



# 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, Gavitt *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.

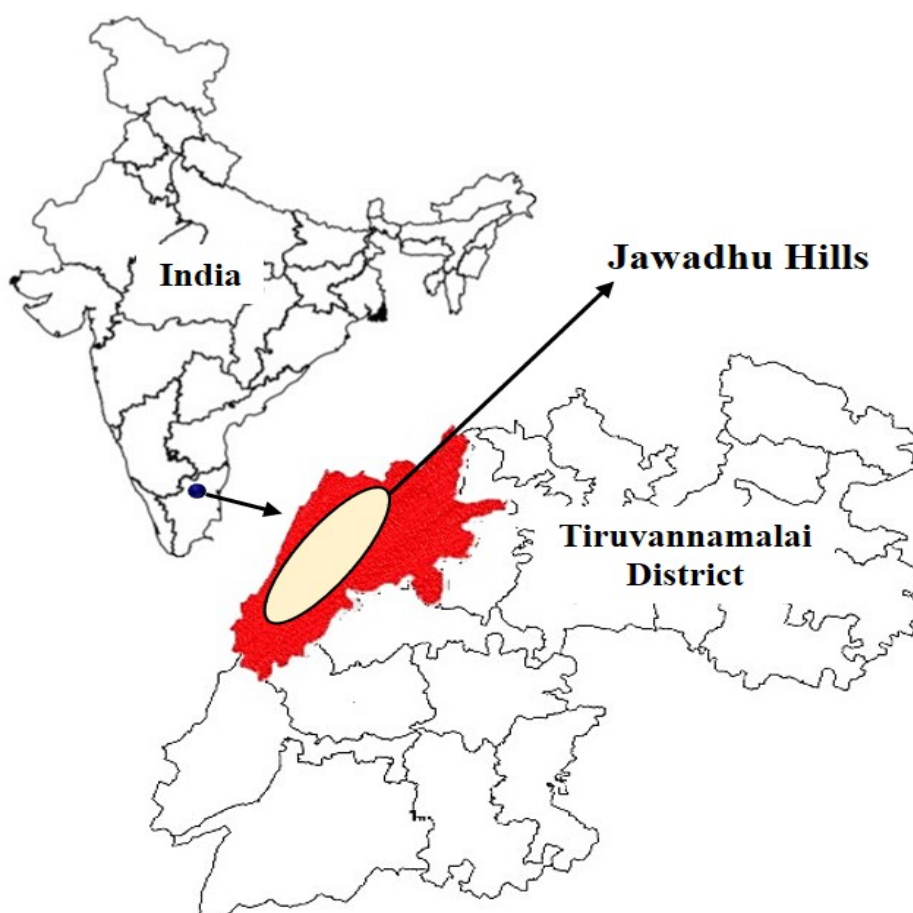


Figure 1. Location map of study area in Jawadhu hills, Tamil Nadu, India

## 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).

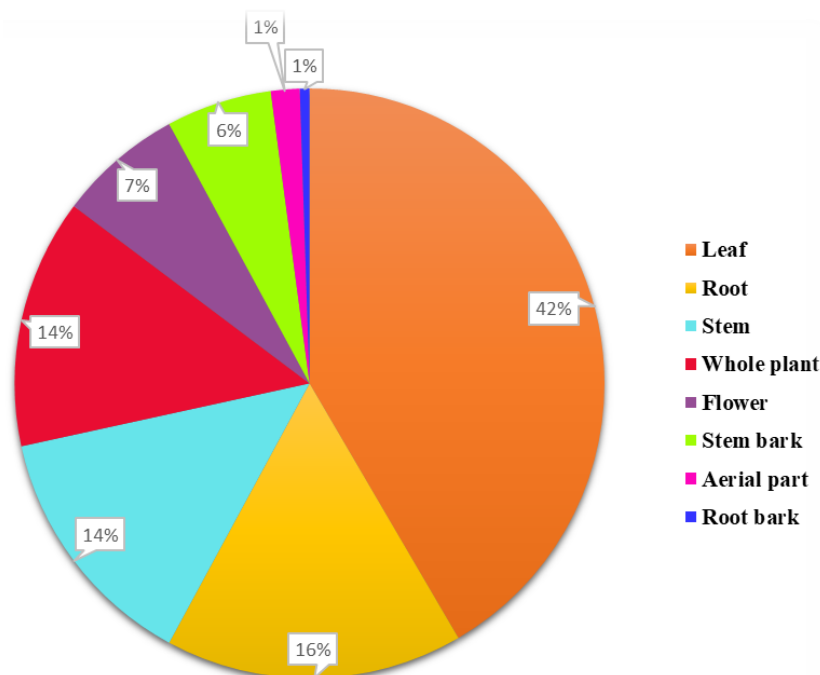


Figure 2. Percentage of use reports of the ethnomedicinal plants' parts utilized by the Malayali tribals of Jawadhu hills, Tamil Nadu, India in preparation of herbal formulations to treat various ailments

