



# Ethnopharmacological importance of commonly used folk medicinal plants among the Malayali tribal community in Jawadhu Hills, Tamil Nadu, India: A review

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## Review

### Abstract

**Background:** The Malayali tribal community residing in the hamlets of Jawadhu Hills in Tamil Nadu, India, is known for their exceptional knowledge of traditional medicine. This ethnobotanical review provides a comprehensive analysis of the diverse array of commonly used folk medicines used by Malayali tribals to address various health ailments and promote well-being using ethnomedicinal plants.

**Methods:** An extensive investigation on key words ethnobotanical/ Jawadhu Hills/ Malayali tribe regarding literatures were collected for a period of 1990 to 2024 from various databases viz., PubMed, Google Scholar, DOAJ, Scopus, Web of Science, and Science Direct with search terms, Malayali tribes, Malayali tribals, tribes, Jawadhu hills, Javvadhu, ethnobotanical study, ethnobotanical survey, ethnobotanical explorations, and medicinal plants were used for the retrieval.

**Results:** The present review reports a sum of 178 common traditional medicinal plants belonging to 69 families and 146 genera utilized by the Malayali ethnic community. The majority of the plants used are from the family Fabaceae, and they are used to treat various ailments.

**Conclusion:** The folk medicinal plants recorded in the present report are identified with distinct and unique bioactive compounds responsible for various therapeutic effects. With this insight, herbal formulations from these plants can be prepared for vital usage and further suggested for the discovery of novel drugs in treating various diseases.

**Keywords:** Herbal medicine, Jawadhu hills, Medicinal practitioners, Traditional knowledge

### Background

Medicinal plants are flourished worldwide that are widely recognized as it houses diverse groups of secondary metabolites with varied therapeutic potential that paves primary health support to mankind. Ethnobotany is the term that defines the relationship between man and plants to explore the channel of plants' usage by different communities, mainly for medicinal values (Domingo-Fernández *et al.* 2023). Ethnic people mostly rely on plants to quench day-to-day needs (for their survival) and in treating their physical ailments (Silambarasan *et al.* 2015). Now the ethnic medicinal practices done by ethnic community was brought into light through ethnobotanical surveys to explore the substantial usage of medicinal plants in

treating myriad of diseases. In recent times, the scientific communities have increased their interest towards extraction of natural bioactive compounds to formulate plant-based drugs with minimal or zero side effects that is feasible to all range of people (Ayyanar & Ignacimuthu 2005a). This integration of ancient culture of plants' traits with modern drug designing and formulation is done with the help of traditional medicinal knowledge, which can be attained only through ethnobotanical surveys (Parra & Quave 2017).

India represents diversified flora that holds about 47,513 plant species that equals around 11.4% of the world flora (Basak *et al.* 2022). Of which nearly 15,000 to 20,000 plants with potential medicinal values are used in different medicinal systems like Ayurveda, Siddha, Unani etc. which includes about 8,000 angiospermic plants used in traditional medicine system (Surendran *et al.* 2023). Despite the advances in conventional medicines, the plant based traditional medicine system is well utilized in developing countries (Ayyanar & Ignacimuthu, 2011, Dery *et al.* 2023). The traditional knowledge (TK) of medicinal plants is a viable tool for performing research in discovery of novel drugs with high efficacy (Akhtar *et al.* 2023, Krupa *et al.* 2019, Silambarasan *et al.* 2017, Sureshkumar *et al.* 2018).

A sum of 36 tribal communities is recorded in Tamil Nadu state, India that holds the 1.05 percentage of the total population of the state. A total span of 21482 km<sup>2</sup> of forest range in Tamil Nadu (includes the Western Ghats, the Eastern Ghats, and a number of sacred groves) acts as home and shelter for the tribes and diverse group of flora and fauna. The dense forest cover of Eastern Ghats in Tamil Nadu comprises Jawadhu, Kolli, Pachamalais and Shevaroy hills (Sureshkumar *et al.* 2021). The major tribal community dwelling these forest areas are Malayalis. There is no proper evidence about the origin of Malayali tribals but they are believed to be migrated from Kancheepuram, an ancient pilgrim city in Southern India, situated near the Chennai metropolitan city. They are known to have proficient folk knowledge on medicinal herbs. Their TK is disseminated from one generation to another empirically or orally and in some cases the TK gets annihilated as some medicinal practitioners have false apprehension that disclosing the TK to layman may reduce the efficacy of ethnic medicine and the younger generation pay less attention in learning TK from their ancestors (Basak *et al.* 2022).

Malayali tribals of Jawadhu hills possess extensive medicinal knowledge in treating fever, skin diseases, ulcer, cuts and wounds, piles, gonorrhoea, stomachache, diarrhoea, dysentery, insect and poisonous bites, rheumatism, arthritis, inflammation, urinary complaints, elephantiasis, kidney stones, tooth ache, eye injuries, ear ache, jaundice, asthma, digestive and gynecological ailments. Due to the presence of therapeutically active compounds, the documented ethnomedicinal plants have the ability to mitigate various ailments and disorders. Apart from lending health benefit to mankind, some of the documented plants are employed to enhance the general health in human. Many *in vitro* and *in vivo* studies have confirmed that the plant extracts and isolated compounds have substantial antimicrobial, antidiabetic, antioxidant, antitussive, anti-inflammatory, anti-tumor, anti-ulcer, hepatoprotective, neuroprotective, cardioprotective, wound healing properties, etc. (Dwivedi *et al.* 2021, Gavit *et al.* 2023, Sapkal *et al.* 2023).

Though the ethnobotanical studies conducted on medicinal plants are numerous, a comprehensive review on the medicinal plants utilized by Malayali tribals of Jawadhu hills, Tiruvannamalai is lacking. Hence, the present study attempted to provide a comprehensive review on ethnomedicinal plants of Jawadhu hills which can benefit the preservation and dissemination of ethnic knowledge.

## Materials and Methods

### Study area

The Jawadhu hills ranges are part of central Eastern Ghats that spreads with wide range covering various taluks in three districts of Tamil Nadu, namely Polur, Kalasapakkam and Chengam Taluks of Tiruvannamalai district and Tirupattur, Vaniyambadi Taluks of Tirupattur district and Vellore taluk of Vellore district (Fig. 1). The hill lies between the latitude of 12.5833° N and longitude of 78.8333° E and it is widespread over an area about 2405 km<sup>2</sup> with mean altitude of 762 m. The vegetation in the Jawadhu hills ranges from dry deciduous forest to thorny shrubs with patches of dry evergreen forests which receives annual rainfall of 886 mm. There are 11 panchayat unions comprising 249 mountaineer villages.

### Literature survey

The ethnobotanical reports on the medicinal plants used by Malayali tribals of Jawadhu Hills were collected from various databases, including Google Scholar, DOAJ, PubMed, Web of Science, Scopus, Science Direct, and Shodhganga. The search terms used for the retrieval of articles and Ph.D. theses were "Malayali tribes," "Malayali tribals," "ethnobotanical study," "ethnobotanical survey," "ethnobotanical explorations," "medicinal plants," "Jawadhu hills," "Javadhu hills," "Javadi hills," and "Tiruvannamalai." After gathering the relevant articles and Ph.D. theses, a dataset was created using Microsoft Excel

2021 Software. The publications made from 1977 to 2023 were included based on certain criteria. Only research articles published till 2023 with reliable and relevant information on their medicinal use, useful parts, other ingredients, mode of preparation and administration, ethnicity, and locality were included. Articles with unclear or irrelevant data, misidentified plants, and incomplete formulations were excluded. The binomials of recorded plants were validated with the "World Flora Online" database, ensuring the accuracy of the recorded plant species.

The study recorded a total of 178 ethnomedicinal plants used by Malayali tribals of Jawadhu hills in treating various diseases and disorders. The plants were used for a range of illnesses, including digestive disorders, respiratory problems, skin diseases, and fever. Additionally, the study aimed to provide an in-depth knowledge of the therapeutic efficacy of these plants. Therefore, their phytochemical and pharmacological properties, and associated traditional uses were provided in detail. The relevant literature was collected from the above-mentioned databases by searching with keywords such as "phytochemicals," "pharmacological," or "ethnopharmacological properties." Articles with relevant phytochemical and pharmacological studies on recorded plants were selected, and their biological properties and bioactive compounds were reported. This study provides valuable insights into the traditional knowledge of Malayali tribals and their use of medicinal plants. The detailed information on the therapeutic efficacy, phytochemical and pharmacological properties, and bioactive compounds of the recorded plants can aid in the development of new drugs and treatment strategies for various diseases and disorders.

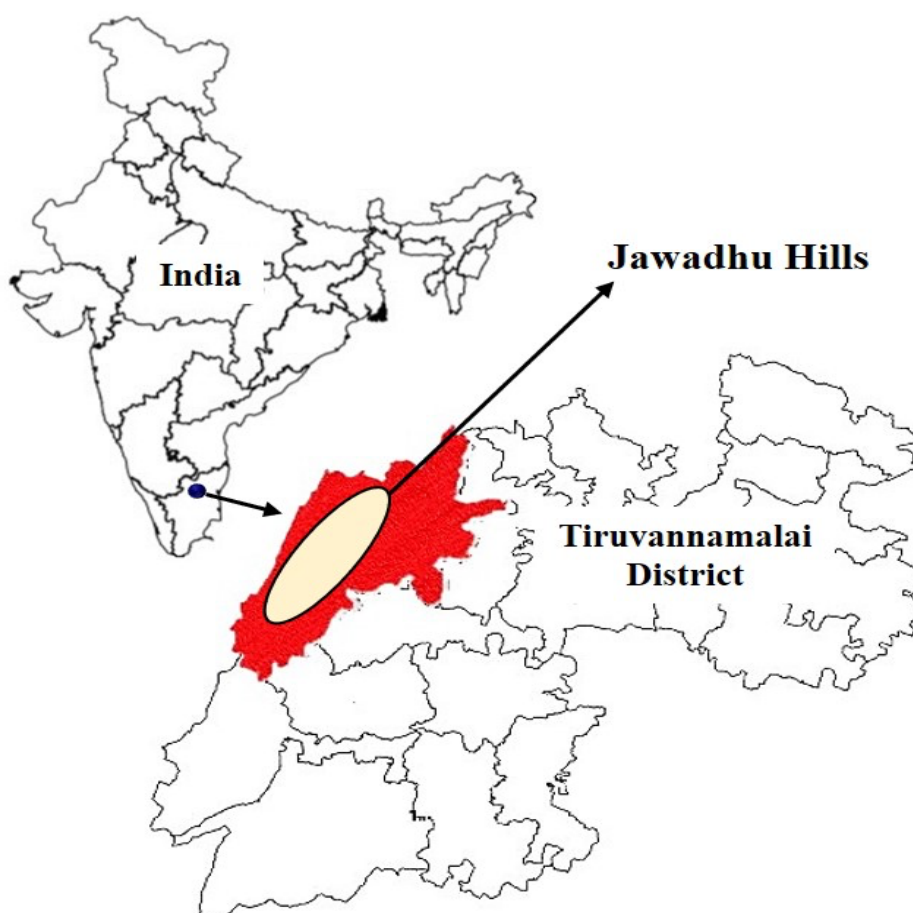


Figure 1. Location map of study area in Jawadhu hills, Tamil Nadu, India

## Results and Discussion

### Plant diversity

The present review has enumerated 178 species as commonly utilized folk medicinal plants belonging to 69 families (176 angiosperms, 1 gymnosperm and 1 pteridophyte) in 146 genera used by Malayali people of Jawadhu hills. The most widely used family by the Malayali tribals of Jawadhu hills was Fabaceae with 23 species, followed by Lamiaceae (10 species), Apocynaceae and Rutaceae (each with 9 species), Solanaceae (8 species), Malvaceae, Euphorbiaceae (each with 7 species),

Acanthaceae (6 species), Asteraceae (5 species), and Zingiberaceae (4 species). The families Amaranthaceae, Combretaceae, Cucurbitaceae, Myrtaceae, Poaceae, Apiaceae, Moraceae, Piperaceae, Phyllanthaceae, and Rubiaceae were represented by three species each. Aristolochiaceae, Amaryllidaceae, Boraginaceae, Nyctaginaceae, Anacardiaceae, Annonaceae, Meliaceae, Moringaceae, Arecaceae, Sapindaceae, and Sapotaceae family members were represented with two species each. The rest of the 38 families were represented with one species each. Genera such as *Andrographis*, *Ficus*, *Jatropha*, *Terminalia*, *Solanum*, *Sida*, *Senna*, *Piper*, *Phyllanthus*, *Ocimum*, *Moringa*, *Euphorbia*, *Delonix*, *Curcuma*, *Citrus*, *Carissa*, *Aristolochia*, *Annona*, *Allium* and *Albizia* were represented by more than one species.

Similar to the results of present ethnobotanical review, the abundance in usage of Fabaceae plant species were also recorded in similar studies conducted in Bié province (Angola), Guangxi Fangcheng Golden Camellias national nature reserve (Southern China), Sandu Shui Autonomous County (Southwest China), Upper Aswa River catchment (Northern Uganda), lake Abaya basin (Ethiopia) (Hu *et al.* 2023, Liu *et al.* 2023, Masters *et al.* 2023, Novotna *et al.* 2020, Unbushe *et al.* 2023). A review made by Ong and Kim (2020) on the ethnomedicinal plants used by Kuki-Chin ethnic group of Myanmar, Bangladesh and India has also revealed the abundance of taxa belonging to Fabaceae in treating gastrointestinal diseases. Similar to our report on the dominant family Fabaceae, Feyisa *et al.* (2023) also made similar documentation on the use of Fabaceae plant species by the people of Ethiopia in treating human ailments. Being the third largest angiosperm family, Fabaceae comprises 740 genera and about 19,400 plant species which favors its distribution in varied ecological conditions (Tekdal 2021). The abundance of these members in the vegetation of Jawadhu hills influences its greater utility among the Malayali people. These findings are in agreement with the results of ethnomedicinal survey carried out in Jammu and Kashmir (Tali *et al.* 2019).

#### Parts used for herbal preparation

Ten different plant parts are utilized by the Malayali tribals in formulation of ethnic medicine. The plant parts used include leaf, stem, bark, fruit, seed, root, latex, rhizome, tuber, and whole plant (Figure 2). The most widely exploited plant part by the studied tribal community for the preparation of herbal medicine was leaves, followed by roots, stems, fruits, barks, flowers, resin, latex and whole plant. Likewise, an ethnobotanical survey conducted by Mechaala *et al.* (2022) at Algerian Sahara gate had leaves as the dominant plant part used. The presence of condensed and hydrolysable tannins in the leaves makes them an ideal therapeutic part as tannins exhibit better antioxidant, antibacterial, anti-cancer and antimutagenic activity. Condensed tannins have proven their efficacy against skin diseases, diabetes, Parkinson's disease, and hypercholesterolemia. The survey made among the ethnic groups Bankaria, Tamang and Newah of Makawanpur, Nepal has also revealed major plant part used by them as leaf in treating 72 ailments, which is similar to the results of our study (Joshi *et al.* 2020).

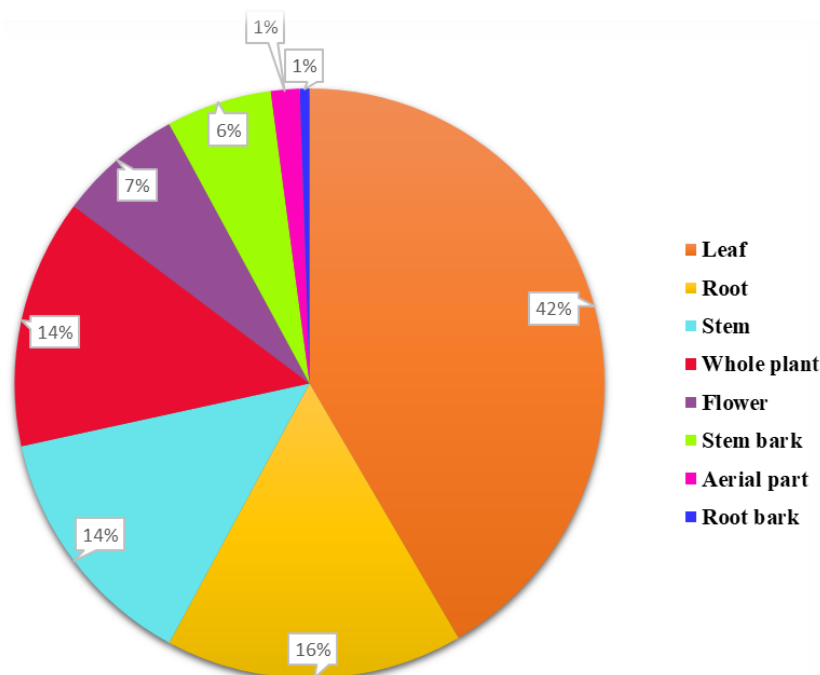


Figure 2. Percentage of use reports of the ethnomedicinal plants' parts utilized by the Malayali tribals of Jawadhu hills, Tamil Nadu, India in preparation of herbal formulations to treat various ailments

### Preparation and administration of ethnic medicine and diseases treated

The ethnic medicines of Malayali tribals are prepared either as single or as polyherbal formulation. Most of the preparations incorporate more than one plant species, i.e. polyherbal formulation. The polyherbal formulations are regarded to be more effective in treating a variety of ailments due to the synergistic effect of active compounds (Hani *et al.* 2022). The usage of polyherbal formulation is prominent in traditional Ayurveda, Unani and Chinese medicine system as they have significant therapeutic effect in treating and managing chronic diseases. Rather than employing a single plant source, the Indian medicinal system makes use of combinations of plants and their extracts at specific ratio.

The ethnic medicines are prepared and utilized in the form of paste, decoction, juice, and powder. Apart from these, the plant parts are also consumed raw and as cooked. The formulations are orally consumed in case of digestive ailments, microbial ailments, fertility disorders, circulatory and metabolic disorders, poisonous bites, respiratory ailments, urinary, and nervous disorder and to enhance the general health. Topical or external applications are mostly employed in case of dermatological ailments, pain, cuts, wounds, rheumatism, fracture, and dental health. In the case of asthma, the decoction prepared with the useful part is inhaled and for expelling tooth worms, the smoke from the burnt plant part is let into affected region (Figure 3). The diseases treated by the Malayali tribals can be categorized into digestive ailments, cuts and wounds, circulatory and metabolic disorders, urinary disorder, nervous disorder, dental health, tumor, poisonous bites, respiratory ailments and etc. based on the affected bodily region (organ or tissue) or causative agents (Table 1).

