomorphic, bisexual, pentamerous, epigynous; ebracteate; sessile; ebracteolate. Fruits sorosis, turbinate, palegreen or pale-yellowish-white while young, turning to white when ripe, strongly odorous. Seeds black, obovoid or globoid.

Used described to cure asthma in Traditional Medicine: Ye yo leaves are pounded into liquid. A tablespoon (13 ml) of liquid can be drunk as medicine two to three times a day to cure asthma (U Moe Thein, U Tun Kyaw). The ripen fruits of ye yo , with honey and jiggery (palmsugar) are made into jam. A teaspoon(4ml) of the jam can be eaten as medicine two times a day to cure asthma (All Traditional practitioners



12. Scientific Name: *Ocimum basilicum* L.

Myanmar Name: Pinsein

English Name : Basil; Common Basil; Common Sweet Basil; Sweet basil

Family : Lamiaceae

Part used : The whole plant

Annual erect, aromatic herbs: stems much branched, younger stems quadrangular, sparsely or densely villous. Leaves simple, opposite and decussate, exstipulate; petioles long; blades ovate-elliptic. Inflorescence terminal verticillasters; verticils 6-flowered. Flowers white, faintly tinged pink, bracts ovate linear, 3- to 5-nerved, ciliate along the margin; pedicels short; ebracteolate; bisexual, zygomorphic, pentamerous, hypogynous. Fruits nutlets 4, ellipsoid, black, covered with dense hairs, mucilaginous when wetted. Seeds brown, glabrous.

Used described to cure asthma in Traditional Medicine: Pin sein leaves are crushed and squeezed into liquid. A teaspoon (4ml) of liquid can be used as administered two to three times a day for the treatment of asthma (All Traditional practitioners).



Discussion and Conclusion

Human beings also need healthy so they search plants and their parts that could be released their illness and suffering for this early history to present time. Therefore, medicinal plants are playing an important role in survival of man. Seventy-five percent of world's population are still depending on traditional medicine.

In the present research, leaves, fruits and the whole plants are used to produce as medicine to cure asthma. In the present study 12 species belonging to 12 genera of seven families have been identified and described with color photographs.

To cure asthma, the most useful and well known plants are *Ocimum basilicum* L., *Morinda citrifolia* L. In this study, powder or fresh juice or decoction of all species are used as administered orally. But *Datura metel* L. (Padaing phyu), *Calotropis gigantea* (L) R.Br. (Mayogyi) and *Achyranthes aspera* L. (Kyatmauksue pyan; Nauk po) are incinerated and the ash are used as medicine.

Among these 12 species, *Acorus calamus* L. (Linne) is also used as ointment. The whole plants of eight species are applied as medicine for curing asthma. But, the rhizomes of *Acorus calamus* L. (Linne), the leaves of *Eupatorium odoratum* L. (Bizat), leaves and fruits of *Morinda citrifolia* L. (Ye yo) and fruits of *Datura metel* L. (Padaing phyu) are applied as medicines for curing asthma. Other different plants are also used to cure asthma. Herbal medicine or plants based medicines are most effective and less side-effect. Every plant species have their own medicinal value.

It is expected that the results of present study will provide beneficial information for other researchers in the field of medicinal plants and other health care professionals. This research is the basic for future research concerning with the Myanmar traditional medicine.

List of the Address of Traditional Myanmar Physicians or practitioners for Interview

N	Name	Ta-sa number	Address
1	U Khin Maung Kyi	01758	Wun-zin quarter, Meiktila
2	U Moe Thein	01111	AyeMyittarClinic,62 nd ×63 rd ,19 th ×20 th street, Aung Myae Thar Zan Township, Mandalay
3	Daw San Myint Nwe	0923	Kay-tha-yar-zar Traditional Clinic, Meiktila
4	U Kyaw Naing Oo	1053	Public Traditional Clinic, Patheingyi Township, Mandalay
5	U Tun Kyaw	0587	87 th × 88 th , 27 th ×28 th street, Chan Aye Thar Zan Township, Mandalay
6	Daw Khin Thet Tun	07238	Gant-Gaw Traditional Clinic,No-3 quarter, Ohn-chaw village, Patheingyi Township, Mandalay
7	Daw Khin Myo Myint	01050	University of Traditional Medicine, Aung Myae Thar Zan Township, Mandalay
8	U Moe Win	05554	Swan-htet Traditional Clinic, Set Tan quarter, Meiktila
9	Daw Aye Aye Nwe	05513	Swan-htet Traditional Clinic, Set Tan quarter, Meiktila
10	Daw San Sint Sint	0760	Department of traditional Medicine, Meiktila

Acknowledgement

We would like to express our gratitude to Dr. Sein Sein Aung, Pro-Rector, Mandalay Degree College for her encouragement and permission to do this work. We are also grateful to Professor Dr Nyunt Nyunt San, Head of Department of Botany, Mandalay Degree College, for her kindly providing all the necessary facilities and for her advice. We are thankful to all our teachers and to our colleagues for their help in various ways.

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