### 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

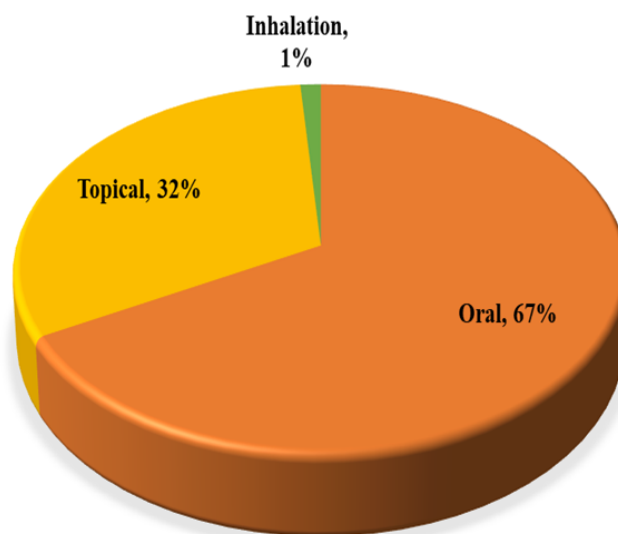


Figure 3. Mode of administration for the medication for the treatment of various ailments followed by the Malayali tribals in Jawadhu hills, Tamil Nadu, India.

**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 kthalai**. 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, leucorrhea 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)

<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)

	adipic acid, onysilin, cinnamic acid, skullcapflavone I	
<i>Angiopteris evecta</i> (Forst.) Hoffm. (Not accessed)	Angiopteraside 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 glucopyranoside	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)

<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-helminthic, 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)

<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, raubasin, vinblastine, vincolinine, vinacardine, 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, $\beta$ -caryphyellene 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, rutinoid	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)

<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, nematicidal (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)

<i>Dioscorea oppositifolia</i> L. (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)

<i>Heliotropium indicum</i> L. (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) 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. (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. (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 (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. (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)

<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)

	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, $\beta$ -amyirin, $\alpha$ -amyirin 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)

<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)

<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)

<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 lebbbeck*, *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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## Literature cited