Table 1. Use reports of different ailments categorized based on the affected areas and causative agents of diseases reported by Malayali tribals of Jawadhu Hills, Tamil Nadu, India.

| Ailment categories and diseases   | Number of use reports |
|---|-----------------------|
| Digestive ailments (Bloating, piles, stomach ulcer, vomiting)   | 35                    |
| Microbial ailments (Fever, cold, cough, chicken pox, dysentery, elephantiasis, eye infection, jaundice, throat congestion)  | 105                   |
| Pain (Head ache, ear ache, eye ache, stomach ache)  | 35                    |
| Fertility disorders (Ease delivery in cattle, excessive bleeding, whitening in female, male impotency, enhance fertility, abortifacient, galactagogue, induce labor pain, menstrual disorder) | 25                    |
| Dermatological ailments (Burns, itching, rashes, eczema, inflammations, wart)   | 35                    |
| Circulatory and metabolic disorders (Chest pain, diabetes)  | 40                    |
| Cuts and wounds   | 20                    |
| Poisonous bite (Dog bite, snake bite, insect bites and stings)  | 27                    |
| Respiratory ailments (Asthma, bronchitis)   | 12                    |
| General health (Body heat, deworming, enrich face tone, memory health)  | 29                    |
| Rheumatism and fracture (Bone fracture, knee and joint pain, arthritis)   | 27                    |
| Nervous disorder (Epilepsy)   | 4                     |
| Urinary disorder (Kidney stone, urinary tract infection, diuretic)  | 15                    |
| Dental health (Tooth ache, tooth cavities, deworming)   | 15                    |

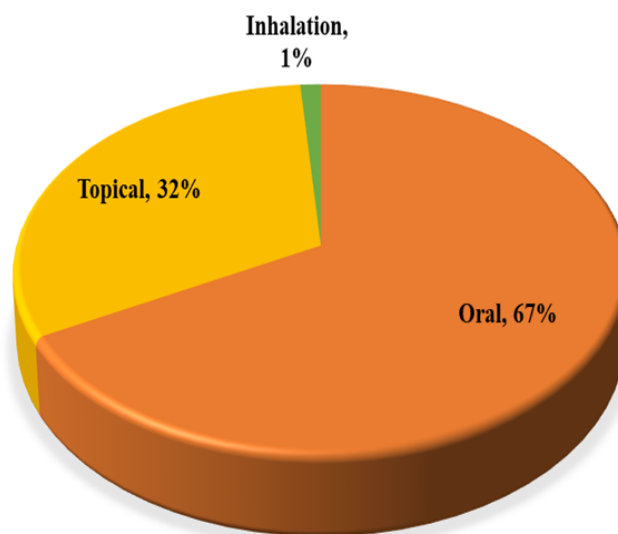


Figure 3. Mode of administration for the medication for the treatment of various ailments followed by the Malayali tribals in Jawadhu hills, Tamil Nadu, India.

## Commonly utilized ethnomedicinal plants by the Malayali tribals of Jawadhu hills

1. *Abrus precatorius* L. (Fabaceae), **Kundumani**. Uses: Root powder is taken orally with cow's milk to get relief from scorpion sting and snake bite (Rajkumar *et al.* 2012); seeds are crushed into paste and applied topically to treat eczema (Senthilkumar *et al.* 2014); raw leaves are chewed to kill worms in teeth (Silambarasan *et al.* 2023).
2. *Abutilon indicum* (L.) Sweet (Malvaceae), **Thuththi**. Uses: Leaf juice is used as demulcent, root infusion is taken orally as cooling agent, stem bark is used in gonorrhoea, leaf paste is applied topically to treat rheumatism (Sekharan & Jagadeesan 1997); leaf and root juice is taken orally to treat dental issues (Rajkumar *et al.* 2012); leaf juice is used to treat fever, allergy, piles, stomach ulcer, and to and improve body health (Prabu *et al.* 2014; Senthilkumar *et al.* 2014; Silambarasan *et al.* 2023).
3. *Acalypha fruticosa* Forssk. (Euphorbiaceae), **Chinni chedi**. Uses: Leaf decoction is taken internally to treat dysentery (Rajkumar *et al.* 2012).
4. *Acalypha indica* L. (Euphorbiaceae), **Kuppaimeni**. Uses: Whole plant decoction is taken orally to cure throat pain (David & Sudarsanam 2011), antidote for insect bites (Prabu *et al.* 2014); leaf paste is applied topically to treat skin diseases (Rajkumar *et al.* 2012) and to get relief from headache and healing of wounds (Magendiran & Vijayakumar 2022); leaf decoction is taken orally to get relief from cough and cold (Senthilkumar *et al.* 2014).
5. *Achyranthes aspera* L. (Amaranthaceae), **Nayurivi**. Uses: Inflorescence and seeds are ground to paste and applied topically to treat poisonous insect bites, twig juice is applied over gum to relieve toothache, root decoction is taken orally to treat night blindness (Sekharan & Jagadeesan 1997); decoction is orally consumed in empty stomach to relieve joint pain (Ravikumar & Sankar 2003); leaf paste applied externally for dog bite (Suresh 2010); whole plant decoction is used to treat skin diseases (David & Sudarsanam 2011); leaf paste is applied topically to treat cuts and wounds (Rajkumar *et al.* 2012); leaf extract is taken orally to treat scorpion sting (Senthilkumar *et al.* 2014); freshly prepared inflorescence paste is applied topically for insect bites (Magendiran & Vijayakumar 2022).
6. *Acorus calamus* L. (Acoraceae), **Vasambu**. Uses: Dried rhizome is ground in water and the paste is given orally to children for clarity of speech (Rajkumar *et al.* 2012); ash of the rhizome is mixed with water or milk to cure Indigestion (Prabu *et al.* 2014).
7. *Aegle marmelos* (L.) Corrêa (Rutaceae), **Vilvam**. Uses: Leaf paste is applied topically to heal wounds (David & Sudarsanam 2011); leaf decoction is taken orally to treat diabetes (Thirumalai *et al.* 2012); stem bark decoction is taken orally to get relief from stomach ache and leaf decoction is used to cure premature ejaculation (Silambarasan *et al.* 2023).
8. *Aerva lanata* (L.) Juss. (Amaranthaceae), **Sirupeelai**. Uses: Juice of whole plant is taken orally to treat cough, sore throat and wounds (Rajkumar *et al.* 2012); plant extract with *Cuminum cyminum* seeds and sugar is given for 10-15 days to treat kidney stone problem (Senthilkumar *et al.* 2014); root paste is taken internally to treat piles (Magendiran & Vijayakumar 2022).
9. *Albizia amara* (Roxb.) Boivin (Fabaceae), **Thurinji**. Uses: Leaf juice is taken orally during dysentery and diarrhea and also to relieve from body pain (Rajkumar *et al.* 2012); leaf is ground to paste and applied over the head to control hair fall (Muruganandam *et al.* 2014); resin decoction is taken orally to cure stomach disorders (Silambarasan *et al.* 2023).
10. *Albizia lebeck* (L.) Benth. (Fabaceae), **Vaagai**. Uses: Crushed leaves are applied in the nostrils to treat hysteria; bark and seed decoction is used to treat piles and diarrhoea (Sekharan & Jagadeesan 1997); flower powder is taken orally along with hot water thrice a day for three days to treat snake bite (Rajkumar *et al.* 2012).
11. *Allium cepa* L. (Amaryllidaceae), **Vengayam**. Uses: Bulb juice is used to treat diabetes (Thirumalai *et al.* 2012); bulb paste with salt is applied topically to cure wounds (Rajkumar *et al.* 2012).
12. *Allium sativum* L. (Amaryllidaceae), **Vellai poodu**. Uses: Leaf juice is taken orally to treat diabetes (Thirumalai *et al.* 2012).
13. *Aloe vera* (L.) Burm.f. (Asphodelaceae), **Sothu kathalai**. Uses: Leaf pulp is taken orally to control diabetes (Thirumalai *et al.* 2012); Fresh leaf juice is used as cooling agent and to treat ulcer problems (Prabu *et al.* 2014).
14. *Alpinia galanga* (L.) Willd. (Zingiberaceae), **Chittarattai**. Uses: Rhizome juice is applied topically to cure eczema and ringworm (Senthilkumar *et al.* 2014).
15. *Alternanthera sessilis* (L.) DC. (Amaranthaceae), **Ponnankanni**. Uses: Leaf juice is taken orally to treat jaundice (David & Sudarsanam 2011); leaf juice is taken orally to increase lactation in female, leaf decoction is orally administered twice a day for a month to treat nervous disorders, leaf decoction is taken orally to get relief from rheumatic pain (Rajkumar *et al.* 2012); leaf juice is used as diuretic, tonic, cooling, eye problems, medicinal hair oil (Senthilkumar *et al.* 2014).
16. *Anacardium occidentale* L. (Anacardiaceae), **Mundhiri**. Uses: Crushed leaves are applied in the nostrils to treat hysteria, fruit is eaten raw to treat diarrhoea, seed oil is applied topically to treat warts and eczema (Sekharan &

- Jagadeesan 1997); bark powder mixed with honey is taken orally for six months to treat leprosy (Rajkumar *et al.* 2012); powdered fried seeds are mixed with tooth powder and used daily for dental problems (Senthilkumar *et al.* 2014); seeds are eaten raw to improve body health (Silambarasan *et al.* 2023).
17. *Andrographis alata* (Vahl) Nees (Acanthaceae), **Malaithangi**. Uses: Leaves are ground to paste and taken orally to get relief from chest pain (Senthilkumar *et al.* 2014).
  18. *Andrographis paniculata* (Burm.f.) Wall. (Acanthaceae), **Sriyanangai**. Uses: Leaf decoction is taken orally to treat snakebite (David & Sudarsanam 2011); leaf juice is taken orally to treat diabetes (Thirumalai *et al.* 2012); leaf juice is taken orally to get relief from fever and stomachache, three drops of leaf juice is given orally to children to expel worms, leaf powder is taken orally to control diabetes (Rajkumar *et al.* 2012); leaf paste is taken orally to get relief from chest pain, leaf paste is mixed with milk taken and taken orally to reduce fever and used as antidote (Senthilkumar *et al.* 2014); leaf paste is taken orally to treat snake bite, root decoction is used to reduce fever (Magendiran & Vijayakumar 2022).
  19. *Angiopteris evecta* (Forst.) Hoffm. (Marattiaceae), **Yanai vanangi**. Uses: Leaf paste mixed with common salt and applied topically to cure burns (Rajkumar *et al.* 2012).
  20. *Anisomeles malabarica* (L.) R.Br. (Lamiaceae), **Periya peimiratti**. Leaf juice is taken orally to reduce fever, stomachache and to treat snake bite (Rajkumar *et al.* 2012).
  21. *Annona cherimola* Mill. (Annonaceae), **Seetha malli**. Uses: Fruits are eaten raw to get relief from cold (Sekharan & Jagadeesan 1997).
  22. *Annona squamosa* L. (Annonaceae), **Seetha**. Uses: Crushed leaves are applied in the nostrils to treat hysteria, leaf juice is applied to treat skin diseases, fruits are eaten to treat ulcer (Sekharan & Jagadeesan 1997); leaf extract is taken orally to cure dysentery (David & Sudarsanam 2011); fruit are taken internally to cure peptic ulcer and jaundice, leaf extract is taken orally to cure dysentery (Rajkumar *et al.* 2012); root paste is applied topically on the affected region and bark decoction is taken orally to treat scorpion sting (Senthilkumar *et al.* 2014); smoke produced from the dried leaves is used as lice repellent (Muruganandam *et al.* 2014).
  23. *Arachis hypogea* L. (Fabaceae), **Nilakkadalai**. Uses: Whole plant powder is mixed with cow's milk and used to treat leprosy and ulcer, flower decoction is taken orally to cure cough and asthma (Rajkumar *et al.* 2012).
  24. *Areca catechu* L. (Arecaceae), **Pakku**. Uses: Fruit paste is applied on affected places to heal wounds (Rajkumar *et al.* 2012).
  25. *Argemone mexicana* L. (Papaveraceae), **Bramma thandu**. Uses: Seed powder mixed in coconut oil is applied on blackened skin after delivery in women to regain normal skin (Ravikumar & Sankar 2003); leaf decoction is given to cure ulcer and malarial fever (Rajkumar *et al.* 2012); leaves and seeds are ground in to a paste and applied on affected places to heal wounds and itches (Muruganandam *et al.* 2014).
  26. *Aristolochia bracteolata* Lam. (Aristolochiaceae), **Aduthinna palai**. Uses: Fresh leaves are ground into a paste and mixed with butter milk and applied topically on the itches and rashes until cure (David & Sudarsanam 2011); leaf juice is taken orally to treat diabetes (Thirumalai *et al.* 2012); root powder is taken with honey to treat ulcer and skin diseases (Rajkumar *et al.* 2012); leaf powder mixed with castor oil and applied topically to cure skin diseases (Prabu *et al.* 2014).
  27. *Aristolochia indica* L. (Aristolochiaceae), **Siva mooli/Eswara mooligai**. Uses: Root paste is applied topically to treat snakebite and scorpion sting (Ravikumar & Sankar 2003; Kamaraj *et al.* 2012); leaf paste is applied over the body to prevent skin diseases (Rajkumar *et al.* 2012).
  28. *Asparagus racemosus* Willd. (Asparagaceae), **Thanneer vitaan kizhangu**. Uses: Tubers are eaten raw to increase erection in males (Muruganandam *et al.* 2014); tuber paste is taken orally to treat kidney stone problems (Magendiran & Vijayakumar 2022); rhizome decoction is taken orally to treat uterine problem, and to improve body health (Silambarasan *et al.* 2023).
  29. *Atalantia monophylla* (L.) DC. (Rutaceae), **Kattu elumichai**. Uses: Leaf decoction is applied topically to treat swelling and joint pain (Rajkumar *et al.* 2012); leaf decoction is taken orally to cure viral fever (Silambarasan *et al.* 2023).
  30. *Azadirachta indica* A.Juss. (Meliaceae), **Vembu**. Uses: leaf extract is used to cure malaria (David & Sudarsanam 2011); dried plant powder mixed with jaggery is taken orally to cure female sterility (Prabu *et al.* 2014); young leaves are taken orally to cure chicken pox (Muruganandam *et al.* 2014); leaves ground with ginger is applied topically to treat poisonous insect bites and young leaf juice is taken orally to get relief from stomach ache (Senthilkumar *et al.* 2014); leaf decoction is taken orally to treat viral fever and diabetes (Silambarasan *et al.* 2023).
  31. *Bauhinia tomentosa* L. (Fabaceae), **Eruvachi**. Uses: The juice made from the flowers is taken orally to treat diarrhoea, dysentery and stomach disorders (Senthilkumar *et al.* 2014).
  32. *Bidens pilosa* L. (Asteraceae), **Mukkuthi**. Uses: Leaf paste is used as antiseptic (Magendiran & Vijayakumar 2022).

33. *Blepharis maderaspatensis* (L.) B.Heyne ex Roth (Acanthaceae), **Murivu porunthi**. Uses: Leaf paste is taken twice a day as antidote for snake bite until cure (Senthilkumar *et al.* 2014).
34. *Boerhavia diffusa* L. (Nyctaginaceae), **Mookaratai**. Uses: Root paste is applied topically to cure hydrocele (David & Sudarsanam 2011); root decoction is used to treat asthma and lowers sugar level in urine (Magendiran & Vijayakumar 2022).
35. *Bombax ceiba* L. (Malvaceae), **Elavam panchu**. Uses: Seed powder with goat's milk is taken orally to control diabetes and to treat skin diseases (Rajkumar *et al.* 2012).
36. *Brassica juncea* (L.) Czern. (Brassicaceae), **Kadugu**. Uses: Seed decoction is taken daily to treat diabetes (Thirumalai *et al.* 2012); decoction of dried seed powder is used to get relief from rheumatism and foot pain (Senthilkumar *et al.* 2014).
37. *Butea monosperma* (Lam.) Kuntze (Fabaceae), **Purasu**. Uses: Decoction of stem bark is taken orally to remove intestinal worms (Silambarasan *et al.* 2023).
38. *Caesalpinia pulcherrima* (L.) Sw. (Fabaceae), **Mayil kondrai**. Uses: Seed paste is applied on the affected regions to cure toothache (Senthilkumar *et al.* 2014).
39. *Cajanus cajan* (L.) Huth (Fabaceae), **Thuvurai**. Uses: Boiled seeds are taken orally along with food to control diabetes (Thirumalai *et al.* 2012).
40. *Calophyllum inophyllum* L. (Calophyllaceae), **Punnai**. Uses: Leaf paste is applied topically to treat rheumatism (Rajkumar *et al.* 2012).
41. *Calotropis gigantea* (L.) Dryand. (Apocynaceae), **Erukku**. Uses: Leaf tincture is used to treat fever, powdered flower decoction is used to treat cold, cough, asthma, and indigestion, root decoction is used to treat dysentery, flower buds are mixed with turmeric powder and are mashed into paste with buttermilk and applied topically to heal wounds (Sekharan & Jagadeesan 1997); decoction made from the dried leaves is taken orally for eight days to prevent heart attack (Muruganandam *et al.* 2014).
42. *Canna indica* L. (Cannaceae), **Kalvazhai**. Uses: Rhizome paste is used to treat ringworm (Senthilkumar *et al.* 2014).
43. *Capparis sepiaria* L. (Capparaceae), **Thotti chedi**. Uses: Powdered bark is mixed with garlic, pepper and palm jaggery is used to treat rheumatic pain and herpes virus infection, leaf juice is used to treat gonorrhoea (Sekharan & Jagadeesan 1997).
44. *Caralluma fimbriata* Wall. (Apocynaceae), **Thombakal mulliyam**. Uses: Whole plant parts are eaten as raw to cure gas troubles, paste of whole plant is used to cure heel cracks (Muruganandam *et al.* 2014); stem paste is used to treat diabetes and urinary problems (Silambarasan *et al.* 2023).
45. *Cardiospermum halicacabum* L. (Sapindaceae), **Mudakkathan**. Uses: Leaves eaten as leafy vegetable to get relief from joint pains (Ravikumar & Sankar 2003); root is boiled with oil and applied over the head before taking bath to get relief from throat infection and headache (Rajkumar *et al.* 2012); leaf decoction is used to treat cough, piles, arthritis and joint pain (Magendiran & Vijayakumar 2022); leaf paste is taken orally to improve body health (Silambarasan *et al.* 2023).
46. *Carica papaya* L. (Caricaceae), **Pappali**. Uses: Fruit decoction is used to lower the blood pressure and improve the eye power (Rajkumar *et al.* 2012).
47. *Carissa carandas* L. (Apocynaceae), **Kalakkai**. Uses: Fruit juice is taken orally to improve the body health (Silambarasan *et al.* 2023).
48. *Carissa spinarum* L. (Apocynaceae), **Kattu kalakkai**. Uses: Ripen fruit is eaten raw to treat urinary infections (Rajkumar *et al.* 2012).
49. *Cassia fistula* L. (Fabaceae), **Konna maram**. Uses: Stem bark is made into paste with lemon juice and applied on snake bitten spot (Ravikumar & Sankar 2003); fresh stem bark is ground into paste and taken orally to cure insect bites (Muruganandam *et al.* 2014).
50. *Catharanthus roseus* (L.) G.Don (Apocynaceae), **Nithya kalyani**. Uses: Whole plant is powdered and mixed with cow's milk and taken orally to treat diabetes (Rajkumar *et al.* 2012).
51. *Centella asiatica* (L.) Urb. (Apiaceae), **Vallarai**. Uses: Whole plant infusion is taken orally to treat leprosy (Sekharan & Jagadeesan 1997); whole plant is dried, powdered, mixed with hot water and taken orally to get relief from gas trouble (Senthilkumar *et al.* 2014); crushed leaves are applied topically to heal wounds (Prabu *et al.* 2014).
52. *Ceropegia juncea* Roxb. (Asclepiadaceae), **Pulichan**. Uses: Stem juice with milk is taken orally to treat ulcer (Rajkumar *et al.* 2012).
53. *Chloris barbata* Sw. (Poaceae), **Kodaippul**. Uses: Leaf paste is applied topically to cure skin diseases, leaf juice is used to treat fever, diarrhoea and diabetes (Rajkumar *et al.* 2012).



