

# Ethnobotany of Medicinal Plants in Mekongganese Tribe of Kolaka Regency in Southeast Sulawesi Indonesia

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**Abstract:** Some inhabitants and remote position in the city of Kolaka area is used of some kinds of plant to heal the diseases problem in the society. The present investigation aimed at documenting ethnobotanical important species of plants used by Mekongganese tribe in the Kolaka region of Southeast Sulawesi, Indonesia. The composed data were obtained in the field observation for qualitative explanation, information from traditional healers were gathered by structural interviews, the plants observed were documented, and herbarium were made. Out of 66 plants species were belonging to 39 families that reported in this study. There have been recorded from this region for the first time. A total of 66 species of medicinal plants observed, were documented and used as medicinal plants for cures the ilnes of Mekongganese tribe.

**Keywords:** Life-Style Diseases, Medicinal Plants, Parasitic Diseases, Qualitative Description, Traditional Healers.

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## I. INTRODUCTION

Ethnobotany is the the term used to describe the scientific study of the relationship that exist between people and plants (1). These plants are composed on cultivated and non-cultivated, edibles and non-edibles, vegetables and fruits, herbs and non-herbs, woodys and non-woodys, seedings and non-seedings, climbings and non-climbings, indigenous and non-indigenous, and so forth. In cultivated plants they could be an edible for dayly vegetables and fruits, but some of them are non-edible that could not be dayly or some day eaten. The herbs, woodys, seedings, and climbings performances are another grouping ways in medicinal plants, while non-herbs, non-seedings, and non-climbings are also some performances of medicinal plants. Those groupings of medicinal plants are grown in different geographical areas. Based on field plant

domestication (Figure 1), there were cultivated and wild grown, whereas those availability were easily available, difficult, and very difficult (2, 3). According to the method of propagation, there were generative and vegetative means, while based on their habit were herbs, shrubs, climbers, and trees (4, 5).



Fig 1 A. Indonesian Map, B. Southeast Sulawesi, and C. Kolaka Regency's Map as a District Sample Sites

Medicinal plant is defined as any plant with one or more of its organs containing substances that can be used for therapeutic purposes or which can be used as precursors for the synthesis of anti-microbial drugs, anti-oxidant, anti-infectious, and anti-tumor activities (6). Medicinal plants are also defined as a group of plants that are traditionally used of people for heal their ilnes except the used of medicin in modern healing. This was due to the presence of bioactive constituents or phytochemicals which are secondary

metabolites such as alkaloids, saponin, glycosides, lactones, steroids, etc (7, 8). Recently, the rapid extension of side effects of allopathic medicines, herbal medicines are becoming popular day by day as herbal drugs, and are safe, cheaper and easily available with therapeutic properties. Lots of common medicinal plants are available which used by Mekongga peoples or Mekongga tribe as remedy to cure diseases (2, 9).

Mekongganese is one of several main tribes that occupied in Southeast Sulawesi region. Kolaka region is a district in Southeast Sulawesi, Indonesia that lied out on Southeastern part of Sulawesi Island which consisted of several subdistrict. After the governmental administrative extending of this region, Kolaka become into three different districts namely Kolaka Induk (main districts), Kolaka Utara (North Kolaka), and Kolaka Timur (East Kolaka). The area of this observation as a simple samples of data collected were two sites i.e. Kolaka Induk and Kolaka Timur, particularly as Mekongganese tribe's reside. These were situated on N-latitude of 3.13° to 4.35°, and E-longitude of 121.05° to 121.99° (3, 10).

Mekongganese's tribe was a tribe of this area of five main ethnic that occupied of Southeast Sulawesi region, that are Mekongganese, Tolakinese, Munanese, Butonese, and Moronenes, they are occupied in different areas (11). The Mekongganese was a tribe name which earlier governmental administration that centered at Kolaka Induk District in exact position of Wundulako Subdistrict. The areas of people residings under coastal areas of this main tribe were from Toari District in the southern part to Wolulu, Anaiwoi, Watubangga, Peoho, Sopura, Tambea, Pomalaa, Dawi-dawi, Pelambua, Huko-huko, Puu-ndoho, Baula, Lamekongga, Wundulako, Sabilambo, Lalombaa, Kolaka city, Sani-sani, Lapao-pao, Wolo, and Kondeeha. These places were under administrative government of Kolaka Induk. Meanwhile, another area of Mekongganese's resides were lied on non-coastal areas namely Mowewe, Mowewe Utara, Rate-rate, and Ladongi Subdistricts, which lately have extended in the new administration government as Kolaka Timur District (12).