- Abdelgadir HA, Van Staden J. 2013. Ethnobotany, ethnopharmacology and toxicity of *Jatropha curcas* L. (Euphorbiaceae): A review. *South African Journal of Botany* 88: 204-218.
- Adedayo O, Anderson WA, Moo-Young M, Snieckus V, Patil PA, Kolawole DO. 2001. Phytochemistry and antibacterial activity of *Senna alata* flower. *Pharmaceutical Biology* 39(6): 408-412.
- Adurosakin OE, Iweala EJ, Otike JO, Dike ED, Uche ME, Owanta JI, Ugbogu OC, Chinedu SN, Ugbogu EA. 2023. Ethnomedicinal uses, phytochemistry, pharmacological activities and toxicological effects of *Mimosa pudica*-A review. *Pharmacological Research* 7, 100241.
- Ahmed H, Juraimi AS, Swamy MK, Ahmad-Hamdani MS, Omar D, Rafii MY, Sinniah UR, Akhtar MS. 2018. Botany, chemistry, and pharmaceutical significance of *Sida cordifolia*: A traditional medicinal plant. In: Akhtar, M., Swamy, M. (eds) anticancer plants: properties and application. Springer, Singapore 517- 537.
- Ajjolokewu KA, Ayoola AS, Agbabiaka TO, Zakariyah FR, Ahmed NR, Oyedele OJ, Sani A. 2021. A review of the ethnomedicinal, antimicrobial, and phytochemical properties of *Musa paradisiaca* (plantain). *Bulletin of the National Research Centre* 45, 86.
- Akhtar N, Khalid S, Jan HA, Gul S, Ali A. 2023. Ethnoveterinary study of the medicinal plants of Khar, Dheri, Julagram, Tari, and Totakan Villages of Tehsil Batkhela, Malakand, Northern Pakistan. *Ethnobotany Research and Applications* 25: 1-19.
- Akhter S, Hossain MW, Sultana S, Jharna JF, Meghla NS, Alam R, Anis-Ul-Haque KM, Rahman MM. 2022. *Ruellia prostrata* Poir. activity evaluated by phytoconstituents, antioxidant, anti-inflammatory, antibacterial activity, and in silico molecular functions. *Journal of Saudi Chemical Society* 26(1): 101401.
- Akinniyi G, Lee J, Kim H, Lee JG, Yang I. 2022. A medicinal halophyte *Ipomoea pes-caprae* (L.) R.Br.: A review of its botany, traditional uses, phytochemistry, and bioactivity. *Marine Drugs*, 20(5): 329.
- Al Muqarrabun LMR, Ahmat N, Ruzain SAS, Ismail NH, Sahidin I. 2013. Medicinal uses, phytochemistry and pharmacology of *Pongamia pinnata* (L.) Pierre: A review. *Journal of ethnopharmacology* 150(2): 395-420.
- Alao FO, Ololade ZS, Nkeonye CV. 2018. Phytochemical and antibacterial potentials of *Senna tora* leaf and seed extracts against some clinically isolated bacteria. *Journal of Bacteriology and Parasitology* 9(3): 14.
- Albaqami JJ, Hamdi H, Narayanankutty A, Visakh NU, Sasidharan A, Kuttithodi AM, Famurewa AC, Pathrose B. 2022. Chemical composition and biological activities of the leaf essential oils of *Curcuma longa*, *Curcuma aromatica* and *Curcuma angustifolia*. *Antibiotics* 11(11): 1547.
- Ali MI, Shabir S, Soni LK, Dobhal MP, Moin S. 2020. The phytochemical potential of Gnetaceae with peculiar reference to *Gnetum ula* and traditional uses of Gnetaceae species. *Plant Archives* 20(1): 09725210.
- Al-Qahtani WH, Dinakarkumar Y, Arokiyaraj S, Saravanakumar V, Rajabathar JR, Arjun K, Gayathri PK, Appaturi JN. 2022. Phyto-chemical and biological activity of *Myristica fragrans*, an ayurvedic medicinal plant in Southern India and its ingredient analysis. *Saudi Journal of Biological Sciences*, 29(5): 3815-3821.
- Al-Snafi AE. 2016. The pharmacological activities of *Cuminum cyminum* - A review. *IOSR Journal of Pharmacy* 6(6): 46-65.
- Alzohairy MA. 2016. Therapeutics role of *Azadirachta indica* (Neem) and their active constituents in diseases prevention and treatment. *Evidence-Based Complementary and Alternative Medicine* 2016: 7382506.
- Amalraj A, Gopi S. 2017. Medicinal properties of *Terminalia arjuna* (Roxb.) Wight & Arn.: a review. *Journal of traditional and complementary medicine* 7(1): 65-78.
- Amalraj S, Krupa J, Sriramavaratharajan V, Mariyammal V, Murugan R, Ayyanar M. 2021. Chemical characterization, antioxidant, antibacterial and enzyme inhibitory properties of *Canthium coromandelicum*, a valuable source for bioactive compounds. *Journal of Pharmaceutical and Biomedical Analysis* 192: 1-12.
- Anju V, Zachariah S. 2013. Phytochemical and pharmacological activities of *Caesalpinia pulcherrima*—An overview. *International Journal of Pharmaceutical Research* 5: 6-13.