54. *Chloroxylon swietenia* DC. (Rutaceae), **Porusu**. Uses: Leaf paste is taken orally to cure snake bite and stomachache (Muruganandam *et al.* 2014); decoction made from the stem bark powder is used as antidote for snake bite (Silambarasan *et al.* 2023).
55. *Chrysanthemum indicum* L. (Asteraceae), **Saamanthi**. Uses: Leaf juice is used to treat cold, headache, inflamed respiratory tract, bronchitis, whooping cough, boils, accumulation of pus in tissues, swelling and rheumatism (Kamaraj *et al.* 2012).
56. *Cinnamomum verum* J.Presl (Lauraceae), **Lawanga pattai**. Uses: Decoction of stem bark is taken orally to treat cough, dysentery and used as cooling agent (Rajkumar *et al.* 2012); leaf decoction is used to improve general health (Silambarasan *et al.* 2023).
57. *Cissus quadrangularis* L. (Vitaceae), **Pirandai**. Uses: Paste made from twigs of the plant, cumin seeds and pepper is eaten to cure cough and dyspepsia, stem juice is poured into the ear to get relief from earache, leaves are used in treating scurvy and irregular menstruation (Sekharan & Jagadeesan 1997); whole plant paste is taken orally for digestion problems (David & Sudarsanam 2011); leaf paste is applied topically to treat skin diseases and bone fracture (Senthilkumar *et al.* 2014); stem juice is taken orally to treat asthma (Prabu *et al.* 2014); stem paste are used to cure bone fracture (Magendiran & Vijayakumar 2022).
58. *Citrus limon* (L.) Osbeck (Rutaceae), **Elumichai**; Uses: Leaf decoction is inhaled to get relief from fever, headache and cold (Rajkumar *et al.* 2012); fresh fruit juice is taken orally to treat indigestion problems (Prabu *et al.* 2014).
59. *Citrus medica* L. (Rutaceae), **Narthankai**. Uses: Leaf juice is used to treat fever (Rajkumar *et al.* 2012).
60. *Clausena anisata* (Willd.) Hook.f. (Rutaceae), **Anai thazhai**. Uses: Leaf paste is applied over the affected places to heal wounds (Rajkumar *et al.* 2012).
61. *Clitoria ternatea* L. (Fabaceae), **Sangu poo**. Uses: Leaf juice is taken orally to get relief from fever (Rajkumar *et al.* 2012); leaf juice is applied over the thorn pricked region to remove it naturally (Senthilkumar *et al.* 2014).
62. *Coccinia grandis* (L.) Voigt (Cucurbitaceae), **Kovai**. Uses: Fruits are taken raw to control diabetes (Thirumalai *et al.* 2012), leaf juice is mixed with butter and applied topically to treat skin infections (Rajkumar *et al.* 2012); leaf paste is taken orally to cure diarrhoea (Prabu *et al.* 2014); leaf juice is taken orally to cure ulcer (Senthilkumar *et al.* 2014); leaf juice is used to treat asthma, earache and ulcer (Magendiran & Vijayakumar 2022).
63. *Cocos nucifera* L. (Arecaceae), **Thennai**. Uses: Tea made from the husk fiber is taken orally to treat inflammatory disorders (Rajkumar *et al.* 2012).
64. *Coldenia procumbens* L. (Boraginaceae), **Cheruppada**. Uses: Leaf juice is taken orally to prevent white discharge in women (Rajkumar *et al.* 2012).
65. *Commiphora caudata* Engl. (Burseraceae), **Malai kiluvai**. Uses: Fresh bark is ground to paste and boiled with castor/gingelly oil and the semi-hot juice is applied over the body to get relief from body pain (Sekharan & Jagadeesan 1997); pericarp is eaten raw to treat dry skin (Rajkumar *et al.* 2012); leaves are crushed and mixed with lime juice and taken orally twice a day for 2 days to cure stomach ache (Senthilkumar *et al.* 2014).
66. *Coriandrum sativum* L. (Apiaceae), **Kothamalli**. Uses: Seeds along with ginger are ground with water is taken orally to get relief from giddiness (Rajkumar *et al.* 2012).
67. *Cucumis melo* L. (Cucurbitaceae), **Neri kilangu**. Uses: Fruit juice is taken orally remove poison from the body by inducing vomiting (Ravikumar & Sankar 2003).
68. *Cuminum cyminum* L. (Apiaceae), **Seeragam**. Uses: Fruit infusion is taken orally to treat dysentery and diabetes (Rajkumar *et al.* 2012).
69. *Curculigo orchoides* Gaertn (Hypoxidaceae), **Nilappanai kilangu**. Uses: Root paste is mixed with milk and taken orally to get relief from rheumatic pain (Rajkumar *et al.* 2012); leaf infusion is taken orally to improve appetite, relieve stomachache and expel intestinal worms (Senthilkumar *et al.* 2014).
70. *Curcuma aromatica* Salisb. (Zingiberaceae), **Kasthuri manjal**. Uses: Rhizome paste is applied on the affected parts twice a day till recovery from impetigo and pimples (Rajkumar *et al.* 2012; Senthilkumar *et al.* 2014).
71. *Curcuma longa* L. (Zingiberaceae), **Manjal**. Uses: Rhizome juice is applied topically to treat itches (David & Sudarsanam 2011); rhizome juice is taken orally used to treat diabetes (Thirumalai *et al.* 2012).
72. *Cyanthillium cinereum* (L.) H.Rob. (Asteraceae), **Povankurunthal**. Uses: Root decoction with black pepper is taken orally for 6 days to cure malaria (Rajkumar *et al.* 2012); leaf juice is applied over the affected regions to cure eye infections (Senthilkumar *et al.* 2014).
73. *Cyclea peltata* (Lam.) Hook.f.& Thomson (Menispermaceae), **Seenthilkodi**. Uses: Stem decoction is taken orally to reduce fever (Senthilkumar *et al.* 2014).
74. *Cynodon dactylon* (L.) Pers. (Poaceae), **Arugampul**. Uses: Whole plant juice is taken orally to treat digestive ailments (Prabu *et al.* 2014).

75. *Cyperus rotundus* L. (Cyperaceae), **Korai**. Uses: Dried tuber paste is applied over the breast of women to increase lactation and applied topically to treat scorpion sting and poisonous insect bites (Rajkumar *et al.* 2012).
76. *Dalbergia latifolia* Roxb. (Fabaceae), **Rosewood**. Uses: Stem bark paste is applied topically to treat cuts and wounds (Ravikumar & Sankar 2003); Root powder is administered with a glass of water to treat menorrhagia (Senthilkumar *et al.* 2014).
77. *Datura metel* L. (Solanaceae), **Oomatthai**. Uses: Few drops of leaf juice poured into ear to get relief from earache (Rajkumar *et al.* 2012).
78. *Datura stramonium* L. (Solanaceae), **Periyamathai**. Uses: Leaf decoction is taken orally to get relief from rheumatism and toothache (Rajkumar *et al.* 2012).
79. *Delonix elata* (L.) Gamble (Fabaceae), **Vathanarayanan**. Uses: Leaf decoction is taken orally to treat arthritis (Senthilkumar *et al.* 2014).
80. *Delonix regia* (Bojer ex Hook.) Raf. (Fabaceae), **Mayaram**. Uses: Leaf juice is taken orally used to treat constipation and piles (Senthilkumar *et al.* 2014).
81. *Dioscorea oppositifolia* L. (Dioscoreaceae), **Valli kizhangu**. Uses: Rhizome paste is taken orally to cure stomachache (Rajkumar *et al.* 2012); fresh tubers are eaten raw to strengthen the body (Muruganandam *et al.* 2014).
82. *Dodonaea viscosa* Jacq. (Sapindaceae), **Viraali**. Uses: Stem and root decoction is used to treat rheumatism, skin diseases and diarrhoea (Rajkumar *et al.* 2012).
83. *Drynaria quercifolia* (L.) J.Sm. (Polypodiaceae), **Mudakathan kilangu**. Uses: Rhizome decoction is used to get relief from rheumatic pain and to improve the body health (Silambarasan *et al.* 2023).
84. *Eclipta prostrata* Lour. (Asteraceae), **Karisalankanni**. Uses: Leaf juice is taken orally to treat hepatitis-B (David & Sudarsanam 2011) and to treat malaria (Senthilkumar *et al.* 2014); leaf powder is taken orally to treat diabetes (Thirumalai *et al.* 2012).
85. *Erythrina variegata* L. (Fabaceae), **Kalyana murungai**. Uses: Bark powder is taken orally to treat liver disorders, joint pain and dysentery (Senthilkumar *et al.* 2014).
86. *Eucalyptus globulus* Labill. (Myrtaceae), **Thaila maram**. Uses: Leaf oil is used to treat upper respiratory tract infections and skin diseases, leaf oil along with olive oil is used as ointment to treat rheumatism and burns (Sekharan & Jagadeesan 1997).
87. *Euphorbia hirta* L. (Euphorbiaceae), **Amman pacharisi**. Uses: Whole plant paste is given orally to delivered women to increase lactation (Ravikumar & Sankar 2003); leaf juice is used to cure asthma (David & Sudarsanam 2011), diabetes (Thirumalai *et al.* 2012); whole plant decoction is used as antidote for Snake bites (Prabu *et al.* 2014).
88. *Euphorbia tirucalli* L. (Euphorbiaceae), **Kodikalli**. Uses: Stem is boiled with water and the obtained decoction is given to children to treat skin diseases (Rajkumar *et al.* 2012).
89. *Evolvulus alsinoides* L. (Convolvulaceae), **Vishnu kiranthi**. Uses: Whole plant juice is used to treat epilepsy and nervous debility (Rajkumar *et al.* 2012); whole plant juice is used to reduce fever (Magendiran & Vijayakumar 2022).
90. *Ficus benghalensis* L. (Moraceae), **Aalamaram**. Uses: Stem latex is applied topically on heel cracks and young stem is used as tooth brush (Rajkumar *et al.* 2012; Muruganandam *et al.* 2014); bark decoction is taken orally to treat diabetes (Thirumalai *et al.* 2012); milky exudate is applied topically to get relief from rheumatic pains (Senthilkumar *et al.* 2014); oil extract is applied for dandruff and cracks on foot (Prabu *et al.* 2014).
91. *Ficus racemosa* L. (Moraceae), **Atthimaram**. Uses: Stem latex is applied topically to treat heel cracks (Rajkumar *et al.* 2012); root decoction is taken orally to cure diabetes (Thirumalai *et al.* 2012); fruits are taken orally to treat leucorrhea and helpful in blood purification (Senthilkumar *et al.* 2014).
92. *Ficus religiosa* L. (Moraceae), **Arasamaram**. Uses: Leaf powder is taken orally to get relief from body pain (David & Sudarsanam 2011).
93. *Gloriosa superba* L. (Colchicaceae), **Kannuvali kizhangu**. Uses: Tuber decoction is taken orally to enhance sexual vigour in men and to treat piles (Rajkumar *et al.* 2012); rhizome paste is used as antidote for scorpion sting/snake bite (Magendiran & Vijayakumar 2022).
94. *Glycyrrhiza glabra* L. (Fabaceae), **Athimathuram**. Uses: Root decoction is taken orally to get relief from throat pain (Rajkumar *et al.* 2012); root decoction is taken orally to get relief from cough and cold (Salai Senthilkumar 2017); rhizome decoction is taken orally to treat uterine disorder, diabetes, fertility in male and female (Silambarasan *et al.* 2023).
95. *Gmelina arborea* Roxb. (Lamiaceae), **Kumilamaram**. Uses: Root bark juice is taken orally to cure diabetes (Rajkumar *et al.* 2012).
96. *Gnetum edule* (Willd.) Blume (Gnetaceae), **Anapendu**. Uses: Oil extracted from the seed is applied topically to get relief from rheumatic pain (Silambarasan *et al.* 2023).

97. *Gymnema sylvestre* (Retz.) R.Br. ex Sm. (Apocynaceae), **Sirukurinjan**. Uses: Leaf decoction is taken orally to manage diabetes (Sekharan & Jagadeesan 1997); leaf powder mixed with goat's milk is taken orally for 48 days to control diabetes (Ravikumar & Sankar 2003); leaf powder is taken orally to cure jaundice (David & Sudarsanam 2011); fresh leaves are chewed to lower the sense of taste of sweet substances and to control the diabetes (Kamaraj *et al.* 2012).
98. *Heliotropium indicum* L. (Boraginaceae), **Anai vanangi**. Uses: Whole plant paste is applied topically to heal wounds and skin affections (Rajkumar *et al.* 2012); leaf paste is applied topically to cure ringworm, pimples (Prabu *et al.* 2014).
99. *Helilenia speciosa* (J.koenig) S.R.Dutta (Costaceae), **Sakkarai chedi** (Insulin plant). Uses: Leaves are eaten raw every day in empty stomach to manage diabetes (Senthilkumar *et al.* 2014).
100. *Hemidesmus indicus* (L.) R.Br. (Apocynaceae), **Nannari**. Uses: Whole plant juice is taken orally to get relief from fever (David & Sudarsanam 2011); juice extracted from the whole plant is taken orally to prevent heat stress (Rajkumar *et al.* 2012); root paste is used to treat leucoderma (Magendiran & Vijayakumar 2022).
101. *Hibiscus rosa-sinensis* L. (Malvaceae), **Semparuthi**. Uses: Flower paste is applied topically to get relief from swellings and boils, flowers are taken orally to treat menorrhagia (Sekharan & Jagadeesan 1997); root decoction is taken orally to treat venereal diseases, flower decoction is taken orally to treat arterial hypertension (Prabu *et al.* 2014).
102. *Hiptage benghalensis* (L.) Kurz (Malpighiaceae), **Kurukathi kodi**. Uses: Plant sap is consumed early in the morning as a cooling agent (Ravikumar & Sankar 2003).
103. *Hybanthus enneaspermus* (L.) F.Muell. (Violaceae), **Orithal thamarai**. Uses: Whole plant paste is applied topically on chest and neck to get relief from cough (Rajkumar *et al.* 2012).
104. *Ixora coccinea* L. (Rubiaceae), **Idlipoo**. Uses: Flower decoction is used to treat dysentery, leucorrhoea and bronchitis (Rajkumar *et al.* 2012).
105. *Jasminum angustifolium* (L.) Willd. (Oleaceae), **Malligai**. Uses: Leaf and flower paste is applied topically to remove the clot of breast milk (Senthilkumar *et al.* 2014).
106. *Jatropha curcas* L. (Euphorbiaceae), **Kattamanakku**. Uses: Stem bark is decoction is used while taking bathing to get relief from stomach problems (Rajkumar *et al.* 2012); leaf paste is applied topically to treat scabies and ringworm infections (Prabu *et al.* 2014).
107. *Jatropha gossypifolia* L. (Euphorbiaceae), **Siru amanakku**. Uses: Paste of aerial part is applied topically to treat bone fracture (Silambarasan *et al.* 2023).
108. *Justicia adhatoda* L. (Acanthaceae), Adhathodai. Uses: Leaf juice is used in the treatment of cancer and asthmatic problems (Senthilkumar *et al.* 2014).
109. *Kalanchoe pinnata* (Lam.) Pers. (Crassulaceae), **Ranakalli**. Uses: Fresh leaves eaten as raw in an empty stomach to cure stomach ulcer (Senthilkumar *et al.* 2014).
110. *Lantana camara* L. (Verbenaceae), **Unni chedi**. Uses: Flowers are ground with coconut oil and applied topically over the head to get relief from headache (Rajkumar *et al.* 2012); leaf paste is applied topically to cure cuts and wounds (Muruganandam *et al.* 2014).
111. *Lawsonia inermis* L. (Lythraceae), **Marudhani**. Uses: Leaf powder is mixed with coconut oil and applied topically to get relief from cuts and wounds (Rajkumar *et al.* 2012); leaf paste is applied topically to cure foot cracks (Senthilkumar *et al.* 2014).
112. *Leucas aspera* Link (Lamiaceae), **Thumbai**. Uses: Flower juice is taken orally to get relief from fever and headache, leaf with pinch of lime is ground to fine paste and applied topically on throat region to cure throat infection (Ravikumar & Sankar 2003); leaves are boiled in water and the obtained vapor is inhaled to get relief from headache and fever (Rajkumar *et al.* 2012); Flower juice is taken along with mother's milk and applied as eye drops to avoid poor eye sight (Muruganandam *et al.* 2014); leaf juice is used as antidote for snakebite and scorpion sting (Prabu *et al.* 2014).
113. *Madhuca longifolia* (L.) J.F.Macbr. (Sapotaceae), **Iluppai**. Uses: Seed paste is applied all over the affected places to cure joint pains and skin infections, bark decoction is taken orally to cure bleeding from gums (Salai Senthilkumar 2017).
114. *Mangifera indica* L. (Anacardiaceae), **Maamaram**. Uses: Bark decoction is used to treat dysentery (David & Sudarsanam 2011); leaf powder mixed with cow's milk is taken orally to control diabetes (Thirumalai *et al.* 2012); latex of leaf and stem bark is used to get relief from heel cracks (Rajkumar *et al.* 2012); seeds are ground with cow's milk and taken orally to arrest excess bleeding during menstruation (Senthilkumar *et al.* 2014).
115. *Melia azedarach* L. (Meliaceae), **Malai vembu**. Uses: Flowers and leaves are applied as poultice to get relief from severe headache, leaf juice is taken orally to treat swellings (Sekharan & Jagadeesan 1997); leaf juice is used to treat jaundice (David & Sudarsanam 2011); seed decoction is used to treat diabetes (Thirumalai *et al.* 2012); leaf, stem, and root juice and paste are taken orally and applied topically to treat stomachache, skin diseases and body pain