From earlier time to recently, the Mekongganese's people were used the various plants species as medicinal in several parts of the plants for healing their ailment by healers, as so-called "Dukun". The traditional healers were have been traditional knowledge transferred from generation to generation of their ancestors in ancient time, and right now this tribe is still used medicinal plants as main healing way in remote location from the municipal city particularly to the people are quite traditional behave. These are not only cure for the healthy of the man-woman ilnest but also for their animal husbandry.

The present investigation aimed at documenting medicinally important species of plants used by Mekongganese tribe in Kolaka Induk and Kolaka Timur Districts of Southeast Sulawesi, Indonesia. Out of 66 species were belonging to 39 families reported in this study, all the species have been recorded from this region for the first time.

## II. MATERIALS AND METHODS

### ➤ Study Area

The present study was conducted in eight major remote areas, i.e. Wundulako and Tujuhbelas November in Wundulako Subdistrict of Kolaka Induk District, and Simbune, Tinondo, Mowewe, Inebengi, Pehanggo, and Ulu

Iwoi in Tirawuta, Mowewe, and Uluiwoi Subdistricts of Kolaka Timur District.

### ➤ Sampling and Data Collection

These methods applied were questionnaires, semi-structured interview, field observation, and identification of medicinal plants. The informant consensus and fidelity level were also recorded. The ethnobotanical plant survey was conducted and information was gathered through interview with the man-woman tribal medicine (commonly called as "Dukun") and with local experience people, as they posses inherited knowledge regarding medicinal uses of plants. The study was carried out to evaluate people's knowledge and their management practices on the valuable medicinal plants used for the treatment of intestinal parasitic infections and economic uses of these plants. The information and data has been collected from authentic sources and different literature and publications have been referred for verification. From the collected data a list prepared on medicinal plants in alphabetically order with their botanical names, vernacular/local names, family, useful parts, and mode of treatment/disease of their uses.

### ➤ Plant Identification

Plant specimens were collected during guided field work with the informants and traditional healers. At times, the field activities included taking notes on plants and the associated indigenous knowledge with preliminary identification of the plants to family and sometimes to species levels. For further information, photograph of the medicinal plants and other important activities of herbalists during remedy preparation were recorded in the field. The plant specimens were pressed, dried and identified at the National Herbarium of Indonesia using voucher specimens and reference book (13).

### ➤ Data Organisation

The collected ethnobotanical data reported medicinal plants used for all kinds of diseases, and associated indigenous knowledge was entered into Excel Spreadsheet and summarized using descriptive statistics. The spreadsheet data filter facility was employed to determine frequencies and percentage of citations by healers so as to identify the most common parts used and route of administration, and habit of medicinal plants preferred for the treatment of some problem throughout the country. The results were presented using tables.

### ➤ Data Analysis

To identify the most commonly used traditional medicinal plants, the qualitative data we used an inductive approach to generate codes and themes (14). This approach was suitable because the process is data driven and the themes developed are strongly linked to the data themselves (15).

## III. RESULTS AND DISCUSSION

The 10 man-women of traditional healings were interviewed successfully from the two districts with different ages and professions, from the youngsters to the elders, and from the farmer works to the civil servants. There were no

one of the traditional healings was permanent healings as the profession. All the traditional healers were almost not used the modern medicinal healing except for the non-parasitic or lifestyles illnesses like, cardiovascular disease, hypertension, and so forth. The parasitic diseases of the inhabitants in the near city or in non-remote locations were cured their diseases into the non traditional healers.

The present investigation have documented medicinally important species of plants used by Mekongganese tribe in Kolaka Induk and Kolaka Timur Districts of Southeast Sulawesi for healing of some kind diseases (Table 1). Overall, these kind of medicinal plants have been recorded by 66 species, all these species were reported and explained their mode of different treatments/diseases and explained in this report. The different number of species gathered in this observation and the number species reported here are caused by the identification process that have been finished yet, and by this reason the figure performed in this report was apparently in the different quantity between the Table 2.