- Anwar R, Rabail R, Rakha A, Bryla M, Roszko M, Aadil RM, Kieliszek M. 2022. Delving the role of *Caralluma fimbriata*: An edible wild plant to mitigate the biomarkers of metabolic syndrome. *Oxidative Medicine and Cellular Longevity* 2022: 5720372.
- Arbab IA, Abdul AB, Aspollah M, Abdullah R, Abdelwahab SI, Ibrahim MY, Ali LZ. 2012. A review of traditional uses, phytochemical and pharmacological aspects of selected members of *Clausena* genus (Rutaceae). *Journal of Medicinal Plants Research* 6(38): 5107-5118.
- Arthanari S, Periyasamy P. 2020. Phenolic composition, antioxidant and anti-fibrotic effects of *Sesbania grandiflora* L. (Agastya)-An edible medicinal plant. *Ayu* 41(4): 242 - 249.
- Arumugam Rajsekhar PB, Bharani RA, Ramachandran M, Angel KJ, Rajsekhar SPV. 2016. The “wonder plant” *Kalanchoe pinnata* (Linn.) Pers.: A review. *Journal of Applied Pharmaceutical Science* 6(3): 151-158.
- Arumugam G, Swamy MK, Sinniah UR. 2016. *Plectranthus amboinicus* Spreng: Botanical, phytochemical, pharmacological and nutritional significance. *Molecules* 21(4): 369.
- Asgarpanah J, Khoshkam R. 2012. Phytochemistry and pharmacological properties of *Ruta graveolens* L. *Journal of Medicinal Plants Research* 6(23): 3942-3949.
- Ayyanar M, Ignacimuthu S. 2005a. Ethnomedicinal plants used by the tribals of Tirunelveli hills to treat poisonous bites and skin diseases. *Indian Journal of Traditional Knowledge* 4(3): 229-236.
- Ayyanar M, Ignacimuthu S. 2005b. Traditional knowledge of Kani tribals in Kouthalai of Tirunelveli hills, Tamil Nadu, India. *Journal of ethnopharmacology* 102(2): 246-255.
- Ayyanar M and Ignacimuthu S. 2011. Ethnobotanical survey of medicinal plants commonly used by Kani tribals in Tirunelveli hills of Western Ghats, India. *Journal of Ethnopharmacology* 134(3): 851-864.
- Ayyanar M, Subash Babu P. 2012. *Syzygium cumini* (L.) Skeels: A review of its phytochemical constituents and traditional uses. *Asian Pacific Journal of Tropical Biomedicine* 2:240-246
- Ayyanar M, Subash Babu P, Ignacimuthu S. 2013. *Eugenia jambolana* Lam., a novel therapeutic agent for diabetes: folk medicinal and pharmacological evidences. *Complementary Therapies in Medicine* 21(3): 232-243.
- Bafna PS, Patil PH, Maru SK, Mutha RE. 2021. *Cissus quadrangularis* L.: A comprehensive multidisciplinary review. *Journal of Ethnopharmacology* 279: 114355.
- Bahmani M, Shirzad H, Mirhosseini M, Mesripour A, Rafieian-Kopaei M. 2015. A review on ethnobotanical and therapeutic uses of fenugreek (*Trigonella foenum-graceum* L). *Evidence based Complementary Alternative Medicine* 21(1): 53-62.
- Balakrishnan P, Ansari T, Gani M, Subrahmanyam S, Shanmugam K. 2015. A perspective on bioactive compounds from *Solanum trilobatum*. *Journal of Chemical and Pharmaceutical Sciences* 7 (8): 507-512.
- Balakrishnan R, Vijayaraja D, Jo SH, Ganesan P, Su-Kim, I. and Choi, D.K., 2020. Medicinal profile, phytochemistry, and pharmacological activities of *Murraya koenigii* and its primary bioactive compounds. *Antioxidants* 9(2): 101.
- Baliga, M.S. and Kurian, P.J., 2012. *Ixora coccinea* Linn.: Traditional uses, phytochemistry and pharmacology. *Chinese journal of integrative medicine* 18: 72-79.
- Balkrishna, A., Rohela, A., Kumar, A., Kumar, A, Arya V, Thakur P, Oleksak P, Krejcar O, Verma R, Kumar D, Kuca K. 2021. Mechanistic insight into antimicrobial and antioxidant potential of *Jasminum* species: A herbal approach for disease management. *Plants* 10(6): 1089.
- Basak GK, Chowdhury T, Jana AK, Saha S, Mandal A. 2022. An ethnobotanical study of the indigenous knowledge by the Rajbangshi community of Raiganj Block, Uttar Dinajpur district, West Bengal, India. *Acta Ecologica Sinica* 42(4): 348-373.
- Behera MC, Mohanty TL, Paramanik BK. 2017. Silvics, phytochemistry and ethnopharmacy of endangered poison nut tree (*Strychnos nux-vomica* L.): A review. *Journal of Pharmacognosy and Phytochemistry* 6(5): 1207-1216.
- Beshah F, Hunde Y, Getachew M, Bachheti RK, Husen A Bachheti A. 2020. Ethnopharmacological, phytochemistry and other potential applications of *Dodonaea* genus: A comprehensive review. *Current Research in Biotechnology* 2: 103-119.