- (Kamaraj *et al.* 2012); flowers are powdered with cow's milk is taken orally to get relief from headache (Rajkumar *et al.* 2012); leaf paste is applied topically over the body to treat small pox, rheumatism and skin diseases. The young twigs are used as tooth brush to strengthen the teeth (Salai Senthilkumar 2017).
116. *Memecylon umbellatum* Burm.f. (Melastomataceae), **Kayambu**. Uses: Leaf juice is taken orally to control the diabetes (Silambarasan *et al.* 2023).
  117. *Mimosa pudica* L. (Fabaceae), **Thottal surungi**. Uses: Leaf juice is mixed with castor oil and taken orally to cure piles (Senthilkumar *et al.* 2014); paste of fresh stem bark is applied topically to treat cuts and wounds (Rajkumar *et al.* 2012); root paste is used to treat fertility disorder and its decoction is applied topically to cure wounds (Magendiran & Vijayakumar 2022); decoction of aerial parts is taken orally to reduce the burning sensation and root decoction is taken orally to improve sexual problems (Silambarasan *et al.* 2023).
  118. *Mimosa elengi* L. (Sapotaceae), **Magadamaram**. Uses: Seed paste is mixed with honey and taken orally to treat snake bite (Muruganandam *et al.* 2014).
  119. *Mirabilis jalapa* L. (Nyctaginaceae), **Namakottan chedi**. Uses: Leaf juice is taken orally to cure jaundice, dysentery and diarrhea (Rajkumar *et al.* 2012).
  120. *Momordica charantia* L. (Cucurbitaceae), **Pavakkai**. Uses: Leaf paste is taken orally to treat gastroenteritis (David & Sudarsanam 2011); seed powder is mixed with water and taken orally to prevent the diabetes (Thirumalai *et al.* 2012).
  121. *Moringa concanensis* Nimmo (Moringaceae), **Kaattu murungai**. Uses: Leaf decoction is used to improve sexual health and resin decoction is used to treat premature ejaculation (Silambarasan *et al.* 2023).
  122. *Moringa oleifera* Lam. (Moringaceae), **Murungai**. Uses: Leaf juice is taken orally early in the morning to cure diabetes (Thirumalai *et al.* 2012); leaves and flowers are boiled and taken orally to increase the fertility in men (Salai Senthilkumar 2017).
  123. *Murraya koenigii* (L.) Spreng. (Rutaceae), **Karuveppilai**. Uses: Juice of tender leaves is taken orally to arrest vomiting (Rajkumar *et al.* 2012).
  124. *Musa paradisiaca* L. (Musaceae), **Vazhai**. Uses: Stem juice is taken orally to treat diabetics, kidney stone, urinary problems and applied topically to heal burn wounds (Rajkumar *et al.* 2012).
  125. *Myristica fragrans* Houtt. (Myristicaceae), **Jathikkai**. Uses: Seed powder is mixed with cow's milk and taken orally to cure digestive problems (Rajkumar *et al.* 2012).
  126. *Ocimum americanum* L. (Lamiaceae), **Pachai thulasi**. Uses: Leaf juice is boiled with pepper and taken orally to get relief from severe headache and fever (Senthilkumar *et al.* 2014).
  127. *Ocimum basilicum* L. (Lamiaceae), **Karunthulasi**. Uses: Infusion made from whole plant is used to get relief from joint pains, leaf juice is poured in ear for treating earache, seed paste is applied as poultice to treat sores and sinusitis (Sekharan & Jagadeesan 1997); oil extract of the leaves is used to cure eczema, scabies, and ear ache (Prabu *et al.* 2014).
  128. *Ocimum sanctum* L. (Lamiaceae), **Tulsi**. Uses: Leaf juice is given orally to children to treat indigestion, cough and cold (Rajkumar *et al.* 2012); a pinch of leaf is taken orally early in the morning to treat diabetes (Thirumalai *et al.* 2012).
  129. *Ocimum tenuiflorum* L. (Lamiaceae), **Naai thulasi**. Uses: Leaf juice is used to treat cold, headache, stomach disorders, inflammation, heart disease and malaria (Kamaraj *et al.* 2012); leaves crushed with pepper and mixed with curd and taken orally to treat cancer (Prabu *et al.* 2014); leaf decoction is taken orally early morning cough, headache, cold, fever and asthma (Silambarasan *et al.* 2023).
  130. *Oryza sativa* L. (Poaceae), **Nel**. Uses: Root is ground in to paste with lemon juice and applied topically to treat swellings (Rajkumar *et al.* 2012).
  131. *Passiflora foetida* L. (Passifloraceae), **Mosukkattan**. Uses: Leaf and fruit juice is taken orally to treat earache, diarrhoea, fever, throat infection and skin diseases (Salai Senthilkumar 2017); leaf powder is used to cure cough (Magendiran & Vijayakumar 2022).
  132. *Pavonia zeylanica* (L.) Cav. (Malvaceae), **Peramutti**. The extract prepared from the root is mixed with water and boiled in a low flame and the obtained decoction is taken orally twice a day to get relief from fever (Rajkumar *et al.* 2012); fresh fruits are consumed to improve the body health (Silambarasan *et al.* 2023).
  133. *Pergularia daemia* (Forssk.) Chiov. (Apocynaceae), **Veliparuthi**. Uses: Leaf juice is applied over the throat to cure throat infections (Muruganandam *et al.* 2014); leaf juice is mixed with egg and taken orally to cure stomach ache and ulcer (Senthilkumar *et al.* 2014).
  134. *Phyllanthus amarus* Schumach. & Thonn. (Phyllanthaceae), **Keezhanelli**. Uses: Whole plant paste is mixed with goat's milk and taken orally to cure jaundice (Ravikumar & Sankar 2003); leaf juice is taken orally to treat diabetes (Thirumalai *et al.* 2012); whole plant paste is taken orally thrice a day for 3 days to treat jaundice (Senthilkumar *et al.* 2014).

135. *Phyllanthus emblica* L. (Phyllanthaceae), **Nelli**. Uses: Decoction of fruit is used to get relief from cold (David & Sudarsanam 2011); fruits are consumed as raw to treat diabetes (Thirumalai *et al.* 2012); fruit juice is taken orally to treat kidney ailments, diabetes and to improve body health (Silambarasan *et al.* 2023).
136. *Phyllanthus reticulatus* Poir. (Phyllanthaceae), **Karumboola**. Uses: Leaf paste is mixed with cow's milk and taken orally to cure venereal diseases and to reduce body heat (Ravikumar & Sankar 2003).
137. *Piper betle* L. (Piperaceae), **Vettrilai**. Uses: Few drops of leaf juice is mixed with honey and given orally to children to get relief from cough and chewing of leaves helps in digesting heavy diet (Rajkumar *et al.* 2012); raw leaf chewed orally to strengthen teeth, improve body health (Silambarasan *et al.* 2023).
138. *Piper longum* L. (Piperaceae), **Thippili**. Uses: Decoction of inflorescence is consumed to get relief from fever and cough (Silambarasan *et al.* 2023).
139. *Piper nigrum* L. (Piperaceae), **Milagu**. Uses: Decoction made from the dried seeds is taken orally to get relief from throat infection (Rajkumar *et al.* 2012; Silambarasan *et al.* 2023).
140. *Plectranthus amboinicus* (Lour.) Spreng. (Lamiaceae), **Karpuravalli**. Uses: leaf juice is taken orally to get relief from cold, cough, headache, indigestion and asthma (Rajkumar *et al.* 2012; Prabu *et al.* 2014); leaf is boiled with coconut oil and applied over the head Rajkumar *et al.* 2012 running nose and cough (Senthilkumar *et al.* 2014).
141. *Plumbago zeylanica* L. (Plumbaginaceae), **Chitiraimoolam**. Uses: Root decoction is taken orally to treat stomachache; roots are boiled with gingelly oil and few drops of filtered oil is kept in aching tooth to get early relief (Ravikumar & Sankar 2003).
142. *Pongamia pinnata* (L.) Pierre (Fabaceae), **Pungamaram**. Uses: Leaf juice is used to treat diarrhea, cough and leprosy, leaf infusion is used in medicated bath to treat rheumatic pains and for cleaning foul ulcers and sores, stem bark decoction is taken orally to treat bleeding piles, decoction made from dried flowers is used to control diabetes (Sekharan & Jagadeesan 1997); seed smeared with castor oil is heated and the obtained paste is applied topically to treat whooping cough (Ravikumar & Sankar 2003); seed oil is used to cure rheumatic pain and swellings (David & Sudarsanam 2011); root powder is taken orally along with cow's milk to treat scorpion sting and snakebite (Rajkumar *et al.* 2012).
143. *Portulaca oleracea* L. (Portulacaceae), **Tharai keerai**. Uses: Whole plant juice is used to treat earache and toothache, leaf paste is applied to burns and swellings, leaf decoction is taken orally with cow's milk to treat hematemesis (Sekharan & Jagadeesan 1997).
144. *Premna tomentosa* Willd. (Lamiaceae), **Peenji maram**. Uses: Shade dried leaves and stem are made into powder, mixed with coconut oil and applied over the affected places to get relief from wounds and itches (Muruganandam *et al.* 2014).
145. *Psidium guajava* L. (Myrtaceae), **Koyya**. Uses: Leaves are eaten as raw to treat dysentery (David & Sudarsanam 2011); fruits are consumed regularly to treat diabetes (Thirumalai *et al.* 2012).
146. *Psydrax dicoccos* Gaertn. (Rubiaceae), **Seppukkorai**. Uses: Stem bark paste is applied topically to get relief from gas trouble (Suresh 2010).
147. *Rhinacanthus nasutus* (L.) Kurz (Acanthaceae), **Nagamalli**. Uses: Leaf juice is taken orally as antidote for snakebite (Rajkumar *et al.* 2012).
148. *Ricinus communis* L. (Euphorbiaceae), **Ammanakku**. Uses: Leaf juice is taken orally as well as washed leaves are tied on the breast to increase lactation in women (Rajkumar *et al.* 2012); seed oil is taken orally and applied topically to reduce body heat (Senthilkumar *et al.* 2014).
149. *Rubia cordifolia* L. (Rubiaceae), **Kaluttharupan chedi**. Uses: Root paste is applied topically on heel before going to bed to cure heel cracks (Rajkumar *et al.* 2012); stem decoction is consumed orally to reduce fever (Silambarasan *et al.* 2023).
150. *Ruellia prostrata* Poir. (Acanthaceae), **Pottakanchi**. Uses: Whole plant juice is used to treat diabetes (Magendiran & Vijayakumar 2022).
151. *Ruta graveolens* L. (Rutaceae), **Seerpachai illai**. Uses: Smoke of the aerial parts is used as mosquito repellent (Silambarasan *et al.* 2023).
152. *Senna alata* (L.) Roxb. (Fabaceae), **Seemai agathi**. Uses: Leaves are ground with coconut oil and bee wax and the obtained paste is applied on the affected places to cure tinea vesicolor (Rajkumar *et al.* 2012); leaf is ground with vegetable oil and applied on affected regions to cure ringworm and fungal infections (Salai Senthilkumar 2017).
153. *Senna tora* (L.) Roxb. (Fabaceae), **Thagarai**. Uses: Whole plant decoction is taken orally thrice day to treat hydrophobia (Ravikumar & Sankar 2003); leaves are cooked with green gram and consumed to reduce body heat (Muruganandam *et al.* 2014); leaf paste and seed powder are topically applied to treat skin diseases (Magendiran & Vijayakumar 2022).

154. *Sesamum indicum* L. (Pedaliaceae), **Ellu**. Uses: Seeds are used as diuretic and lactagogue, seed paste is applied as poultice to treat ulcers, seed oil is used to treat dysentery and urinary complaints (Sekharan & Jagadeesan 1997); seed and leaf juice is used to remove the blood clots (Salai Senthilkumar 2017).
155. *Sesbania grandiflora* (L.) Poir. (Fabaceae), **Agatthi**. Uses: Leaf paste is applied on head to remove dandruff (Ravikumar & Sankar 2003); leaf juice is mixed with coconut milk and the obtained mixture is applied topically over the affected places of skin until cure (David & Sudarsanam 2011); soup prepared from the leaf is taken orally to treat peptic ulcer (Senthilkumar *et al.* 2014).
156. *Sida acuta* Burm.f. (Malvaceae), **Arival manai poondu**. Uses: Leaf paste is applied topically to heal cuts and wounds and to get relief from headache (Rajkumar *et al.* 2012).
157. *Sida cordata* (Burm.f.) Borss.Waalk. (Malvaceae), **Palampaasi**. Uses: Leaves are crushed and the obtained juice is applied over the fresh cuts to stop bleeding (Ravikumar & Sankar 2003).
158. *Sida cordifolia* L. (Malvaceae), **Sunnambu chedi**. Uses: Whole plant juice is taken orally used to treat elephantiasis, leaf infusion is used to treat fever (Sekharan & Jagadeesan 1997); root paste is taken orally to reduce body heat (Magendiran & Vijayakumar 2022).
159. *Solanum americanum* Mill. (Solanaceae), **Siragunni**. Uses: Few drops of leaf juice is poured into ear to get relief from earache (Senthilkumar *et al.* 2014); ripen fruits are eaten raw to cure gastric ulcer and kill intestinal worms (Silambarasan *et al.* 2023).
160. *Solanum lycopersicum* L. (Solanaceae), **Thakkali**. Uses: Fruit is eaten as raw to lower urinary problems (Rajkumar *et al.* 2012).
161. *Solanum nigrum* L. (Solanaceae), **Manatthkkali**. Uses: Fruits are eaten as raw to enhance digestion and to treat liver problems (David & Sudarsanam 2011); whole plant is taken as food to treat cough (Rajkumar *et al.* 2012); leaf paste is applied topically to cure skin diseases (Muruganandam *et al.* 2014).
162. *Solanum trilobatum* L. (Solanaceae), **Thoodhualai**. Uses: Leaf juice is used to get relief from throat infection and cold (David & Sudarsanam 2011); leaf juice is taken orally to treat cough, itching and asthma (Rajkumar *et al.* 2012); dried fruits are taken orally to get relief from respiratory problems, leaves are eaten as raw to reduce fever and to strengthen the body (Muruganandam *et al.* 2014).
163. *Solanum virginianum* L. (Solanaceae), **Kandan kathiri**. Uses: Leaf juice is taken orally in an empty stomach to get relief from ulcer, mouth wound and stomach pain (Senthilkumar *et al.* 2014); leaf powder is boiled with castor oil, taken orally and applied over the affected regions to treat skin infections (Salai Senthilkumar 2017); seed smoke is let into affected tooth regions to kill worms in decayed tooth (Silambarasan *et al.* 2023).
164. *Strychnos nux-vomica* L. (Loganiaceae), **Ettimaram**. Uses: Stem bark paste mixed with goat's milk and taken orally for 3 months to cure whooping cough (Muruganandam *et al.* 2014); seed paste is applied topically to get relief from rheumatic pain (Silambarasan *et al.* 2023).
165. *Syzygium cumini* (L.) Skeels (Myrtaceae), **Naaval**. Uses: Stem paste is applied topically to treat swellings and the ripen fresh fruits are taken orally to reduce body heat (Rajkumar *et al.* 2012); stem bark is mixed with neem bark, boiled in water and taken orally to get relief from fever and rheumatic pains (Prabu *et al.* 2014); stem bark paste is taken along with honey and goat's milk to control blood pressure (Muruganandam *et al.* 2014); seed decoction is taken orally to reduce blood sugar level (Senthilkumar *et al.* 2014).
166. *Tamarindus indica* L. (Fabaceae), **Puliyamaram**. Uses: Dried fruits are taken orally to treat eye infections (Rajkumar *et al.* 2012); seed coat is crushed into paste and applied over the affected places to treat scorpion sting, leaves are tied with a cotton cloth and heated, later massaged over the affected regions to treat poisonous bites (Senthilkumar *et al.* 2014).
167. *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn. (Combretaceae), **Maruthamaram**. Uses: Powdered bark is mixed with milk and taken orally to cure bone fractures, decoction of bark is used to treat ulcers, juice of fresh leaves is poured in ears to cure earache, juice made from twigs is taken orally to cure blisters and mouth ulcers (Sekharan & Jagadeesan 1997); fruit paste is applied topically on wounds, bark powder is boiled with water and inhaled to cure headache and to kill worms in teeth (Rajkumar *et al.* 2012); stem bark decoction is taken orally to improve the heart strength (Silambarasan *et al.* 2023).
168. *Terminalia bellirica* (Gaertn.) Roxb. (Combretaceae), **Thandrikkai**. Uses: Fruit pulp is ground with salt and long pepper and taken orally to get relief from cold and cough (Sekharan & Jagadeesan 1997); decoction of fruit rind is used to kill intestinal worms and to improve the body health (Silambarasan *et al.* 2023).
169. *Terminalia chebula* Retz. (Combretaceae), **Kadukkai**. Uses: Powdered fruit is mixed with water/cow's/goat's milk and taken orally to treat skin diseases (Rajkumar *et al.* 2012); fruit paste is mixed with castor oil and applied over the affected places to cure cuts and wounds, tender fruits are boiled with salt and taken orally to cure ulcer (Muruganandam *et al.* 2014).

170. *Toddalia asiatica* (L.) Lam. (Rutaceae), **Indumullu**. Uses: Leaf decoction is taken orally to treat stomachache (Rajkumar *et al.* 2012); fruit powder is taken orally to get relief from fever, cough, and wounds (Magendiran & Vijayakumar 2022).
171. *Tridax procumbens* L. (Asteraceae), **Vettukaya poondu**. Uses: Leaf paste is applied topically over the affected places to get relief from cuts and wounds (Rajkumar *et al.* 2012); leaf juice is applied over the affected places to cure cuts, leaf juice is mixed with coconut oil and applied over the head to treat dandruff (Senthilkumar *et al.* 2014).
172. *Trigonella foenum-graecum* L. (Fabaceae), **Venthayam**. Uses: Seed decoction is used as aphrodisiac, leaf paste is applied topically to treat swelling and burns (Sekharan & Jagadeesan 1997); decoction made from the seeds soaked in water over night is taken orally to treat diabetes and to reduce the body heat (Rajkumar *et al.* 2012).
173. *Vachellia nilotica* (L.) P.J.H.Hurter & Mabb. (Fabaceae), **Karuvelam**. Uses: Decoction of stem bark and resin is taken orally to kill intestinal worms and to arrest dysentery (Salai Senthikumar 2017).
174. *Vitex negundo* L. (Lamiaceae), **Notchi**. Uses: Crushed leaves used to inhale strongly to get relief from cold and cough (Ravikumar & Sankar 2003); leaf juice is taken orally to treat cold (David & Sudarsanam 2011); leaves are boiled with water and steam inhalation is used to treat asthmatic complaints and also used as antidote for snakebite (Prabu *et al.* 2014); leaves are eaten raw to cure sinus problem (Senthilkumar *et al.* 2014).
175. *Withania somnifera* (L.) Dunal (Solanaceae), **Amukkura**. Uses: Leaf juice is taken orally to treat diabetes (Thirumalai *et al.* 2012); root decoction is used to treat diabetes, to improve body health and sexual health (Silambarasan *et al.* 2023).
176. *Wrightia tinctoria* R.Br. (Apocynaceae), **Veppalai**. Uses: Leaf paste is applied topically to treat scabies and fungal infections on head (Silambarasan *et al.* 2023).
177. *Zingiber officinale* Roscoe (Zingiberaceae), **Inji**. Uses: Rhizome juice is mixed with honey and taken internally to improve digestion and to relieve from giddiness (David & Sudarsanam 2011); dried rhizome is boiled with palm sugar and taken orally to get relief from cough and cold (Rajkumar *et al.* 2012).
178. *Ziziphus mauritiana* Lam. (Rhamnaceae), **Ilandhai**. Uses: Leaf and bark decoction are boiled and the obtained decoction is used to take bath to get relief from severe body pain, dried bark powder is applied topically to treat wounds (Rajkumar *et al.* 2012).