Based on their family grouping gathered in this observation, 39 families by either only in singly or doubled species use of healing disease(s), and could be used in dry composition or in the fresh materials. The plant material used including in forms of a whole or an entire of plant, and the parts of the plant. The entire plant means that all of parts plant were used including roots, stem with barks, leaves, flowers, and fruits, also their seeds. Besides, the extract form of the plant material was usually used in traditional healing, as well as the general form of plant material used were dry extract, non dry material or fresh forms following dipped it in hot water or boiled, and only used in external way by applied on part of the diseased body.

According to several healers the frequency of application for all form of cures which minimally one time a day, but generally there were applied in three times a day i.e. in the morning, before or after lunch, and before going to bed in the evening, including only twice a day such as in the morning and in the evening. From information by healers also recorded that some diseases would be stopped in only one time application like immature leaf of *Psidium guajava* on healing of the disentry disease. Unfortunately, the application used in these traditional means in which there was no heal materials were in form of extended one, like the dry extract that have been in the packages.

In the whole of interviews, observations, and recordings of some informations mainly from healers as main sources of data gathered were explained in this report as indicated in Tabel 1. All species recorded and documented in this observation were use for many diseases heals of some diseases, both in singly or mixed plants and single in disease or more plants. The diseases were healed by a single medicinal plant such as: *Strobilanthes crispus* Bl., and *Orthosiphon stamineus* Bent., for kidney disease. By more than one medicinal plants like: *Annona reticulata*, *Areca catechu* (L.), *Jatropha curcas* (L.), *Cassia alata* (L.), *Psidium guajava* (L.), *Piper betle* (L.), *Citrus aurantifolia* (Christm.) Swing., *Curcuma* sp., *Zingiber officinale* Rosc., *Bhumea*

*balsamifera*, *Hibiscus manihot* (L.), and *Pluchea indica* (L.) Less., for respective diseases of respiratory, kidney, hypertension, diabetes, liver, hemorrhoid, internal and external bleeding, snake bites, toxicity detoxification, cancer, etc., and diarrhea diseases.

The single medicinal plant which healing for single disease was reported by several researcher like Eldeen *et al.* (16) in observation of challenges and future perspective of botanical aspect of herbal plants, Bajpai *et al.* (10) in studying 204 species of herbal or medicinal plants in India, and Jaiswal and Jain (11) in some medicinal plants also in India. Both reports were explained in several aspects of medicinal plants slightly in general, academically, and in comprehension uses. Another specific reports for clearly uses of some medicinal plants such as Bisht *et al.* (12) in *Fritilaria roylei* as herb family which affected the anti-asthmatic, anti-rheumatic, and anti-tussive properties, Tariq *et al.* (13) in *Withania coagulans* as cures of, Garedeew and Abebe (14) in *Lamiaceae* for heals also the different gastrointestinal infections, and Kumar and Tewari (15) in *Jatropha curcas* (L.) in cures the several kinds of diseases like stroke, diarrhoea, and toothache.

The availability of these plants was sicknesses to the statements of (17 – 19) and, that each of location was differences availability of herbal plants in each environment location and position in the above of the earth. The traditional medicinal plants and the healers are come from the traditional or local healers with various sicknesses of the different and same plants (20 – 22). Kasagana and Karumuri (23) have stated that the conservation of medicinal plants in condition of past, present, and next future trends must be initiated and development for more advancement in the next future.

#### IV. CONCLUSION

Some people of Kolaka Induk and Kolaka Timur Districts especially in the remote area from city town were used of vary medicinal plants as traditional heals for parasitic diseases. The 66 species of medicinal plants were recorded for cures more than 40 kinds of diseases which used from whole part of the plant to the single part of the plant, fresh and or dry forms. The healing process and procedures were handled by traditional healers which have those traditional heals knowledge that inherited from their ancestors, generation to generation. Unfortunately, those the medicinal plant used were in an unexpanded forms or in the simple ways.