- Bhukta P, Ranajit SK, Sahu PK, Rath D. 2023. Phytochemistry and pharmacology of *Curculigo orchioides* Gaertn: A review. *Journal of Applied Pharmaceutical Science* 13(10): 083-091.
- Binish T. 2018. Micropropagation of traditional medicinal plant *Ceropegia juncea*. *Annals of Plant Sciences* 7: 1992-1996.
- Bortolotti M, Mercatelli D, Polito L. 2019. *Momordica charantia*, a nutraceutical approach for inflammatory related diseases. *Frontiers in pharmacology* 10: 486.
- Brindha Devi P, Bagyalakshmi KR, Gayathri S. 2019. A review on significance of *Ocimum tenuiflorum* and *Alpinia galanga* and their combined effects. *Research Journal of Pharmacy and Technology* 12 (5): 2577-2583.
- Chandak RR, Dighe NS. 2019. A Review on Phytochemical & Pharmacological Profile of *Pergularia Daemia* linn. *Journal of Drug Delivery and Therapeutics* 9(4): 809-814.
- Charanraj N, Venkateswararao P, Vasudha B, Narender B. 2019. Phytopharmacology of *Chloroxylon swietenia*: a review. *Journal of Drug Delivery and Therapeutics* 9: 273-278.
- Chechani B, Roat P, Hada S, Yadav DK, Kumari N. 2024. *Psidium guajava*: An insight into ethnomedicinal uses, phytochemistry, and pharmacology. *Combinatorial Chemistry & High Throughput Screening* 27(1): 2-39.
- Chiavaroli A, Di Simone SC, Sinan KI, Ciferri MC, Angeles Flores G, Zengin G, Etienne OK, Ak G, Fawzi Mahomoodally M, Jugreet S, Cziáky Z. 2020. Pharmacological properties and chemical profiles of *Passiflora foetida* L. extracts: Novel insights for pharmaceuticals and nutraceuticals. *Processes* 8(9): 1034.
- Chigurupati S, Alharbi NAR, Sharma AK, Alhowail A, Vardharajula VR, Vijayabalan S, Das S, Kauser F, Amin E. 2021. Pharmacological and pharmacognostical valuation of *Canna indica* leaves extract by quantifying safety profile and neuroprotective potential. *Saudi Journal of Biological Sciences* 28(10): 5579-5584.
- Čmíková N, Galovičová L, Schwarzová M, Vukic MD, Vukovic NL, Kowalczewski Pł, Bakay L, Kluz MI, Puchalski C, Kačániová M. 2023. Chemical composition and biological activities of *Eucalyptus globulus* essential oil. *Plants* 12(5): 1076.
- David BC, Sudarsanam G. 2011. Ethnomedicinal plant knowledge and practice of people of Javadhu hills in Tamilnadu. *Asian Pacific Journal of Tropical Biomedicine* 1(1): 79-81.
- De Caluwé E, Halamouá K, Van Damme P. 2010. *Tamarindus indica* L. A review of traditional uses, phytochemistry and pharmacology. *Afrika Focus* 23 (1), 53-83.
- Dery G, Dzitse S, Tom-Dery D. 2023. Ethnobotanical survey of medicinal plants in Sissala East Municipality of the Upper West Region, Ghana. *Phytomedicine Plus* 3(3): 100461.
- Deshmukh VP, Lunge MS, Rajurkar AV, Dharkar NS, Raut SR, Dhoran VS. 2021. Chemical characterization and therapeutics of *Dalbergia latifolia* Roxb: A review. *Journal of Pharmacognosy and Phytochemistry* 10(4): 340-345.
- Dharsono HDA, Putri SA, Kurnia D, Dudi D, Satari MH. 2022. *Ocimum* species: A review on chemical constituents and antibacterial activity. *Molecules* 27(19): 6350.
- Dhatwalia J, Kumari A, Verma R, Upadhyay N, Guleria I, Lal S, Thakur S, Gudeta K, Kumar V, Chao JCI, Sharma S. 2021. Phytochemistry, pharmacology, and nutraceutical profile of *Carissa* species: An updated review. *Molecules* 26(22): 7010.
- Domingo-Fernández D, Gadiya Y, Mubeen S, Bollerman TJ, Healy MD, Chanana S, Sadovsky RG, Healey D, Colluru V. 2023. Modern drug discovery using ethnobotany: A large-scale cross-cultural analysis of traditional medicine reveals common therapeutic uses. *Iscience* 26(9): 107729.
- Dwivedi PSR, Patil R, Khanal P, Gurav NS, Hase VD, Hase DP, Kalaskar MG, Ayyanar M, Chikale RV, Gurav SS. 2021. Exploring the therapeutic mechanisms of *Cassia glauca* in diabetes mellitus through network pharmacology, molecular docking and molecular dynamics. *RSC Advances* 11: 39362-75.
- Elangovan A, Ramachandran J, Lakshmanan DK, Ravichandran G Thilagar S. 2022. Ethnomedicinal, phytochemical and pharmacological insights on an Indian medicinal plant: The balloon vine (*Cardiospermum halicacabum* Linn.). *Journal of Ethnopharmacology*. 291: 115143.
- El-Far A, Shaheen H, Alsenosy A, El-Sayed Y, Al Jaouni S, Mousa S. 2018. *Costus speciosus*: Traditional uses, phytochemistry, and therapeutic potentials. *Pharmacognosy Reviews*, 12(23): 120 - 127.