Of the recorded 178 ethnomedicinal plants, *Acalypha indica*, *Achyranthes aspera*, *Aegle marmelos*, *Andrographis paniculata*, *Annona squamosa*, *Azadirachta indica*, *Cardiospermum halicacabum*, *Cassia fistula*, *Cissus quadrangularis*, *Coccinia grandis*, *Commiphora caudata*, *Eclipta prostrata*, *Euphorbia hirta*, *Ficus racemosa*, *Gymnema sylvestre*, *Hibiscus rosa-sinensis*, *Leucas aspera*, *Melia azedarach*, *Mimosa pudica*, *Moringa oleifera*, *Musa paradisiaca*, *Ocimum tenuiflorum*, *Phyllanthus amarus*, *Pongamia pinnata*, *Sida cordifolia*, *Solanum trilobatum*, *Strychnos nux-vomica*, *Syzygium cumini*, *Terminalia arjuna*, *Terminalia bellirica*, *Toddalia asiatica*, *Tridax procumbens*, *Trigonella foenum-graecum*, *Vitex negundo*, *Withania somnifera*, and *Wrightia tinctoria* were recorded with high use reports. Due to the presence of several therapeutically active compounds, the documented ethnomedicinal plants have the ability to mitigate the documented ailments and disorders. From Table 2 it was evident that the plants' extracts and isolated compounds have shown to possess substantial antidiabetic, antioxidant, antitussive, anti-inflammatory, antitumour, antiulcer, antibacterial, hepatoprotective, neuroprotective, cardioprotective, and wound healing properties. The associated traditional medical usage is explored in order to provide a better understanding on the ethnomedicinal plants recorded in the survey.

Table 2. Phytoconstituents and pharmacological properties associated with therapeutic potential of ethnomedicinal plants commonly used among the Malayali tribal community in Jawadhu Hills, India

| Binomials (Status#)                               | Major phytoconstituents*  | Pharmacological activities   |
|---|---|--|
| <i>Abrus precatorius</i> L. (Common)              | Hemiphloin, abrectorin, abrusin, abrisapogenol J, sophoradiol, cholanoic acid, precatorine, cycloartenol    | Antidiabetic, antimicrobial, anticancer, anti-inflammatory, anti-arthritic, anthelmintic (Garaniya and Bapodra, 2014)      |
| <i>Abutilon indicum</i> (L.) Sweet (Common)       | Abutilon-A, para-hydroxybenzoic   | Analgesic, anti-inflammatory, anti-cancer, hepato-protective, immuno-modulatory and larvicidal (Mohite <i>et al.</i> 2012) |
| <i>Acalypha fruticosa</i> Forssk. (Least Concern) | n-Hexadecanoic acid, 9, 12-octadecadienoic acid [z, z], $\alpha$ -d-glucopyranoside, eicosyltrichlorosilane | Anti-inflammatory, wound healing and cytotoxic properties (Gopalakrishnan <i>et al.</i> 2010)                              |

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|---|---|---|
| <i>Acalypha indica</i> L. (Common)                        | Flindersin, acalyphine, acalyphamide, aurantiamide, succinimide   | Anthelmintic, anti-ulcer, wound healing, anti-bacterial (Zahidin <i>et al.</i> 2017)  |
| <i>Achyranthes aspera</i> L. (Common)                     | Ecdysterone, hentriacontane, achyranthine, n-hexacos-14-enoic acid, Triaccontanol, betaine, pentatriacontane  | Antibacterial, wound healing, anti-allergic (Venkadassalopathy <i>et al.</i> 2023)  |
| <i>Acorus calamus</i> L. (Cultivated)                     | Dehydroxyiso-calamendiol, $\beta$ -asarones, calamendiol, calamol, acorone, dioxosarcoguaiacol  | Anticonvulsant, antidepressant, antihypertensive, anti-inflammatory, analgesic, immunomodulatory, neuroprotective, cardioprotective (Sharma <i>et al.</i> 2020)             |
| <i>Aegle marmelos</i> (L.) Corrêa (Near Threatened A2acd) | Aegeline, fragrine, aegelenine, marmin, marmelide, psoralen, Imperatonin, cineol  | Antidiabetic, anticancer, antifertility, antimicrobial, immunogenic (Monika <i>et al.</i> 2023)   |
| <i>Aerva lanata</i> (L.) Juss. (Common)                   | Persinol, persinosides A and B), methyl grevillate, $\beta$ -sitosteryl acetate   | Anti-inflammatory, hypoglycemic, anti-diabetic, antiparasitic, hepoprotective, anti-urolithiasis, antiasthmatic, antifertility and hypolipidemic (Goyal <i>et al.</i> 2011) |
| <i>Afrohybanthus enneaspermus</i> (L.) Flicker (Common)   | D-mannitol, tetradecanediol, phytol, 2-piperdinone, cedarn-diol, 2-mono linoleo glycerol trimethyl silyl ether, silane  | Antidiabetic, antiplasmodial, anticonvulsant, nephroprotective (Patel <i>et al.</i> 2013)   |
| <i>Albizia amara</i> (Roxb.) Boivin (Least Concern)       | 3-O- $[\beta$ -Dxylopyranosyl-(1 $\rightarrow$ 2)- $\alpha$ -L-arabinopyranosyl- (1 $\rightarrow$ 6)-2 acetamido-2- deoxy- $\beta$ -dglucopyranosyl]echinocystic acid | Antidiabetic, anthelmintic, antibacterial, hepatoprotective, anti-inflammatory, cytotoxic properties (Kokila <i>et al.</i> 2013)  |
| <i>Albizia lebbek</i> (L.) Benth. (Least Concern)         | Melanoxetin, okanin, leucopelargonidin, (-) melacacidin, lebbecacidin   | Anti-inflammatory, anti-cancer, anti-malarial, anti-allergic, antihyperglycemic, antidiabetic (Samant <i>et al.</i> 2023)   |
| <i>Allium cepa</i> L. (Cultivated)                        | Thiosulphinates, cepaenes, cysteine, S-methyl cysteine sulfoxide  | Anti-cancer, anti-diabetic and anti-platelet (Kianian <i>et al.</i> , 2021)   |
| <i>Allium sativum</i> L. (Cultivated)                     | E-ajoene, Z-ajoene, allicin   | Antidiabetic, renoprotective, anti-atherosclerotic, antihypertensive (El-Saber Batiha <i>et al.</i> 2020)   |
| <i>Aloe vera</i> (L.) Burm.f. (Cultivated)                | Aloe-emodin, aloin, aloesin, emodin, chrysophanol, physcione, lophenol, cycloartenol, acemannan   | Cardioprotective, antidiabetic (Sanchez <i>et al.</i> 2020)   |
| <i>Alpinia galanga</i> (L.) Willd. (Wild)                 | p-methane-1,8- epoxy-acethoxychavicol acetate, alpinin, kaempferide, pinene, camphor, pineol, galangin  | Antiviral, antiprotozoal, immunomodulatory, antidiabetic, antiplatelet (Brindha devi <i>et al.</i> 2019)  |
| <i>Alternanthera sessilis</i> (L.) DC. (Least Concern)    | Cyclopentaneundecanoic acid, $\alpha$ -amyrin, clionasterol, hexadecanoic acid  | Anthelmintic, antidiabetic, hypolipidemic, analgesic, anti-inflammatory, cytotoxic, anticancer (Hwong <i>et al.</i> 2022)   |
| <i>Anacardium occidentale</i> L. (Least Concern)          | 3-O-galactoside, 3-O-glucoside, 3-O-rhamnoside, 3-O-xylopyranoside, 3-O-arabinopyranoside, myricetin  | Antiulcerogenic, and anti-inflammatory (Salehi <i>et al.</i> , 2020)  |
| <i>Andrographis alata</i> (Vahl) Nees (Common)            | Andropaniculosin A, isoswertisin, adipic acid, onysilin   | Immuno-stimulatory, anti-inflammatory, anti-infective, antihepatotoxic, antiviral, antiatherosclerotic (Hossain <i>et al.</i> 2014)   |
| <i>Andrographis paniculata</i> (Burm.f.) Wall. (Common)   | Andrographolide, andropaniculosin A, isoswertisin,  | Anticancer, antimalarial, antihepatic, antihyperglycemic, anti-inflammatory (Hossain <i>et al.</i> 2014)  |



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|  | adipic acid, onylin, cinnamic acid, skullcapflavone I   |   |
| <i>Angiopteris evecta</i> (Forst.) Hoffm. (Not accessed)       | Angiopteriside monohydrate, D-(+)-glucose   | Antibacterial activity, tyrosinase inhibition (Mismawati <i>et al.</i> 2015)  |
| <i>Anisomeles malabarica</i> (L.) R.Br. (Common)               | Palmitoleic acid, genstein, pratensein, biochanin A, caviunin   | Anticancer, antiviral, anti-HIV, anti-inflammatory, antiplatelet, and antiepileptic (Yasmin <i>et al.</i> 2011)                             |
| <i>Annona cherimola</i> Mill. (Cultivated)                     | Annocherine A, cherianoine, annocherine B, cherimoline, annomolin, romucosine H, anonaine   | Antidiabetic, antimicrobial, antidepressant, anxiolytic, antiviral, antitumor, cytoprotective (Jamkhande <i>et al.</i> 2017)                |
| <i>Annona squamosa</i> L. (Cultivated)                         | Borneol, farnesol, geraniol, annotemoyin-1, annotemoyin-2, squamocin, cholesteryl glucoopyranoside  | Antidiabetic, analgesic, anti-inflammatory, wound healing, antimalarial, cytotoxic, antimicrobial (Saha <i>et al.</i> 2011)                 |
| <i>Arachis hypogea</i> L. (Cultivated)                         | Phenylacetaldehyde, methylbutanoic acid, 4-vinylphenol, 2-methoxyphenol, $\beta$ -pinene  | antifungal, anti-inflammatory (Lopes <i>et al.</i> 2011)  |
| <i>Areca catechu</i> L. (Cultivated)                           | Chrysoeriol, luteolin-5-hydroxy-2-7-methoxychroman-4-one, (s)-5-hydroxy-2-(4-hydroxy-3,5-dimethoxyphenyl)-7-methoxychroman-4-one                        | Anti-Allergic, antibacterial, antifungal, anti-inflammatory, (Peng <i>et al.</i> 2015)  |
| <i>Argemone mexicana</i> L. (Common)                           | Berberine, coptisine, muramine, stylophine, cryptopine, thalifone, sanguinarine, protopine, optisine, papaverosin, glaucopicrin, paveramine, papaverine | Hepatoprotective, anticancer, antiproliferative, anti-inflammatory, antidiabetic, antiallergic (Jaiswal <i>et al.</i> 2023)                 |
| <i>Aristolochia bracteolata</i> Lam. (Wild)                    | Aristolochic acids, aristolactams, aporphines, protoberberines, isoquinolines, benzylisoquinolines  | Antifungal and antibacterial (Thirumal <i>et al.</i> 2012)  |
| <i>Aristolochia indica</i> L. (Wild)                           | Aristolochic acid, ceryl alcohol, stigmast-4-en-3-one, friedelin, cycloeucalenol  | Antimicrobial (Hemlata <i>et al.</i> 2011)  |
| <i>Asparagus racemosus</i> Willd. (Least Concern)              | Tetranorlipoic acid, tetradecanic acid, octadecadienoic acid.   | Immunostimulant, anti-inflammatory, antihepatotoxic, antioxytotic (Mishra <i>et al.</i> 2017)   |
| <i>Atalantia monophylla</i> (L.) DC. (Wild)                    | 1,1 dichloro-2-dodecanol, Methyl 10-undecenoate, heptadecanoic acid   | Antiplasmodial, anticancer (Shelar & Singh 2023)  |
| <i>Azadirachta indica</i> A.Juss. (Least Concern)              | Nimbolinin, nimbin, nimbidin, nimbidol, sodium nimbinat, gedunin, salannin  | Antiplasmodial, anticancer, hypoglycemic, insecticidal, neuroprotective, hepatoprotective, anti-inflammatory, anthelmintic (Alzohairy 2016) |
| <i>Bauhinia tomentosa</i> L. (Least Concern)                   | 5, 7-dimethoxy-30, 40-methylenedioxy flavone, dihydrobenzoxepin   | Anticancer activity, anti-inflammatory, anti-diabetic (Nachiar 2023)  |
| <i>Bidens pilosa</i> L. (Common)                               | Quercetin 3-O-rabinobioside, quercetin 3-O-rutinoside, chlorogenic acid, jacein, centaurein   | Anti-cancerogenic, anti-diabetic, anti-inflammatory (Xuan & Khanh, 2016)  |
| <i>Blepharis maderaspatensis</i> (L.) B.Heyne ex Roth (Common) | Caffeic acid, rutin, ferulic acid   | Antiviral, hepatoprotective anti-inflammatory, anti-ulcer (Pattar <i>et al.</i> 2011)   |

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| <i>Boerhavia diffusa</i> L. (Common)                    | Boeravinone A, B, C, punarnavine, eupalitin, kaempferol, quercetin 3-o-robinobioside, punarnavoside, ferulic acid  | Diuretic, hepatoprotective, anti-inflammatory, anti-fibrinolytic, anti-cancer, antidiabetic (Nayak & Thirunavoukkarasu, 2016)                         |
| <i>Bombax ceiba</i> L. (Least Concern)                  | Shamimicin, lupeol, mangiferin, epicatechin-7-O- $\beta$ -xylopyranoside, shamiminol, stigmasta-3,5-diene, lupenone, opuntiol  | Analgesic, anti-inflammatory, antipyretic, antiangiogenic, cytotoxic, hepatoprotective, diuretic, anthelmintic, anticancer (Rani <i>et al.</i> 2016)  |
| <i>Brassica juncea</i> (L.) Czern. (Cultivated)         | Brassicasterol, campesterol, stigmasterol, $\alpha$ -linolenic acid, sinigrin  | Anti-inflammatory, antimicrobial (Tian & Deng, 2020)  |
| <i>Butea monosperma</i> (Lam.) Kuntze (Least Concern)   | Butein, monospermoside, isoliquiritigenin, 7,3',4'-trihydroxyflavone, (-)-butin, (-)-butrin, (+)-isomonospermoside   | Hepatoprotective, anti-helmintic, anti-convulsive, antistress, antidiabetic, anti-inflammatory (Gupta <i>et al.</i> 2012)                             |
| <i>Caesalpinia pulcherrima</i> (L.) Sw. (Least Concern) | Pulcherrin A, pulcherrin B, pulcherrin C, neocaesalpin P, neocaesalpin Q, pulcherrimin E, $\alpha$ -cadinol, teucladiol, bonducellin                                   | Anti-inflammatory and antiulcer (Anju <i>et al.</i> 2013)   |
| <i>Cajanus cajan</i> (L.) Huth (Cultivated)             | Cajanuslactone, cajanin, longistylin C, longistylin A, betulinic acid, pinostrobin, genistein, genistin, Cajanol, pinostrobin, cajaninstilbene acid, vitexin, orientin | Antiplasmodial, anticancer, hypoglycemic, insecticidal, neuroprotective, hepatoprotective, anti-inflammatory, anthelmintic (Gargi <i>et al.</i> 2022) |
| <i>Calophyllum inophyllum</i> L. (Least Concern)        | Calophyllolide, inocalophylline C, phytol, $\beta$ -amysin, farnesol, brasilixanthone, caloxanthone  | Anticancer, Antimalarial, anti-inflammatory (Gupta <i>et al.</i> 2020)  |
| <i>Calotropis gigantea</i> (L.) Dryand. (Common)        | Deidaclin, armillane, tamarixin, elaeokanine C, isoavocadienofuran, nodifloretin, gingerol, curcumenol, emmotin A, calotropin, calactoprocin, procegenin A             | Anticonvulsant, wound healing, analgesic, antinociceptive, anthelmintic (Wadhvani <i>et al.</i> 2021)   |
| <i>Canna indica</i> L. (Common)                         | Cannadica A, cannadica B, heterophylloside C, isotachioside, benzyl glucoside, 3,4-dihydroxybenzaldehyde   | Anticancer, neuroprotective, cardioprotective (Chigurupati <i>et al.</i> 2021)  |
| <i>Capparis sepiaria</i> L. (Least Concern)             | Taraxasterol, $\alpha$ -amyirin, $\beta$ -amyirin, $\beta$ -sitosterol, furanmethanol  | Antimicrobial, anticancer and antidiabetic (Rajesh <i>et al.</i> 2010)  |
| <i>Caralluma fimbriata</i> Wall. (Common)               | Carumbelloside-III, russelioside B, retrospinoside 1, catechin, epigallocatechin   | Anthelmintic, antirheumatic, hypolipidemic, anti-inflammatory, hepatoprotective, anticancer, antinociceptive (Anwar <i>et al.</i> 2022)               |
| <i>Cardiospermum halicacabum</i> L. (Least Concern)     | Cardiospermin, apigenin, protocatechuic acid, chrysoeriol, phloridzin, prunin, coumaroylquinic acid  | Anti-inflammatory, neuroprotective, anti-ulcer, hepatoprotective, anti-diabetic, immunomodulatory (Elangovan <i>et al.</i> 2022)                      |
| <i>Carica papaya</i> L. (Data deficient)                | Carpaine, myrosin, chemopapain, xylitol, choline, carposide, papain, pseudocarpain, caricin, naringenin  | Anti-hypertensive, wound healing, antimicrobial, hepatoprotective, anti-inflammatory, anti-tumour, anthelmintic (Ugbogu <i>et al.</i> 2023)           |
| <i>Carissa carandas</i> L. (Common)                     | Carandinol, betulinic acid, $\beta$ -sitosterol-3-O- $\beta$ -d-glucopyranoside, oleanolic acid, ursolic acid, 4-hydroxybenzoic acid                                   | Antioxidant, antimicrobial, anticancer, cardioprotective, antipyretic (Dhatwalia <i>et al.</i> 2021)  |