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## APPENDIXES

Table 1. Several indigenous medicinal plants in Kolaka Region of Southeast Sulawesi

No.	Scientific Name	Family	English Name	Habit
1.	<i>Strobilanthes crispus</i> Bl	Acanthaceae	Yellow Strobilanthes	Bush
2.	<i>Andrographis paniculata</i>	Acanthaceae	Green Chiretta	Bush
3.	<i>Alternanthera amoena</i> Voss	Amaranthaceae	Red Spinach	Herb
4.	<i>Annona reticulata</i>	Annonaceae	Wild Sweetsop	Tree
5.	<i>Centella asiatica</i> (L.)	Apiaceae	Plant Gotu Kola	Herb
6.	<i>Plumeria acuminata</i> Aif	Apocynaceae	Frangipani	Bush
7.	<i>Aloe vera</i> Linn.	Asphodelaceae	True Aloe	Herb
8.	<i>Bhumea balsamifera</i>	Asteraceae	Sambong	Herb
9.	<i>Eupatorium odorata</i> (L.)	Asteraceae	Siam Wood	Small Tree
10.	<i>Areca catechu</i> (L.)	Arecaceae	Betelnut Palm	Tree
11.	<i>Pluchea indica</i> (L.) Less.	Asteraceae	Indian Pluchea	Small Tree
12.	<i>Impatiens balsamia</i> (L.)	Balsaminaceae	Garden Balsam	Herb
13.	<i>Ipomoea aquatica</i>	Convolvulaceae	Water Spinach	Herb
14.	<i>Kalanhoe integra</i> (Medik) O.K	Crassulaceae	Never Die	Herb
15.	<i>Cucurbita moschata</i>	Cucurbitaceae	Crookneck Pumpkin	Herb
16.	<i>Jatropha curcas</i> (L.)	Euphorbiaceae	Cashew Nut	Tree
17.	<i>Jatropha multifida</i> (L.)	Euphorbiaceae	Coralbush	Tree
18.	<i>Euphorbia hirta</i> (L.)	Euphorbiaceae	Asthma Plant	Herb
19.	<i>Phyllanthus urinaria</i> Linn	Euphorbiaceae	Chamber Bitter	Bush
20.	<i>Jatropha gossypifolia</i> (L.)	Euphorbiaceae	Red Cashew Nut	Tree
21.	<i>Albizia saponaria</i>	Fabaceae	White Flower Albizia	Tree
22.	<i>Cassia alata</i> (L.)	Fabaceae	Senna Alata	Small Tree
23.	<i>Curculigo villosa</i> Wall	Hypoxidaceae	Palm Grass	Herb
24.	<i>Orthosiphon stamineus</i> Bent	Lamiaceae	Cat Whiskers	Herb
25.	<i>Coleus cutellarioides</i> (Linn) Benth.	Lamiaceae	Sweet Basil	Herb
26.	<i>Vitex cofassus</i>	Lamiaceae	New Guinea Teak	Tree
27.	<i>Macrosolen cochinchinensis</i> (Lour) van Tiegh	Larantaceae	Orchid	Herb
28.	<i>Ceiba petandra</i> (L.)	Malvaceae	Kapok tree	Tree
29.	<i>Hibiscus manihot</i> (L.)	Malvaceae	Aibika	Bush
30.	<i>Durio zibetinus</i>	Malvaceae	Durian	Tree
31.	<i>Swietenia mahagonii</i> (L.) Jacq.	Meliaceae	Mahogani	Tree
32.	<i>Lansium domesticum</i>	Meliaceae	Longkong	Tree
33.	<i>Tinospora tuberculata</i> Beumee	Menispermaceae	Ring Worm Bush	Bush
34.	<i>Ficus septica</i> Burm	Moraceae	White Veined Pig	Herb
35.	<i>Psidium guajava</i> (L.)	Myrtaceae	Common Guava	Tree
36.	<i>Syzygium malaccense</i> (L.) Merr & Perry	Myrtaceae	Malay Apple	Tree
37.	<i>Averrhoa bilimbi</i>	Oxalidaceae	Bilimbi	Tree
38.	<i>Mimosa pudica</i>	Pabaceae	Sleepy plant	Herb
39.	<i>Leucaena glauca</i> (L.)	Pabaceae	River Tamarind	Tree
40.	<i>Pandanus odoratisimus</i> (L.)	Pandanaceae	Fragrant Screw Pain	Herb
41.	<i>Pasiflora foetida</i> Linn.	Passifloraceae	Stinking Passionflower	Herb
42.	<i>Piper betle</i> (L.)	Piperaceae	Wild Pepper	Herb
43.	<i>Piper nigrum</i> (L.)	Piperaceae	Pepper	Herb
44.	<i>Peperomia pellucida</i> (L.)	Piperaceae	Shallow Rooted Herb	Herb
45.	<i>Andropogon nardus</i> (L.)	Piperaceae	Citronella Grass	Herb
46.	<i>Imperata cylindrica</i> (L.) Beauv	Poaceae	Cogon Grass	Herb
47.	<i>Eleusine indica</i> (Lim)	Poaceae	Yard-grass	Herb
48.	<i>Portulakaea oleraceae</i>	Portulacaceae	Duckweed	Herb
49.	<i>Rubus molluccanus</i> Linn.	Rosaceae	Broad-leaf Bramble	Herb
50.	<i>Morinda citrifolia</i> (L.)	Rubiaceae	Indian Mulberry	Bush
51.	<i>Coffea</i> sp.	Rubiaceae	Coffee	Tree
52.	<i>Citrus</i> sp.	Rutaceae	Citrus Plant	Tree
53.	<i>Citrus aurantifolia</i> (Christm.) Swing	Rutaceae	Lemon	Tree
54.	<i>Santalum album</i>	Santalaceae	Indian Sandalwood	Tree