- El-Saber Batiha G, Magdy Beshbishy A, G Wasef L, Elewa YH, A Al-Sagan A, Abd El-Hack ME, Taha AE, M Abd-Elhakim Y, Prasad Devkota H. 2020. Chemical constituents and pharmacological activities of garlic (*Allium sativum* L.): A review. *Nutrients* 12(3): 872.
- Félix-Silva J, Giordani RB, Silva-Jr AAD, Zucolotto SM, Fernandes-Pedrosa MDF. 2014. *Jatropha gossypifolia* L. (Euphorbiaceae): a review of traditional uses, phytochemistry, pharmacology, and toxicology of this medicinal plant. *Evidence-Based Complementary and Alternative Medicine* 2014: 369204.
- Feyisa K, Yismaw MB, Yehualaw A, Tafere C, Demsie DG, Bahiru B, Kefale B. 2023. Medicinal plants traditionally used to treat human ailments in Ethiopia: A Systematic Review. *Phytomedicine Plus* 4 (1): 100516.
- Gami B, Pathak S, Parabia M. 2012. Ethnobotanical, phytochemical and pharmacological review of *Mimusops elengi* Linn. *Asian Pacific Journal of Tropical Biomedicine* 2(9): 743-748.
- Garaniya N, Bapodra A. 2014. Ethno botanical and Phytopharmacological potential of *Abrus precatorius* L.: A review. *Asian Pacific Journal of Tropical Biomedicine* 4: S27-S34.
- Gargi B, Semwal P, Jameel Pasha SB, Singh P, Painuli S, Thapliyal A, Cruz-Martins N. 2022. Revisiting the nutritional, chemical and biological potential of *Cajanus cajan* (L.) Millsp. *Molecules* 27 (20): 6877.
- Gautam GK. 2013. A review on the taxonomy, ethnobotany, chemistry and pharmacology of *Solanum lycopersicum* linn. *International Journal of Chemistry and Pharmaceutical Sciences* 1(8): 521-527.
- Gavit AA, Gagrani MB, Gurav SS, Ayyanar M, Beldar VG, Tatiya AU, Surana SJ, Firke SD, Kalaskar MG. 2023. Chemical composition and biological activities of *Lonicera caprifolium* L. (Caprifoliaceae) essential oil. *Natural Product Research* 38(5): 719-726
- Gopalakrishnan S, Saroja K, Elizabeth JD. 2010. Chemical investigation of aerial parts of *Acalypha fruticosa* forssk. *Der Pharma Chemica* 2(5): 383-389.
- Goswami S, Roy B. 2023. *Vitex Negundo* L., an indigenous plant: A systematic review on traditional use, bioactives, and pharmacological activities. In *Bioactives and Pharmacology of Lamiaceae*, 1<sup>st</sup> Eds, Apple academic press, New York. 309 - 330.
- Goyal M, Pareek A, Nagori BP, Sasmal D. 2011. *Aerva lanata*: A review on phytochemistry and pharmacological aspects. *Pharmacognosy reviews* 5(10): 195.
- Gupta P, Chauhan NS, Pande M, Pathak A. 2012. Phytochemical and pharmacological review on *Butea monosperma* (Palash). *International Journal of Agronomy and plant production* 3(7): 255-258.
- Gupta RK, Guha P, Srivastav PP. 2023. Phytochemical and biological studies of betel leaf (*Piper betle* L.): Review on paradigm and its potential benefits in human health. *Acta Ecologica Sinica* 43 (5): 721-732.
- Gupta S, Gupta P. 2020. The genus *Calophyllum*: review of ethnomedicinal uses, phytochemistry and pharmacology. *Bioactive natural products in drug discovery* 215-242. doi: 10.1007/978-981-15-1394-7\_5
- Hameed IH, Cotos MRC, Hadi MY. 2017. A review: *Solanum nigrum* L. antimicrobial, antioxidant properties, hepatoprotective effects and analysis of bioactive natural compounds. *Research Journal of Pharmacy and Technology* 10 (11): 4063-4068.
- Hani N, Baydoun S, Nasser H, Ulian T, Arnold-Apostolides N. 2022. Ethnobotanical survey of medicinal wild plants in the Shouf Biosphere Reserve, Lebanon. *Journal of Ethnobiology and Ethnomedicine* 18(1): 1-16.
- Haq IU, Imran M, Nadeem M, Tufail T, Gondal TA, Mubarak MS. 2021. Piperine: A review of its biological effects. *Phytotherapy Research* 35 (2): 680 - 700.
- Hemlata S, Bhawana S, Sarla S, Bhatt PC, Mishra AP. 2011. Phytochemical and pharmacological potential of *Aristolochia indica*: a review. *Research journal of pharmaceutical, biological and chemical sciences* 2(4): 647-654.
- Hossain MS, Urbi Z, Sule A, Rahman KM. 2014. *Andrographis paniculata* (Burm. f.) Wall. ex Nees: a review of ethnobotany, phytochemistry, and pharmacology. *The Scientific World Journal* 2014: 274905.
- Hu R, Lai K, Luo B, Tang R, Huang R, Ye X. 2023. The medicinal plant used in the Guangxi Fangcheng Golden Camellias national nature reserve, a coastal region in southern China. *Journal of Ethnobiology and Ethnomedicine* 19(1): 32.