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| <i>Carissa spinarum</i> L. (Least Concern)                | Caffeic acid, carissone, 2-hydroxyacetophenone, epigenin, luteolin, protocatechuic acid, vanillic acid  | Antimicrobial, anti-fungal, analgesic, anti-inflammatory (Tesfaye <i>et al.</i> 2018)  |
| <i>Cassia fistula</i> L. (Least Concern)                  | Chrysophanol, rhein, butyric acid, formic acid, physcion, epiafzelechin, syringaresinol, fistulin, proanthocyanidin B   | Antidiabetic, anti-inflammatory, antiviral, antitumor, hepatoprotective, hypolipidemic (Mwangi <i>et al.</i> 2021)   |
| <i>Catharanthus roseus</i> (L.) G. Don (Common)           | Vincristine, raubasins, vinblastine, vincosine, vincoside, leurocristine, catharanthamine   | Antiulcer, antidiabetic, anticancer, antimicrobial (Pandey <i>et al.</i> 2020)   |
| <i>Centella asiatica</i> (L.) Urb. (Least Concern)        | Araliadiol, asiaticoside, asiatic acid, madecossoside   | Anticancer, neuroprotective, cardioprotective, anti-inflammatory, wound healing (Shafin <i>et al.</i> 2023)  |
| <i>Ceropegia juncea</i> Roxb. (Rare)                      | Cerpegin, lupeol, 7-hydroxy coumarins, 4-methyl coumarins   | Anti-inflammatory, analgesic, antiulcer (Binish 2018)  |
| <i>Chloris barbata</i> Sw. (Common)                       | Carboxylic acid, ursodeoxycholic acid, 1,3,12-nonadecatriene  | Anti-diabetic, analgesic, anti-hyperlipidemic (Natrajan <i>et al.</i> 2012)  |
| <i>Chloroxylon swietenia</i> DC. (Vulnerable A1c)         | Geraniol, limonene, $\alpha$ -phellandrene, myrcene, $\beta$ -caryophyllene oxide, $\alpha$ -humulene, xylostenin, nodakenetin, skimmianine, xylostenin                   | Anti-inflammatory, anti-diarrhea, anti-diabetic, hepatoprotective, anti-tyrosinase (Charanraj <i>et al.</i> 2019)  |
| <i>Chrysanthemum indicum</i> L. (Common)                  | Cyanidin-3-O-(6"-O-malonyl) glucoside, delphinidin 3-O-(6"-O-malonyl) glucoside-3', isorhamnetin, rutin   | Anti-inflammatory, antipathogenic, anticancer (Shao <i>et al.</i> 2020)  |
| <i>Cinnamomum verum</i> J. Presl (Cultivated)             | Cinnamaldehyde, eugenol, caryophyllene, cinnamyl acetate and cinnamic acid  | Anti-inflammatory, anticancer, antidiabetic, wound healing, anti-HIV, antidepressant (Singh <i>et al.</i> 2021)  |
| <i>Cissus quadrangularis</i> L. (Cultivated)              | Daidzein, quinine, taraxerol, $\delta$ -amyrin, friedelan-3-one, picroside 1, quadrangularin A and B, isopentadecanoic acid, pallidol, cissusic acid, cissuside, cissusol | Antiulcer, anticonvulsant, anti-inflammatory, antimicrobial, anti-osteoporotic, anticancer, anthelmintic, antidiabetic, anti-arthritis, (Bafna <i>et al.</i> 2021) |
| <i>Citrus limon</i> (L.) Osbeck (Cultivated)              | Hesperidin, naringin, diosmin, apigenin, eriodictyol, limocitrin, spinacetin, neohesperidin, eriocitrin, bergamottin  | Anticancer, anti-inflammatory, antidiabetic, hepatoprotective (Klimek-Szczykutowicz <i>et al.</i> 2010)  |
| <i>Citrus medica</i> L. (Cultivated)                      | Citronellal, citronellol, limonene, citronellylacetate, isopulegol, linalool  | Anticholinesterase, anticancer, antidiabetic, hypocholesterolemic, hypolipidemic (Panara <i>et al.</i> 2012)   |
| <i>Clausena anisata</i> (Willd.) Hook. f. (Least Concern) | $\beta$ -pinene, sabinene, germacrene-D, estragole, linalool  | Anti-inflammatory, antiviral, cytotoxic (Arbab <i>et al.</i> 2012)   |
| <i>Clitoria ternatea</i> L. (Common)                      | anthocyanins, cardiac glycosides, Stigmast-4-ene-3,6-dione  | Antimicrobial, antipyretic, anti-inflammatory, analgesic, diuretic (Mukherjee <i>et al.</i> 2008)  |
| <i>Coccinia grandis</i> (L.) Voigt (Cultivated)           | Rutin, cucurbitacin I, Tiliroside, p-Coumaric acid, pinosresinol  | and anti-cancer (Sakharkar & Chauhan, 2017)  |
| <i>Cocos nucifera</i> L. (Cultivated)                     | Nicotinic acid, biotin, skimmianine, pantothenic acid, lupeol methylether, lauric acid, $\alpha$ -tocopherol  | Antihelminthic, anti-inflammatory, antioxidant, antinociceptive, antifungal, antibacterial, antitumor, anti-osteoporosis (Lima <i>et al.</i> 2015)                 |
| <i>Coldenia procumbens</i> L. (Least Concern)             | Wedelolactone, flavones, triterpenoids, flavonones  | Anti-diabetic, anti-arthritis (Senthamari <i>et al.</i> 2002)  |

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| <i>Commiphora caudata</i> Engl. (Common)                   | Elemol, cuminaldehyde, heerabolene, acadinene, eugenol, curzerenone, lindestrene   | Hepatoprotective, febrifuge (Latha <i>et al.</i> 2006)  |
| <i>Coriandrum sativum</i> L. (Cultivated)                  | Hydroxycoumarin, umbelliferone, dicoumarin   | Anticancer, and anti-inflammatory (Mahleyuddin <i>et al.</i> , 2021)  |
| <i>Cucumis melo</i> L. (Cultivated)                        | Gallic acid, protocatechuic acid, chlorogenic acid, isovanillic acid, luteolin-7-glycoside, <i>p</i> -coumaric acid  | Antioxidant, anti-inflammatory, anticancer and cytotoxic (Sivakumar <i>et al.</i> 2023)   |
| <i>Cuminum cyminum</i> L. (Cultivated)                     | Monoterpenes beta-pinene, <i>p</i> -cymene, gamma-terpinene, cuminic aldehyde  | Anti-cancer (Al-Snafi 2016)   |
| <i>Curculigo orchoides</i> Gaertn. (Endangered)            | Anacardoside, curculigoside, curculigoside B, curculigoside C, curculigoside G, glucosyringic acid   | Anticancer, and hepatoprotective (Bhukta <i>et al.</i> 2023)  |
| <i>Curcuma aromatica</i> Salisb. (Cultivated)              | Curcumin, demethoxycurcumin, bisdemethoxycurcumin, xanthorrhizol, turmerone, zingiberene, $\beta$ -sesquiphellandrene, germacrone, furanodienone, zederone | Anti-inflammatory, anticancerous, antiproliferative, hypocholesterolemic, antidiabetic, antihepatotoxic, antidiarrheal, carminative, diuretic, antirheumatic, hypotensive, antiviral, insecticidal, larvicidal, antivenomous, antithrombotic, anti-tyrosinase (Albaqami <i>et al.</i> 2022) |
| <i>Curcuma longa</i> L. (Cultivated)                       | Eucalyptol, curzerenone, longiverbenone, $\alpha$ -curcumene, $\alpha$ -lemenone   | Cytotoxic, antibacterial (Albaqami <i>et al.</i> 2022)  |
| <i>Cyanthillium cinereum</i> (L.) H. Rob. (Common)         | $\beta$ -caryophyllene, $\delta$ -cadinene, $\gamma$ -amorphene, cis- $\beta$ -guaiene   | Analgesic, antipyretic, anti-inflammatory (Theja & Nirmala, 2023)   |
| <i>Cyclea peltata</i> (Lam.) Hook.f.& Thomson (Common)     | Fangchinoline, tetrandrine, d-isochondrodendrine, cycleapeltine, cycleadrine, cycleacurine   | Antidiabetic, anti lithiatic, anti-ulcer properties, antidiuretic, antihyperlipidemic, hepatoprotective (Hullatti <i>et al.</i> 2011)   |
| <i>Cynodon dactylon</i> (L.) Pers. (Common)                | 3,4-dihydroxybenzoic acid, 4-hydroxybenzoic acid, catechin, <i>p</i> -coumaric acid, trans-ferulic acid  | Antidiabetic, gastrointestinal, immunological, antiallergic, anti-inflammatory, antipyretic, analgesic, anticancer (Al-Snafi 2016)  |
| <i>Cyperus rotundus</i> L. (Common)                        | Patchoulene, sugebiol, isopatchoulene, sugeonyl acetate, sugetriol triacetate  | Antiandrogenic, anticancerous, anticonvulsant, antidiabetic, antidiarrheal, antigenotoxic, anti-inflammatory, antilipidemic, antimalarial, antimutagenic, antiobesity, antioxidant, anti-uropathogenic, hepatoprotective, cardioprotective, (Peerzada <i>et al.</i> 2015)                   |
| <i>Dalbergia latifolia</i> Roxb. (Vulnerable A1cd)         | Dalbergin, latifolin, alcriodain, (R)-dalbergione, dalbinol, dalbin, latinone  | Antiparasitic, antidiabetic, anti-inflammatory (Deshmukh <i>et al.</i> , 2021)  |
| <i>Datura metel</i> L. (Common)                            | $\beta$ -pinene, $\alpha$ -phellandrene, Z- $\beta$ -ocimene, <i>p</i> -cymene, oxidohimachalene   | Anti-inflammatory, anti-microbial, insecticidal, anti-cancer, anti-diabetic, analgesic, antipyretic, neurological, contraceptive, and wound healing (Islam <i>et al.</i> 2023)  |
| <i>Datura stramonium</i> L. (Common)                       | Scopolamine, atropine, fastunine, daturaolone  | Anticancer, anti-inflammatory, larvicidal, repellent, analgesic, nematocidal (Li <i>et al.</i> 2012)  |
| <i>Delonix elata</i> (L.) Gamble (Least Concern)           | Prolycopene, protocatehuic acid, trans-cinnamic acid, chlorogenic acid, cyanidin-3-gentiobioside   | Anti-inflammatory, antirheumatic (Singh & Kumar, 2014)  |
| <i>Delonix regia</i> (Bojer ex Hook.) Raf. (Least Concern) | Kaempferol 3-rutinoside, kaempferol 3-neohesperidoside, quercetin 3-rhamnoside   | Antiemetic, larvicidal, hepatoprotective, anti-diarrhoeal, anti-inflammatory, antimalarial, anthelmintic, antiarthritic, wound healing, anticarcinogenic (Sharma & Arora <i>et al.</i> 2015)  |

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| <i>Dioscorea oppositifolia</i> L.<br>(Common)          | Diosgenin, dioscin, allantoin   | Antidiabetic, anti-inflammatory (Patil <i>et al.</i> 2022)   |
| <i>Dodonaea viscosa</i> Jacq. (Least Concern)          | Dodovisins A,B,C,D,E, (+)-hardwickiic acid, hautriwaic lactone, dodovisnoid G, strictic acid, dodonolide                            | Antidiabetic, insecticidal, cytotoxic, antifertility, wound, anti-inflammatory, analgesic, anti-ulcer, antispasmodic, anti-diarrheal (Beshah <i>et al.</i> 2020)         |
| <i>Drynaria quercifolia</i> (L.) J.Sm. (Rare)          | Friedelin, $\beta$ -amyirin, $\beta$ -sitosterol 3- $\beta$ -D-glucopyranoside, epifriedelinol, naringin                            | Antifertility, hepatoprotective, anti-inflammatory, wound healing, antiulcer (Sureshkumar <i>et al.</i> 2018)  |
| <i>Eclipta prostrata</i> Lour. (Least Concern)         | Wedelolactone, demethylwedelolactone, strychnolactone, eclalbatin, $\alpha$ -amyirin, silphioside C, ursolic acid                   | Hepatoprotective, neuroprotective, anticancer (Timalsina & Devkota, 2021)  |
| <i>Erythrina variegata</i> L. (Least Concern)          | Scoulerine, erybidine, capric acid, erycricstagallin, phaseollin, erystagallin A  | Anti-inflammatory, analgesic, antiosteoporotic (Kumar <i>et al.</i> 2010)  |
| <i>Eucalyptus globulus</i> Labill. (Least Concern)     | p-cimene, $\alpha$ -pinene, $\alpha$ -limonene, $\gamma$ -terpinene, $\beta$ -pinene, and $\beta$ -myrcene                          | Anti-inflammatory, anticancer, antiseptic (Čmiková <i>et al.</i> 2023)   |
| <i>Euphorbia hirta</i> L. (Common)                     | Quercitrin, euphorbin-A, euphorbin-B, euphorbin-C, afzelin, protocatchuic acid  | Anthelmintic, antifilarial, antianaphylactic, anti-inflammatory, antiproliferative (Mavundza <i>et al.</i> 2022)   |
| <i>Euphorbia tirucalli</i> L. (Common)                 | Euphorone, euphorcinol, euphorbins, euphorbin-A   | Analgesic, anthelmintics, antiarthritic, antimicrobial, anti-HIV, anti-inflammatory, antioxidant (Mali & panchal, 2017)  |
| <i>Evolvulus alsinoides</i> L. (Common)                | Scopoletin, umbelliferone, scopoline, 2-methyl-1,2,3,4-butanetetrol   | Anti-inflammatory, neuroprotective (Yadav <i>et al.</i> 2019)  |
| <i>Ficus benghalensis</i> L. (Not Evaluated)           | Kaempferol, 3',4',5,7-tetrahydroxy-3-methoxyfavone, taraxosterol, quercetin-3-galactoside   | Antidiabetic, hypolipidemic, anthelmintic, antihyperglycemic, immunomodulatory, antihyperlipidemic, hypocholesterolemic, anti-inflammatory (Murugesu <i>et al.</i> 2021) |
| <i>Ficus racemosa</i> L. (Least Concern)               | Cycloartenol, euphorbol, gluanol acetate, lanosterol, upenol, stigmasterol, lupeol, lupeol acetate, isoeuphorbol, $\alpha$ -amyirin | Anti-cancer, anti-inflammatory, purgative, cardioprotective, ulcer-protecting, conjunctivitis, anti-tussive, hepatoprotective (Wahab <i>et al.</i> 2021)                 |
| <i>Ficus religiosa</i> L. (Least Concern)              | Eugenol, isofucosterol, n-hexadecanoic acid, lanosterol, n-nonanal, octadecanoic acid, phenylacetaldehyde                           | Antidiabetic, anti-inflammatory, wound healing, anticancer, hepatoprotective, antimutagenic, immunomodulatory effects (Murugesu <i>et al.</i> 2021)                      |
| <i>Gloriosa superba</i> L. (Least Concern)             | 3-desmethyl colchicine, beta-lumicolchicine, N-Formyl-desacetyl-colchicine, 2-desmethyl colchicine, chelidonic                      | Anticoagulant, antithrombotic, anti-inflammatory (Vaishnavi <i>et al.</i> 2019)  |
| <i>Glycyrrhiza glabra</i> L. (Least Concern)           | Glycyrrhizin, glycyrrhetic acid, isoliquiritin  | Antidemulcent, antiulcer, anticancer, anti-inflammatory, antidiabetic (Sharma <i>et al.</i> 2018)  |
| <i>Gmelina arborea</i> Roxb. (Least Concern)           | 2,6-dimethoxy-p-benzoquinone, 3,4,5-trimethoxyphenol  | Anti-diabetic, anti-inflammatory, antiulcer, analgesic (Warrier <i>et al.</i> 2021)  |
| <i>Gnetum edule</i> (Willd.) Blume (Least Concern)     | Resveratrol, gnetin C, phytoalexin, piceatannol   | Anti-inflammatory (Ali <i>et al.</i> 2020)   |
| <i>Gymnema sylvestre</i> (Retz.) R.Br. ex Sm. (Common) | Gurmarin, gymnemic acid, gymnemasaponins, gymnemanol, gymnemasin A, quercitol, conduritol A,  | Antibiotic, anti-inflammatory, antiviral, antiarthritic, anticancer, gastro and hepatoprotective (Khan <i>et al.</i> 2019)   |

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| <i>Heliotropium indicum</i> L.<br>(Common)                       | Indicine, echinitine, supinine, heleurine, heliotrine, lasiocarpine, acetyl indicine, indicinine, indicine N-oxide, cynoglossine                 | Anti-inflammatory, wound-healing, anticancer, and anticataract (Sarkar <i>et al.</i> 2021)  |
| <i>Hellenia speciosa</i> (J.Koenig)<br>S.R.Dutta (Least Concern) | Diosgenin, $\beta$ -sitosterol, gracillin, $\beta$ -D-glucoside, prosapogenins, dioscin, $\alpha$ -tocopherolquinone                             | Anti-inflammatory, anti-microbial, antioxidant, anti-dyslipidemic and anti-cancer (El-Far <i>et al.</i> 2018)   |
| <i>Hemidesmus indicus</i> (L.) R.Br.<br>(Common)                 | Camphor, dihydrocarvyl acetate, salicylaldehyde, nerolidol, cis-caryophyllene  | Chemopreventive, neuroprotective, hepatoprotective, antidiabetic, antihypercholesterolemic, anti-ulcerogenic, nephroprotective, anti-inflammatory, wound healing effects (Nandy <i>et al.</i> 2020) |
| <i>Hibiscus rosa-sinensis</i> L.<br>(Cultivated)                 | Rutin, schaftoside, vitexin, chicoric acid, quercetin, kaempferol 7-o-glucoside, pectolinarin, chlorogenic acid                                  | Anti-pyritic, anti-inflammatory, anti-cancer, anti-diabetic, wound healing (Missoum 2018)   |
| <i>Hiptage benghalensis</i> (L.) Kurz<br>(Common)                | Oleanan-3-one, lupeol, betulonic acid, 3 $\beta$ -acetoxy-9 $\beta$ -bauer-7-en-6-one, alnus-5 (10)-en-3 $\beta$ -ol, (24R)-24-propylcholesterol | Hepatoprotective, antifungal, antidiabetic, anticancer, antimutagenic, anti-inflammatory (Meena <i>et al.</i> 2014)   |
| <i>Ixora coccinea</i> L. (Common)                                | Lecocyanadin, proanthocyanidins, glycosides of kaempferol, quercetin   | Gastroprotective, hepatoprotective, antidiarrhoeal, antinociceptive (Baliga & kurian, 2012)   |
| <i>Jasminum angustifolium</i> (L.) Willd. (Cultivated)           | Benzyl acetate, jasmone, glycoside, salicylic acid, jasmnine, Buddlenol D, isovitexin,   | Antimicrobial, antioxidant (Balkrishna <i>et al.</i> 2021)  |
| <i>Jatropha curcas</i> L. (Least Concern)                        | isoneochamaejasmin A, neochamaejasmin B, (2R,3S)-catechin, tomentin-5-O- $\beta$ -D-glucopyranoside  | Anticancer, anti-inflammatory, cytotoxic (Abdelgadir & Staden, 2013)  |
| <i>Jatropha gossypifolia</i> L. (Least Concern)                  | Ferullic acid, chlorogenic acid, catechin, p-coumaric acid, 3-acetylcoumarin, trans-cinnamic acid  | Anti-inflammatory, antidiarrheal, antihypertensive, anticancer (Félix-Silva <i>et al.</i> 2014)   |
| <i>Justicia adhatoda</i> L. (Least Concern)                      | Adhatodine, arabinogalactan, deoxyvasicinone, vasicine, vasicinone, vasicinolone, vasicol, D-galactose, deoxyvasicine, peganine                  | hypoglycemic, antifungal, hepatoprotective, anti-ulcer, antiviral, antitussive, anti-inflammatory, abortifacient (Shamsuddin <i>et al.</i> 2021)  |
| <i>Kalanchoe pinnata</i> (Lam.) Pers.<br>(Common)                | Quercetin, kaempferol, luteolin aglycones, bryophynol, $\Psi$ -taraxasterol, bryophyllol, 18 $\alpha$ -oleanane, bryophollone                    | Analgesic, anthelmintic, anticonvulsant, antinociceptive, antidiabetic, hepatoprotective, anti-inflammatory, nephroprotective (Rajsekhar <i>et al.</i> 2016)  |
| <i>Lantana camara</i> L. (Common)                                | Bicyclogermacrene, E-caryophyllene, $\alpha$ -humulene, germacrene D, geraniol, camaroside, camarinin, lantanolic acid, lantanone                | Anti-inflammatory, anticancer, neuroprotective (Kumar <i>et al.</i> 2020)   |
| <i>Lawsonia inermis</i> L. (Cultivated)                          | Castalagin, casuarinin, C-glycosidic ellagitannins, 2,3-O-hexahydroxydiphenoyl glucopyranose, stachyurin, vescalagin, methylvescalagin           | Analgesic, antitumor, antipyretic, antiproliferative, hepatoprotective, anti-inflammatory (Semwal <i>et al.</i> 2014)   |