55.	<i>Physallis minima</i> Linn.	Solanaceae	Native Gooseberry	Herb
56.	<i>Capsicum frutescens</i> (L.)	Solanaceae	Chili pepper	Herb
57.	<i>Kleinhovia hospita</i>	Sterculiaceae	Guest tree	Tree
58.	<i>Phaleria macrocarpa</i> (Scheff) Boerl.	Thymelaeaceae	God's Crown	Bush
59.	<i>Lantana camara</i> Linn.	Verbenaceae	Wild Sage	Small Tree
60.	<i>Kaemferia rotundus</i> (L.)	Zingiberaceae	White Ginger	Herb
61.	<i>Languas galangal</i> (L.) Merris	Zingiberaceae	Alpinia Ginger	Herb
62.	<i>Curcuma xanthorrhiza</i> Roxb.	Zingiberaceae	Aromatic Ginger	Herb
63.	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Ginger	Herb
64.	<i>Zingiber cassumunar</i>	Zingiberaceae	Cassumunar Ginger	Herb
65.	<i>Kaemperia galanga</i>	Zingiberaceae	Aromatic Ginger	Herb
66.	<i>Curcuma</i> sp.	Zingiberaceae	Yellow Ginggaer	Herb

Table 2 Etnomedicinal Plants of Mekongganese Ethnic

No.	Botanical Name	Vernacular/Local Name	Usefull Parts	Mode of Treatment/Desease
1.	<i>Strobilanthes crispus</i> Bl	Pica Beling	Leaves	Kidney
2.	<i>Andrographis paniculata</i>	Sambiroto	Leaves	Malaria
3.	<i>Alternanthera amoena</i> Voss	Purundawatu (Bayam)	Entire plant	Anemia
4.	<i>Annona reticulata</i>	Sirikada (Srikaya)	Leaves	Hipertency, diabetes, lever, internal wound
5.	<i>Areca catechu</i> (L.)	Wua (Pinang)	Fruit, Roots	Intestinal worms, toothache, internist, tuberculosis
6.	<i>Jatropha curcas</i> (L.)	Hulo-hulo/Dama-dama (Jarak Pagar)	Leaves, Eksudat	Tuberculosis, toothache
7.	<i>Jatropha multifida</i> (L.)	Hulo-hulo Api (Jarak Pagar Api)	Eksudat	Wound, intestinal worms
8.	<i>Euphorbia hirta</i> (L.)	Selo	Leaves	Appendicity
9.	<i>Phyllanthus urinaria</i> , Linn	Meniran	Leaves	Internal desease
10.	<i>Jatropha gossypifolia</i> (L.)	Hulo-hulo momea (Jarak Pagar Merah)	Eksudat	Wound
11.	<i>Albizia saponaria</i>	Wilalo	Bark	Dandruf, shampoo
12.	<i>Cassia alata</i> (L.)	Taharinggori	Leaves	Appendicity, skin deseases, detoxification
13.	<i>Orthosiphon stamineus</i> Bent	Kumis Kucing	Leaves	Kidney
14.	<i>Macrosolen cochinchinensis</i> (Lour.) van Tiegh.	Totoko (Angrek Hutan)	Entire plant	Internal wound
15.	<i>Ceiba pentandra</i> (L.)	Kawu-kawu (Kapok Randu)	Leaves	Headache
16.	<i>Swietenia mahagoni</i> (L.) Jacq.	Mahoni	Seeds	Flu,
17.	<i>Lansium domesticum</i>	Lese (Langsat)	Bark	Gastritis problems
18.	<i>Tinospora tuberculata</i> Beumee	Haonggoropunda	Batang/ sulur	Malaria
19.	<i>Ficus septica</i> Burm.	Libonu	Leaves	Stomach ache
20.	<i>Psidium guajava</i> (L.)	Dambu (Jambu Biji)	Leaves, Fruit	Dioarrrhea, diabetic
21.	<i>Syzygium malaccense</i> (L.) Merr & Perry	Mokupa (Jambu Bol)	Leaves	Hypertension
22.	<i>Averrhoa bilimbi</i>	Tanggule (Belimbing Wuluh)	Fruit	Anti dandruf
23.	<i>Piper betle</i> (L.)	Bite (Lada Hutan)	Leaves	Tuberculoses, toothache, abortion
24.	<i>Piper nigrum</i> (L.)	Morita (Merica)	Leaves	Gastritic problems