- Hullatti KK, Gopikrishna UV, Kuppast IJ. 2011. Phytochemical investigation and diuretic activity of *Cyclea peltata* leaf extracts. *Journal of Advanced Pharmaceutical Technology & Research* 2(4): 241.
- Hwong CS, Leong KH, Aziz A A, Junit SM, Noor SM, Kong KW. 2022. *Alternanthera sessilis*: Uncovering the nutritional and medicinal values of an edible weed. *Journal of Ethnopharmacology* 298: 115608.
- Ingole VV, Mhaske PC, Katade SR. 2022. Phytochemistry and pharmacological aspects of *Tridax procumbens* (L.): a systematic and comprehensive review. *Phytomedicine Plus* 2 (1): 100199.
- Islam T, Ara I, Islam T, Sah PK, de Almeida RS, Matias EFF, Ramalho CLG, Coutinho HDM, Islam MT. 2023. Ethnobotanical uses and phytochemical, biological, and toxicological profiles of *Datura metel* L.: A review. *Current Research in Toxicology* 4: 100106.
- Islas JF, Acosta E, Zuca G, Delgado-Gallegos JL, Moreno-Treviño MG, Escalante B, Moreno-Cuevas JE. 2020. An overview of Neem (*Azadirachta indica*) and its potential impact on health. *Journal of Functional Foods* 74: 104171.
- Jaiswal J, Siddiqi NJ, Fatima S, Abudawood M, AlDaihan SK, Alharbi MG, de Lourdes Pereira M, Sharma P, Sharma B. 2023. analysis of biochemical and antimicrobial properties of bioactive molecules of *Argemone mexicana*. *Molecules* 28 (11): 4428.
- Jamkhande PG, Ajgunde BR, Jadge DR. 2017. *Annona cherimola* Mill. (Custard apple): A review on its plant profile, nutritional values, traditional claims and ethnomedicinal properties. *Oriental Pharmacy and Experimental Medicine* 17: 189-201.
- Jenipher C, Ayyanar M, 2022. Ethnomedicinal plants used by Kani tribals to treat Rheumatism in Kalakad Mundanthurai Tiger Reserve, Tamil Nadu, India. *Ethnobotany Research and Applications* 24: 1-13.
- Jenipher C, Ayyanar M, 2024. Ethnobotanical Analysis of Medicinal Plants Used by Kani Tribals of Tirunelveli District (Tamil Nadu, India) in Treating Respiratory Diseases. *Journal of Herbal Medicine* 43: 100826.
- Jha D, Hangargekar P, Akbar M, Parihar AS, Kashyap S, Joshi A, Rahman MA. 2023. *Ziziphus mauritiana*: An in-depth review of its medicinal attributes and pharmacological activities. *Intelligent Pharmacy*. doi: 10.1016/j.ipha.2023.12.001
- Jodh R, Tawar M, Kachewar A, Mahanur V, Sureka Y, Atole V. 2022. Pharmacological review on *Madhuca longifolia*. *Asian Journal of Research in Pharmaceutical Sciences* 12(1): 29-36.
- Joshi N, Ghorbani A, Siwakoti M, Kehlenbeck K. 2020. Utilization pattern and indigenous knowledge of wild medicinal plants among three ethnic groups in Makawanpur district, Central Nepal. *Journal of Ethnopharmacology* 262: 113219.
- Kamaraj C, Kaushik NK, Mohanakrishnan D, Elango G, Bagavan A, Zahir AA, Rahuman AA, Sahal D. 2012. Antiplasmodial potential of medicinal plant extracts from Malaiyur and Javadhu hills of South India. *Parasitology Research* 111: 703-715.
- Kattupalli SK. 2022. *Premna tomentosa*: a review on its current therapeutic and phytochemical potential. *Journal of Positive Psychology* 6 (3): 6680-6684.
- Khan Marwat S, Khan EA, Baloch MS, Sadiq M, Ullah I, Javaria S, Shaheen S. 2017. *Ricinus communis*: Ethnomedicinal uses and pharmacological activities. *Pakistan Journal of Pharmaceutical Sciences* 30(5): 1815.
- Khan AV, Ahmed QU, Mir MR, Shukla I, Khan AA. 2011. Antibacterial efficacy of the seed extracts of *Melia azedarach* against some hospital isolated human pathogenic bacterial strains. *Asian Pacific Journal of Tropical Biomedicine* 1(6): 452-455.
- Khan F, Sarker MMR, Ming LC, Mohamed IN, Zhao C, Sheikh BY, Tsong HF, Rashid MA. 2019. Comprehensive review on phytochemicals, pharmacological and clinical potentials of *Gymnema sylvestre*. *Frontiers in Pharmacology* 10: 1223.
- Kianian F, Marefati N, Boskabady M, Ghasemi SZ and Boskabady, M.H. 2021. Pharmacological Properties of *Allium cepa*, preclinical and clinical evidences; a review. *Iranian Journal of Pharmaceutical Research* 20(2): 107.
- Klimek-Szczykutowicz M, Szopa A, Ekiert H. 2020. *Citrus limon* (Lemon) phenomenon - a review of the chemistry, pharmacological properties, applications in the modern pharmaceutical, food, cosmetics industries, and biotechnological studies. *Plants* 9(1): 119.
- Kokila K, Priyadharshini SD, Sujatha V. 2013. Phytopharmacological properties of *Albizia* species: a review. *International Journal of Pharmacy and Pharmaceutical Sciences* 5(3): 70-73.