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| <i>Leucas aspera</i> Link (Common)                 | Leucasperosides A, B, and C, leucasperones A and B, leucasperols A and B, leucolactone, ursolic acid  | Anticancer, anti-inflammatory, antidiabetic, antitussive, antinociceptive, Immunomodulatory (Kumar <i>et al.</i> 2023)                       |
| <i>Madhuca longifolia</i> (L.) J.F.Macbr. (Common) | Arachidic acid, oleic acid, linoleic acid, myristic acid, palmitic acid, stearic acid   | Anxiolytic qualities, anticancer, hepatoprotective, antiulcer (Jodh <i>et al.</i> 2022)  |
| <i>Mangifera indica</i> L. (Data Deficient)        | Mangiferin, protocatechic acid, glycine, kinic acid, alanine, shikimic acid, catechin, 2-benzenedicarboxylic acid   | Immunomodulatory, anti-inflammatory, antiproliferative, antidiabetic (Yahia <i>et al.</i> 2023)  |
| <i>Melia azedarach</i> L. (Least Concern)          | Meliazetalides A and B, meliazedarine T, rutin, quercetin-3-O-neohesperoside, azedarachin C and A, feruloylglucaric acid                                      | Antidiabetic, antipyretic, antimicrobial (Khan <i>et al.</i> 2011)   |
| <i>Memecylon umbellatum</i> Burm.f. (Common)       | $\alpha$ -amyrin, oleanolic acid, ursolic acid, sitosterol- $\beta$ -D-glucoside, umbelactone   | Anti-diabetic, antiviral, wound healing (Mehra <i>et al.</i> 2023)   |
| <i>Mimosa pudica</i> L. (Least Concern)            | Caffeic acid, cinnamic acid, ferulic acid, p-coumaric acid, protocatechuic acid   | Anticancer hepatoprotective, anxiolytic antidiabetic, antimalarial, anti-inflammatory, anthelmintic (Adurosakin <i>et al.</i> 2023)          |
| <i>Mimusops elengi</i> L. (Least Concern)          | Hentriacontane, $\beta$ -carotene, D-mannitol, $\beta$ -sitosterol, $\beta$ -sitosterol- $\beta$ -D-glucoside   | Antinociceptive, diuretic, gastroprotective, anticariogenic, antihyperglycemic (Gami <i>et al.</i> 2012)                                     |
| <i>Mirabilis jalapa</i> L. (Common)                | Alanine, arabinose, daucosterol, $\alpha$ -amyrin, $\beta$ -amyrin, flazin, laminaribiitol  | Anti-viral, anti-bacterial, antidiabetic, antinociceptive, antioxidant, anti-inflammatory, Antifungal (Liya <i>et al.</i> 2021)              |
| <i>Momordica charantia</i> L. (Cultivated)         | Oleanolic acid 3-O-glucuronide, charantin, polypeptide-p, oleanolic acid 3-O-monodesmoside, momordicin  | Antidiabetic, anticancer, anti-inflammatory, antiviral (Bortolotti <i>et al.</i> 2019)   |
| <i>Moringa concanensis</i> Nimmo (Wild)            | Myristic acid, palmitic acid, oleic acid, stearic acid, arachidic acid linoleic acid  | Antidiabetic, antioxidant (Singh <i>et al.</i> 2019)   |
| <i>Moringa oleifera</i> Lam. (Cultivated)          | Carbonic acid, citramalic acid, 2-Isopropoxyethyl propionate, butyl 2-pentyl ester, propionic acid, 2-methyl-octyl ester                                      | Analgesic, antiulcer, anti-inflammatory, hepatoprotective, antidiabetic, cardioprotective, anticancer, antiviral (Pareek <i>et al.</i> 2023) |
| <i>Murraya koenigii</i> (L.) Spreng. (Cultivated)  | Mahanine, mahanimbine, isomahanine, koenimbine  | Antidiarrheal, antifungal, blood purifying, anti-inflammatory, anti-depressant (Balakrishnan <i>et al.</i> 2020)                             |
| <i>Musa paradisiaca</i> L. (Cultivated)            | Phytol, n-hexadecanoic acid, serotonin, stigmasterol, 31-norcyclolaudenone, 24-methylene-cycloartanol, cycloeucalenone  | Antidiabetic, anticancer, antiulcer, antidote, analgesic, wound healing (Ajijolakewu <i>et al.</i> 2021)                                     |
| <i>Myristica fragrans</i> Houtt. (Data Deficient)  | Sabinene, myristicin, eugenol, $\alpha$ -pinene, $\beta$ -pinene, limonene, malabaricone A,B and C, licarin A, B and C, myristin, succinic acid, fumaric acid | Antimicrobial, anticancer (Al-Qahtani <i>et al.</i> 2022)  |
| <i>Ocimum americanum</i> L. (Common)               | Geraniol, $\beta$ -caryophyllene, sabinene, trans-piperitol, $\beta$ -thujene, $\gamma$ -terpinene, sesquisabinene-A, trans- $\beta$ -                        | Antifungal, antipyretic, antimicrobial, insecticidal effects (Dharsono <i>et al.</i> 2022)   |

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|   | farnesene, $\alpha$ -bisabolol, rosmarinic acid   |  |
| <i>Ocimum basilicum</i> L. (Common)                       | $\alpha$ -pinene, $\beta$ -pinene, myrcene, limonene, linalool, eugenol, camphor, meta-eugenol, $\beta$ -caryophyllene  | Anti-inflammatory, immunomodulatory, antivirals, anticancer, antidiabetic, anti-allergic, analgesic, cardioprotective (Dharsono <i>et al.</i> 2022)                            |
| <i>Ocimum sanctum</i> L. (Common)                         | Naphthanoic acid, methyl 9-methyltetradecanoate, ethyl 13-methyl-tetradecanoate   | Anticancer, antispasmodic, antifertility, anti-inflammatory, analgesic, antidiabetic (Dharsono <i>et al.</i> 2022)   |
| <i>Ocimum tenuiflorum</i> L. (Common)                     | Borneol, germacrene-D, carvacrol, methyl eugenol, $\beta$ -caryophyllene, $\alpha$ -copaene, oleanolic acid, $\alpha$ -selinene, $\beta$ -pinene  | Hepatoprotective, anti-inflammatory, analgesic, anti-carcinogenic, antipyretic, hypoglycemic, bronchial disorders, hypolipidemic (Brindha Devi <i>et al.</i> 2019)             |
| <i>Oryza sativa</i> L. (Least Concern)                    | $\gamma$ -oryzanol, hentriacontane, momilactones A and B, $\beta$ -sitosterol, orizaterpenol, orizaterpenoid, orizaterpenyl benzoate  | Anticancer, antitumor, antidiabetic (Kusumawati <i>et al.</i> 2023)  |
| <i>Passiflora foetida</i> L. (Common)                     | Pigenin, chrysoeriol, loliolide, luteolin, vitexin  | Antidiarrhoeal, antiulcerogenic, analgesic, antidepressant anti-inflammatory, anti-hypertensive, hepatoprotective, anticancer, antinociceptive (Chiavaroli <i>et al.</i> 2020) |
| <i>Pavonia zeylanica</i> (L.) Cav. (Common)               | Ratochromene, hexahydrofarnesyl acetone, caporic acid, hexahydrofarnesyl acetone,   | Antifungal, antitumour (Selvan <i>et al.</i> 2007)   |
| <i>Pergularia daemia</i> (Forssk.) Chiov. (Least Concern) | $\beta$ -sitosterol, $\beta$ -amyrin, $\alpha$ -amyrin lupeol, formononetin, quercetin, chrysoeriol, taxifolin, naringenin  | Hepatoprotective, antifertility, anti-diabetic, analgesic, antipyretic and anti-inflammatory (Chandak <i>et al.</i> 2019)  |
| <i>Phyllanthus amarus</i> Schumach. & Thonn. (Common)     | Ellagitannins, phyllanthin, hypophyllanthin, nirtetralin, niranthin, hinokinin, phyltetralin, isolintetralin, galocatechin, phyllanthusiin  | Anticancer, anti-inflammatory, antimalarial, diuretic antidiabetic, hepatoprotective, hypolipidemic, nephroprotective (Patel 2011)   |
| <i>Phyllanthus emblica</i> L. (Least Concern)             | Amlaic acid, quercetin, kaempferol, decanal, valeraldehyde, 2,3-butanedione, $\alpha$ -pinene, dimethyl trisulfide, heptanoic acid  | Anticancer, antioxidant, antimicrobial, hepatoprotective, anti-inflammatory, anti-diabetic, immunomodulatory, hypolipidemic (Saini <i>et al.</i> 2022)                         |
| <i>Phyllanthus reticulatus</i> Poir. (Least Concern)      | Betulinic acid, 21 $\alpha$ -hydroxyfriedel-4(23)-en-3-one, muellerilactone, odolactone, basalethanoid B, succinic acid, kaempferol 3-O- $\alpha$ -L-arabinopyranoside, $\beta$ -sitosterol 3-O- $\beta$ -D-glucopyranoside | Analgesic, antiviral, antispasmodic, hypolipidemic, antimalarial, antidiabetic, anti-inflammatory (Mao <i>et al.</i> 2016)   |
| <i>Piper betle</i> L. (Cultivated)                        | Hydroxychavicol, eugenol, chavibetol, viridiflorene, estragole, $\alpha$ -limonene, caryophyllene, cis-geraniol, elemene, cumene, aciphyllene, pyrimidine   | Antimutagenic, anticancer, antidiabetic, antimicrobial, anti-inflammatory, antioxidant antiulcer (Gupta <i>et al.</i> 2023)  |
| <i>Piper longum</i> L. (Cultivated)                       | Guineensine, methylpiperate, pellitorine, piperine, piperlonguminine, piperchabaoside, rosin  | Anti-epileptic, anticancer, anti-inflammatory, analgesic, anti-arthritic, hypoglycemic, hepatoprotective, immunomodulatory (Yadav <i>et al.</i> 2020)                          |



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| <i>Piper nigrum</i> L. (Cultivated)                         | Caryophyllene, DL-limonene, piperine, 2- $\beta$ -pinene, $\delta$ -3-carene, $\alpha$ -copaene   | Antiproliferative, antidiabetic, antitumor, immunomodulatory, cardioprotective, antiaging (Haq <i>et al.</i> 2021)            |
| <i>Plectranthus amboinicus</i> (Lour.) Spreng. (Cultivated) | $\delta$ -3-Carene, p-Cymene, Limonene, $\beta$ -Myrcene, Ocimene, $\alpha$ -Pinene, Chavicol, PhytolCarvacrol, Methyl eugenol, $\alpha$ -Amorphene, $\alpha$ -Calacorene | Antidiabetic, anthelmintic, renal calculi, anti-inflammatory, respiratory disorders, anticancer (Arumugam <i>et al.</i> 2016) |
| <i>Plumbago zeylanica</i> L. (Common)                       | Plumbagoside E, plumbagine H, plumbagine I, plumbagine J, plumbagine K, plumbagoside B, plumbagoside C  | Hypolipidemic, anticancer, neuroprotective, anti-inflammatory, antifungal (Rajalakshmi <i>et al.</i> 2018)                    |
| <i>Pongamia pinnata</i> (L.) Pierre (Common)                | Hiragonic acid, octadecatrienoic acid, beta-sitosteryl acetate, galactoside   | Anti-diabetic, anti-inflammatory, antimicrobial (Al Muqarrabun <i>et al.</i> 2013)  |
| <i>Portulaca oleracea</i> L. (Least Concern)                | Portulacanones A, portulacanones B, portulacanones C, portulacanones D, 2,2'-Dihydroxy-4',6'-dimethoxychalcone  | Neuroprotective, antidiabetic, anti-inflammatory, antiulcerogenic, and anticancer (Rahimi <i>et al.</i> 2019)                 |
| <i>Premna tomentosa</i> Willd. (Least Concern)              | Premnalatifolin A, coniferaldehyde, syringaldehyde, betulin, 2-(4-methoxyphenyl)-2-butanone   | Anti-hyperlipidemic, anticancer, hepatoprotective (Kattupalli <i>et al.</i> 2022)   |
| <i>Psidium guajava</i> L. (Cultivated)                      | Cholesta-3,5-diene, erucic acid, methyl ester, uronic acid, 15-Octadecenoic acid  | Antispasmodic, anticancer, hepato-protective, antidiabetic, anti-inflammatory (Chechani <i>et al.</i> 2023)                   |
| <i>Psydrax dicoccos</i> Gaertn. (Vulnerable A1c)            | Squalene, labd-7,13-dien-15-ol, cinnamic acid, 1,3,4,5-tetrahydroxy-cyclohexanecarboxylic acid, octacosane, methyl tropate  | Anti-inflammatory (Veeramuthu <i>et al.</i> 2023)   |
| <i>Rhinacanthus nasutus</i> (L.) Kurz (Common)              | Rhinacanthins, rhinacanthone, rhinacanthins, heliobupthalmin  | Anti-inflammatory, anticancer, antidiabetic (Shahul <i>et al.</i> 2023)   |
| <i>Ricinus communis</i> L. (Common)                         | Ricin, ricinoleic acid, linoleic acid, palmitic acid  | Anticonceptive, antidiabetic, antifertility, anti-inflammatory, hepatoprotective, insecticidal (Khan <i>et al.</i> 2017)      |
| <i>Rubia cordifolia</i> L. (Common)                         | Rubiadin, xanthopurpurin, alizarin, $\beta$ -sitosterol glucoside, scopoletin, oleanolic acid, pomolic acid, queretaroic acid   | Anti-inflammatory, anti-cancer, anti-tumour (Wen <i>et al.</i> 2022)  |
| <i>Ruellia prostrata</i> Poir. (Common)                     | Resveratrol, curcumin, capsaicin, colchicine, epigallocatechin-3-gallate  | Anti-inflammatory, anti-viral, anti-aging, anti-cancer (Akhter <i>et al.</i> 2022)  |
| <i>Ruta graveolens</i> L. (Least Concern)                   | Rutin, quercetin, psoralen, methoxy-psoralen, rutacridone, rutacridone epoxide, gravacridondiol   | Analgesic, anti-inflammatory, antidiabetic, insecticidal (Asgarpanah & khoshkam, 2012)  |
| <i>Senna alata</i> (L.) Roxb. (Common)                      | Alatinon, alarone, alanonal, $\beta$ -sitosterol- $\beta$ -D-glucoside, isochrysophanol   | Antifungal, laxation, hypoglycaemic, diuretic (Adedayo <i>et al.</i> 2001)  |
| <i>Senna tora</i> (L.) Roxb. (Common)                       | Alaternin, chrysoobtusin, cassiaside, chrysophanol 8-gentiobioside, chrysophanol 1-triglucoside, glucoobtusifolin, cassitoroside  | Anti-inflammatory, analgesic (Alao <i>et al.</i> 2018)  |