25.	<i>Peperomia pellucida</i> (L.)	Sanggo-sanggore	Stem, Leaves	Gastritic problems
26.	<i>Andropogon nardus</i> (L.)	Padamalala (Serai)	Entire plant	Bone fractures
27.	<i>Imperata cylindrica</i> (L.) Beauv.	Una (Alang-alang)	Roots	Hepatitis
28.	<i>Morinda citrifolia</i> (L.)	Mengkudu	Fruit	Gastritic problems
29.	<i>Citrus aurantifolia</i> (Christm.) Swing.	Lemotuu	Leaves	Post partum recovery
30.	<i>Kleinhovia hospita</i>	Tokulo	Leaves	Hypertention
31.	<i>Phaleria macrocarpa</i> (Scheff) Boerl.	Mahkota Dewa	Fruit	Cancer
32.	<i>Kaemferia rotundus</i> (L.)	Kuni Mopute (Kunyit Putih)	Stolon	Cervics cancer

33.	<i>Languas galangal</i> (L). Merris	Liku (Lengkuas)	Stolon	Abortion
34.	<i>Curcuma xanthorrhiza</i> Roxb.	Tomu	Stolon	Colesterol
35.	<i>Citrus sp.</i>	Lemo Gola (Jeruk Besar)	Leaves	Wound
36.	<i>Curcuma sp.</i>	Kuni (Kunyit)	Stolon	Maag, tubercloses
37.	<i>Zingiber officinale</i> Rosc.	Loiyu (Jahe)	Stolon	Stroke, head ache
38.	<i>Kaemperia galanga</i>	Kudu	Stolon	Head ache
39.	<i>Physallis minima</i> Linn	Tamiau	Entire plant	Hypertention
40.	<i>Bhumea balsamifera</i>	Taumo	Entire plant	Gastritic problems
41.	<i>Eupatorium odorata</i> (L.)	Melo	Leaves	Wound
42.	<i>Ekuisine indica</i> (Lim)	Paata (Goose-grass)	Roots	Post partum recovery
43.	<i>Coleus scutellarioides</i> , Linn., Benth.	Coleus	Leaves	Tubercloses
44.	<i>Plumeria acuminata</i> Aif	Kamboja Putih	Eksudat	Wound
45.	<i>Zibingercassumunar</i>	Panini	Stolon	Leukorrhea
46.	<i>Mimosa pudica</i>	Benggaila	Entire plant	Insomnia
47.	<i>Kalanchoeintegre</i> (Medik) O.K.	Cocor Bebek	Leaves	Easy labour
48.	<i>Hibiscus manihot</i> (L.)	Gedi	Leaves	Hypertention, kidney
49.	<i>Cucurbita moschata</i>	Kela (Labu)	Seeds	Intestinal worms
50.	<i>Centella asiatica</i> (L.)	Asolawa	Leaves	Asthma
51.	<i>Passiflora foetida</i> Linn	Anggoro	Stem-Leaves	Diabetic
52.	<i>Santalum album</i>	Kendana (Angsana)	Bark	Gastritic problems
53.	<i>Vitex cofassus</i>	Biti	Bark	Gastritic problems
54.	<i>Pandanus odoratissimus</i> (L.)	Panda Mosiu-siu	Leaves	Rheumatism
55.	<i>Portulaca olearacea</i>	Tanggurisa	Entire plant	Internal wound
56.	<i>Capsicum frutescens</i> (L.)	Lada (Lombok)	Leaves	Ulcer
57.	<i>Durio zibethinus</i>	Duria (Durian)	Roots	Internal wound, hypertention
58.	<i>Impatiens balsamia</i> (L.)	Tirangga	Leaves	Ulcer
59.	<i>Aloe vera</i> Linn.	Lidah Buaya	Leaves	Gonorrhoea
60.	<i>Rubus molluccanus</i> Linn.	Konggamo	Leaves	Asthma
61.	<i>Curculigo villosa</i> Wall	Awa-awa	Leaves	Skin problems
62.	<i>Pluchea indica</i> (L.) Less.	Beluntas	Leaves	Tubercloses, rheumatism
63.	<i>Lantana camara</i> Linn.	Bunga-bunga	Leaves	Wound
64.	<i>Leucaena glauca</i> (L.)	Petai Cina (Lamtoringung)	Leaves	Intestinal worms
65.	<i>Ipomea acuatia</i>	Tarenda (kangkung)	Leaves and Stolon	Mild laxative
66.	<i>Coffea sp.</i>	Kopi, Coffe	Seeds Leaves	Toxicocity

Table 3 Summary of Information on Domestication Status, Availability, Habit, and Method of Propagation of Indigenous Medicinal Plants in Kolaka Region of Southeast Sulawesi

No.	Parameters	Number of occurrence	Percentages (%)
Domestication status			
1.	Cultivated	40	60.61
2.	Wild	26	39.39
Availability			
1.	Easily Available	30	45.46
2.	Difficult	26	39.39
3.	Very Difficult	10	15.25
Method of Propagation			
1.	Seed	37	56.06
2.	Vegetative Means	10	15.15
3.	N/A	19	28.79
Habit			
1.	Herb	34	51.52
2.	Shrub	4	6.06
3.	Climber	8	12.12
4.	Tree	20	30.30

Table 4 Medicinal Plants and Frequency of Occurrence

No.	Families	Frequency of occurrence Studied	Percentage (%)
1.	Zingiberaceae	7	9.21
2.	Euphorbiaceae	5	6.58
3.	Piperaceae	4	5.26
4.	Pabaceae	4	5.26
5.	Laminaceae	3	3.95
6.	Malvaceae	3	3.95
7.	Asteraceae	2	2.63
8.	Rubiaceae	2	2.63
9.	Acanthaceae	2	2.63
10.	Rutaceae	2	2.63
11.	Rutaceae	2	2.63
12.	Solanaceae	2	2.63
13.	Melliaseae	2	2.63
14.	Myrtaceae	2	2.63
15.	Apocynaceae	1	1.32
16.	Asphodelaceae	1	1.32
17.	Balsaminaceae	1	1.32
18.	Convolvulaceae	1	1.32
19.	Cucurbitceae	1	1.32
20.	Hypoxidaceae	1	1.32
21.	Larantaceae	1	1.32
22.	Menispermaceae	1	1.32
23.	Moraceae	1	1.32
24.	Oxalidaceae	1	1.32
25.	Pandanaceae	1	1.32
26.	Passifloraceae	1	1.32
27.	Rosaceae	1	1.32
28.	Sterculiaceae	1	1.32
29.	Santalaceae	1	1.32
30.	Thymelaeaceae	1	1.32
31.	Verbenaceae	1	1.32
32.	Amaranthaceae	1	1.32
33.	Annonceae	1	1.32
34.	Apiaceae	1	1.32
35.	Arecaceae	1	1.32
36.	Asteraceae	1	1.32
37.	Poaceae	1	1.32
38.	Portulacaceae	1	1.32
39.	Crassulaceae	1	1.32
	<b>TOTAL</b>	<b>66</b>	<b>100.00</b>