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| <i>Sesamum indicum</i> L. (Cultivated)                        | Naphthoquinones, triterpenes, cerebroside, fatty acids   | Anticancer, antipyretic, antihypertensive, hepatoprotective (Mili <i>et al.</i> 2021)   |
| <i>Sesbania grandiflora</i> (L.) Poir. (Cultivated)           | Coumarone, isovestitol, sativan, betulinic acid, flavonoid, medicarpin   | Anti-inflammatory, analgesic, antipyretic, anti-epileptic (Arthanari & periyasamy, 2020)  |
| <i>Sida acuta</i> Burm.f. (Common)                            | $\beta$ -sitosterol, lupeol, lupeol acetate, $\alpha$ , $\beta$ -amyrin  | Anti-helmintic, antifungal, anti-fertility (Tcheghebe <i>et al.</i> 2017)   |
| <i>Sida cordata</i> (Burm.f.) Borss.Waalk. (Common)           | 5,7-dihydroxy-3-isoprenyl flavone and 5-hydroxy-3-isoprenyl  | Anti-inflammatory, analgesic, antidiabetic, anticancer (Srinivasan <i>et al.</i> 2022)  |
| <i>Sida cordifolia</i> L. (Common)                            | Bergenin, citraconic acid, diglycolic acid, epinephrine, norhamane, mucic acid, vasicine, vasicinol, ephedrine   | Anticancer activity, anti-inflammatory, analgesic, cardioprotective, hypoglycemic, antiulcer (Ahmed <i>et al.</i> 2018)                                       |
| <i>Solanum americanum</i> Mill. (Common)                      | N-trans-p-coumaroyloctopamine, N-trans-p-feruloyloctopamine, N-trans-p-coumaroyltyramine, N-trans-p-feruloyltyramine                                       | Antidiabetic, antioxidant (Ralte <i>et al.</i> 2021)  |
| <i>Solanum lycopersicum</i> L. (Cultivated)                   | Tomatine, caffeic acid, p-Coumaric acid, procyanidin B2, and B3, quercetin, quercetin 3-O-glucoside, rutin, naringenin                                     | Anticancer, antimutagenic, anti-inflammatory, anti-neurodegeneration, antiplatelet (Gautam 2013)  |
| <i>Solanum nigrum</i> L. (Common)                             | Tigogenin, tigogenone, soladulcoside A, timosaponin, khasianine, solamargine, desmettianoside B, solanine, 3-gentiobioside                                 | Hepatoprotective, analgesic, antimicrobial, anti-gastritis, antiulcerogenic, cardioprotective, anti-diarrhoeal, anti-inflammatory (Hameed <i>et al.</i> 2017) |
| <i>Solanum trilobatum</i> L. (Common)                         | Diosogenin, sobatum, solasodine, solaine, $\beta$ -solamarine, soladunalinidine, sobatum, solanine, tomatidine, diosgenin, solasodine, $\beta$ -solamarine | Antidiabetic, anticancer, hepatoprotective, larvicidal activity, anti-inflammatory, antinociceptive (Balakrishnan <i>et al.</i> 2015)                         |
| <i>Solanum virginianum</i> L. (Common)                        | Methyl tetradecanoate, 1-octadecene, 9-hexadecenoic acid, 9-eicosene, 3-eicosene, methyl tetradecanoate, hexadecenoic acid, 9-octadecenoic acid            | Antipyretic, antitumor, hypotensive, anti-anaphylactic, anti-asthmatic (Saraswathi <i>et al.</i> 2021)  |
| <i>Strychnos nux-vomica</i> L. (Common)                       | Brucine, strychnine, stryvomicine A, $\alpha$ -colubrine-chloromethochloride, $\beta$ -colubrine-chloromethochloride                                       | Anti-inflammatory, analgesic, antidiabetic, cardioprotective, anticancer, anti-diarrhoeal (Behera <i>et al.</i> 2017)   |
| <i>Syzygium cumini</i> (L.) Skeels (Least Concern)            | Delphinidin, lutein, malvidin, petunidin, peonidin, myricitin, laminaribiose, zeaxanthin, $\beta$ -cryptoxanthin   | Anti-inflammatory, anti-microbial, antidiabetic, anti-diarrheal, antifertility, gastroprotective, anti-ulcerogenic (Ayyanar & Subash babu, 2012)              |
| <i>Tamarindus indica</i> L. (Least Concern)                   | Furfural, heptanal, nonanal, octanoic acid, methyl salicylate, alpha-terpineol, tartaric acid, arabinose, xylose, galactose, glucose, uronic acid          | Anti-inflammatory, anti-fungal activity (De caluwe <i>et al.</i> 2010)  |
| <i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn. (Common) | Arjunolic acid, arjunic acid, arjungenin, arjunglucoside i, ii, iii, arjunolone, arjunetin, $\beta$ -sitosterol  | Antimicrobial, antitumoral, antioxidant (Amalraj & Gopi, 2017)  |
| <i>Terminalia bellirica</i> (Gaertn.) Roxb. (Common)          | Arjunolic acid, chebulagic acid, corilagin, ethyl gallate, ellagic acid, gallic acid, galloyl glucose  | Cytotoxicity, anti-inflammatory, hypoglycemic, cardioprotective (Zhang <i>et al.</i> 2019)  |

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| <i>Terminalia chebula</i> Retz. (Least Concern)                     | Terminaliate A, gallic acid, methyl gallate, chebulic acid derivatives, arjungenin, 1,2,6-tri-O-galloyl- $\beta$ -D-glucopyranose                                   | Anti-diabetic, anti-hyperlipidemic, hepatoprotective, neuroprotective, anti-inflammatory, anti-arthritic, gastroprotective, anti-microbial, antiparasitic, wound healing, anti-aging (Kim <i>et al.</i> 2022) |
| <i>Toddalia asiatica</i> (L.) Lam. (Common)                         | 5,7-Dimethoxy-6-(3'-chloro-2'-hydroxy-3'-methylbutyl), toddaculin, toddalenone  | Antimalarial, antipyretic, anti-inflammatory (Zeng <i>et al.</i> 2021)  |
| <i>Tridax procumbens</i> L. (Common)                                | (Z)-falcarinol, $\alpha$ -selinene, zerumbone, 3-octene-1-ol, 2-propyl-1-heptanol, 9-Octadecanoic acid  | Antimicrobial, anticancer, anti-inflammatory, larvicidal activity, anticoagulating (Ingole <i>et al.</i> 2022)  |
| <i>Trigonella foenum-graecum</i> L. (Cultivated)                    | 4-hydroxyisoleucine, isoorientin, trigonelline, pinitol, isovitexin, sarsasapogenin,  | Anti-inflammatory, anticancer, antimicrobial, hypercholesterolaemic, antidiabetic (Bahmani <i>et al.</i> 2015)  |
| <i>Vachellia nilotica</i> (L.) P.J.H.Hurter & Mabb. (Least Concern) | Gallic acid, condensed tannin, phlobatannin, epigallocatechin-7-gallate   | Anti-inflammatory, antidiarrhoeal, antihypertensive, antispasmodic (Rather <i>et al.</i> 2015)  |
| <i>Vitex negundo</i> L. (Least Concern)                             | Artemetin, carotene, casticin, friedelin, globulol, $\alpha$ -terpineol, sabenine, $\alpha$ -pinene   | Analgesic, hepatoprotective, anti-inflammatory, anticancer (Goswami & Roy 2023)   |
| <i>Withania somnifera</i> (L.) Dunal (Data Deficient)               | Somniferine, somnine, somniferinine, withamine, withanmine, pseudowithamine, withanaminine  | Antimicrobial, antiinflammatory, antistress, antitumor, neuroprotective (Saleem <i>et al.</i> 2020)   |
| <i>Wrightia tinctoria</i> R.Br. (Least Concern)                     | Wrightiadione, wrightial, quinic acid, $\beta$ -amyrone, lupeol, cycloartenol, $\beta$ -sitosterol, octadecadienoic acid, palmitic acid, linoelaidic acid, squalene | Anti-diarrheal, antimicrobial, anti-dysenteric, larvicidal activities (Srivastava 2014)   |
| <i>Zingiber officinale</i> Roscoe (Data Deficient)                  | $\alpha$ -zingiberene, $\beta$ -phellandrene, $\alpha$ -curcumene, $\beta$ -sesquiphellandrene, $\beta$ -bisabolene, hesperetin, naringin, apigenin, quercitrin     | Anticancer, anti-inflammatory, anti-apoptotic, anti-hyperglycemic, anti-hyperlipidemic and anti-emetic (Ahmed <i>et al.</i> 2011)   |
| <i>Ziziphus mauritiana</i> Lam. (Least Concern)                     | Protopine, berberine, 1-Hexacosanol, sitosterol, stigmasterol   | Antidiabetic, anti-inflammatory, anticancer, anti-diarrheal, anti-ulcer, hepatoprotective effects (Jha <i>et al.</i> 2023)  |

\* - [www.ncbi.nlm.nih.gov/pmc/](http://www.ncbi.nlm.nih.gov/pmc/), # - <https://www.iucnredlist.org/>

In the wild habitats, harmful venomous snake bites are regarded to be peculiar medical urgency and failure in proper medication leads to fatal (Ayyanar & Ignacimuthu 2005b). The medicinal plants used in treating this issue are *Abrus precatorius*, *Achyranthes aspera*, *Albizia lebbek*, *Andrographis paniculata*, *Anisomeles malabarica*, *Aristolochia indica*, *Blepharis maderaspatensis*, *Cassia fistula*, *Chloroxylon swietenia*, *Cyperus rotundus*, *Euphorbia hirta*, *Gloriosa superba*, *Leucas aspera*, *Mimusops elengi*, *Pongamia pinnata*, *Psidium guajava*, and *Rhinacanthus nasutus* which used in different forms to formulate effective antidote in treating against the various poisonous bites and stings (David & Sudarsanam 2011, Magendiran & Vijayakumar 2022, Muruganandam *et al.* 2014, Rajkumar *et al.* 2012, Senthilkumar *et al.* 2014, Silambarasan *et al.* 2023).

In this rapid developing world, the prevalence of diseases is also high. Diabetes, a metabolic disorder emerging rapidly and being a major threat to mankind by leading to various medical complications (Amalraj *et al.* 2021, Ayyanar *et al.* 2013, Raj *et al.* 2023). Till date there is only synthetic drug commercially available to all range of people in the society and the natural source of drug affordable to all people is in the hour of need. The present review has recorded various ethnomedical plants like *Aegle marmelos*, *Allium cepa*, *Allium sativum*, *Aloe vera*, *Andrographis paniculata*, *Azadirachta indica*, *Coccinia grandis*, *Helilena speciosa*, *Cuminum cyminum*, *Eclipta prostrata*, *Euphorbia hirta*, *Ficus racemosa*, *Gymnema sylvestre*, *Mangifera indica*, *Momordica charantia*, *Moringa oleifera*, *Phyllanthus amarus*, *Phyllanthus emblica*, *Pongamia pinnata*, *Psidium*

*guajava*, *Syzygium cumini*, and *Withania somnifera* with potential antidiabetic effect utilized by the Malayali tribals of Jawadhu hills (Magendiran & Vijayakumar 2022, Rajkumar *et al.* 2012, Senthilkumar *et al.* 2014, Silambarasan *et al.* 2023, Thirumalai *et al.* 2012).

The vegetation profoundly benefits the tribe dwelling the hill for all sort of diseases (Ayyanar & Ignacimuthu 2005a). Rheumatism and arthritis are chronic musculoskeletal disorders leading to joint pain, swelling, inflammation and other muscular ailment, and they are inevitable either to due heredity or by age (Jenipher & Ayyanar 2022). Malayali tribals of Jawadhu Hills have formulated various ethnomedicinal plants like *Achyranthes aspera*, *Atalantia monophylla*, *Cardiospermum halicacabum*, *Delonix elata*, *Chrysanthemum indicum*, *Curculigo orchioides*, *Datura stramonium*, *Dodonaea viscosa*, *Drynaria quercifolia*, *Eucalyptus globulus*, *Gnetum edule*, *Melia azedarach*, *Ocimum tenuiflorum*, *Strychnos nuxvomica*, *Syzygium cumini*, *Erythrina variegata*, and *Madhuca longifolia* and are utilized along with various other ingredients like indigenous hen egg, goat milk, gum and latex of various plant to make the medication in more effective and natural (Ravikumar & Sankar 2003, Rajkumar *et al.* 2012, Salai Senthilkumar 2017, Sekharan & Jagadeesan 1997, Senthilkumar *et al.* 2014, Silambarasan *et al.* 2023).

*Acalypha indica* belonging to the family Euphorbiaceae is regionally referred as Kuppaimeni by the Malayali tribals. This plant plays a vital role in the healthcare system of Malayali tribals and in traditional medicine system of Ayurveda, Siddha and Unani. Malayali tribals use the whole plant parts and leaves of this plant to treat throat pain, skin diseases, cough and cold, insect bites, headache and wound (David & Sudarsanam, 2011, Magendiran & Vijayakumar 2022, Prabu *et al.* 2014, Rajkumar *et al.* 2012, Senthilkumar *et al.* 2014). This plant extensively grows in wild and also cultivated for its therapeutical importance. And the usage of this plant as herbal medicine is documented to be predominant in India. The decoction and the paste prepared with this plant is administered both orally and topically. The leaves of *A. indica* possess notable antioxidant, anti-ulcer, wound healing and antimicrobial properties. The attributed pharmacological properties of this plant are due to the presence of bioactive compounds namely acalyphine, acaindinin, acalyphamide, aurantiamide, succinimide and flindersin. The compounds isolated from this plant with antioxidant activity are gallic acid, ellagic acid, kaur-en-18-oic-acid, and hexahydroxy diphenic acid (Zahidin *et al.* 2017).

*Achyranthes aspera*, commonly referred as Nayurivi in Tamil is greatly used by Malayali tribals in treating poisonous insect bite, toothache, night blindness, eye injuries in cattle, joint pain, dog bite, scorpion sting, skin diseases, cuts and wounds in the form of paste, juice, decoction and extract (David & Sudarsanam 2011, Magendiran & Vijayakumar 2022, Rajkumar *et al.* 2012, Ravikumar & Sankar 2003, Sekharan & Jagadeesan 1997, Senthilkumar *et al.* 2014). These formulations are administered both orally and applied topically based on the affected region. *A. aspera* belongs to family Amaranthaceae which was reported to have potential uses in Indian traditional medicine system (He *et al.* 2017). The plant possesses anti-allergic, hepatoprotective, cardiovascular, analgesic, antidiabetic, and antipyretic effects due to the presence of phytoconstituents namely achyranthine, ecdysterone, pentatriacontane and betaine. *Achyranthes* comprises compounds belonging to triterpenoid saponins, ketosteroids, sterols, alkaloids, flavonoids, anthraquinones and organic acids (He *et al.* 2017).

The decoction, juice, powder, and paste prepared from the leaves of *Andrographis paniculata* is used in treating snakebite, diabetes, stomach ache, chest pain, fever and to expel parasitic worms by the Malayali tribals (David & Sudarsanam 2011, Magendiran & Vijayakumar 2022, Rajkumar *et al.* 2012, Senthilkumar *et al.* 2014, Thirumalai *et al.* 2012). The major compounds responsible for these therapeutic properties are andrographolide, quinic acid, adipic acid, andropaniculosin A, isoswertisin, onysilin,  $\beta$ -sitosterol, cinnamic acid, and 14-dexoyandrographolide. The *in vitro* pharmacological studies in this plant have shown remarkable anticancer, antimalarial, antihepatitic, antihyperglycemic, anti-inflammatory, antioxidant and hepatoprotective activities (Hossain *et al.* 2014).

*Azadirachta indica* belonging to family Meliaceae is locally called as Veppamaram by Malayali tribals. Various parts of this tree are used to cure malaria, female infertility, chicken pox, poisonous insect bites, stomach ache, fever and diabetes (David & Sudarsanam 2011, Muruganandam *et al.* 2014 Prabu *et al.* 2014, Ravikumar & Sankar 2003, Senthilkumar *et al.* 2014, Silambarasan *et al.* 2023). The formulations are prepared in the form of extract, juice, paste and decoction by utilizing the fresh or dried stem bark and leaves. According to Mahomoodally *et al.* (2019) *A. indica* is used as face wash, anti-pimple and anti-pigmentation agent. Based on the ethnomedicinal reports made on *A. indica*, the *in vitro* pharmacological studies have revealed its hypolipidemic, microbicidal, antidiabetic, anti-inflammatory, hepatoprotective, antioxidant, hypoglycemic, antiulcer, neuroprotective and cardioprotective activities (Zahidin *et al.* 2017). The major bioactive compound Nimbin, belonging to the class triterpene has proclaimed to have remarkable fungicidal, antiseptic, anti-inflammatory and antioxidant

activities; the presence of high content of proline in leaf extract of *A. indica* might also help in treating neurodegenerative diseases. The occurrence of compounds nimbidin, nimbolide, mahmoodin, gedunin, cyclic trisulfide and margolone in the leaves are reported to influence the antibacterial, insecticidal and fungicidal activities (Islas *et al.* 2020).

*Pongamia pinnata* is a member of the Fabaceae family and is referred as Pungamaram by Malayali tribals of Jawadhu hills. The leaves of *P. pinnata* is used to treat diarrhoea, cough, leprosy, rheumatic pains, ulcers and sores, and gonorrhoea. The root, flower and stem bark of this plant also has equal importance in being used as cure for treating gonorrhoea, scrofulous enlargement, piles, beri-beri, diabetes, whooping cough, swellings, and scorpion sting and snakebite (David & Sudarsanam 2011, Ravikumar & Sankar 2003, Rajkumar *et al.* 2012, Sekharan & Jagadeesan 1997). The compounds oleic acid, stearic acid, palmitic acid, hiragonic acid, octadecatrienoic acid, galactoside, isofuranoflavone, coumestan, pterocarpan and rotenoids influence the pharmacological efficacies of this plant (Al Muqarrabun *et al.* 2013).

The leaves of *Mimosa pudica* is used to get relief from wound, fertility issues in women and inflammations are reported to have therapeutic effect in treating pain and inflammations by the ethnic people of Rawamerta region, Indonesia (Nuraeni *et al.* 2022). The whole plant parts of *Cardiospermum halicacabum* are widely used in medicine systems of Ayurveda, Siddha and Unani to alleviate arthritis, rheumatism, skeletal fractures, joint pains, osteoarthritis, swellings and lumbago; this plant is also reported to possess anti-arthritis activity *in vitro* and *in vivo* studies (Elangovan *et al.* 2022). The leaves of *Gymnema sylvestre* is used in the form of decoction in Jawadhu hills by Malayali tribals to manage diabetes, whereas it is eaten raw by villagers of Attoor, Kanyakumari, Tamil Nadu to treat same ailment (Jeeva & Femila 2012). The usage of *Azadirachta indica* (skin diseases), *Cardiospermum halicacabum* (joint pain), *Gymnema sylvestre* (diabetes), and *Phyllanthus amarus* (jaundice) are identified in the current study coincides with the medicinal practice of Malayali tribals of Kanjamalai hills, Arunothmalai hills, Kalrayan hills, Kolli hills (Alagesaboopathi 2011 & 2014; Natarajan *et al.* 2012; Anjalam *et al.* 2014).

The findings of his review indicated the dominant usage of leaves of *Aristolochia bracteolata* in treating skin diseases. Thirumal *et al.* (2012) found the significant antibacterial and antifungal activity of this plant has shown the presence of aristolochic acids, aristolactams, aporphines, protoberberines, isoquinolines, benzyloquinolines and amides. It was found that the plants belonging to Lamiaceae, especially *Leucas aspera* and *Vitex negundo* were widely used to get relief from respiratory ailments (cold, cough and asthma), the presence of aromatic compounds are known to influence its therapeutic use (Goswami & Roy 2023, Kumar *et al.* 2023). The abundant usage of Lamiaceae members in such ailments were also documented by Jenipher & Ayyanar (2024).

## Conclusion

The present study recorded the information on common medicinal plants of Jawadhu hills utilized by Malayali tribals. The usage of 178 ethnomedicinal plants belonging to 146 genera and 69 families reveals the richness in folk medicinal knowledge of Malayali tribals and diverse vegetation of Jawadhu hills. The herbal formulations prepared using the recorded plants has pivotal role in improving and maintaining the health of Malayali tribals. However, these formulations must be standardized biologically to improve its bioavailability and therapeutic efficiency. And by bioprospecting the medicinal plants based on the reported therapeutic properties, insightful information can be revealed which might favour the development of novel drugs by understanding medicinal efficacy of plants and their potential value.

## Declarations

**Ethics approval and consent to participate:** Not applicable

**Consent for publication:** All the authors agreed to publish the content

**Availability of data and materials:** All the collected data regarding the ethnomedicinal information are given in the manuscript itself. The original articles and theses are available with the authors.

**Competing interests:** The authors declare that they have no conflict of interest

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