- Krupa J, Sureshkumar J, Silambarasan R, Priyadarshini K, Ayyanar M. 2019. Integration of traditional herbal medicines among the indigenous communities in Thiruvavur district of Tamil Nadu, India. *Journal of Ayurveda and Integrative Medicine* 10(1): 32-37.
- Kumar A, Lingadurai S, Jain A, Barman NR. 2010. *Erythrina variegata* Linn: A review on morphology, phytochemistry, pharmacological aspects. *Pharmacognosy Reviews* 4(8): 147
- Kumar G, Karthik L, Rao KB. 2011. A review on pharmacological and phytochemical properties of *Zingiber officinale* Roscoe (Zingiberaceae). *Journal of Pharmacy Research* 4(9): 2963-2966.
- Kumar S, Singh B, Yadav A. 2020. Ethnobotany and phytochemistry of *Lantana camara* L. (Verbenaceae). In: Singh, B. (eds) *Botanical Leads for Drug Discovery*. Springer, Singapore, 389-404. doi: 10.1007/978-981-15-5917-4\_18.
- Kumar S, Singh N, Mittal A, Kharkwal H, Jain SK, Goel B. 2023. The genus *Leucas*: A review on phytochemistry and pharmacological activities. *Fitoterapia* 105492.
- Kusumawati AH, Garmana AN, Elfahmi E, Mauludin R. 2023. Pharmacological studies of the genus rice (*Oryza* L.): a literature review. *Brazilian Journal of Biology* 83: e272205.
- Latha S, Selvamani P, Pal TK, Gupta JK, Ghosh LK. 2006. Pharmacognostical studies on leaves of *Commiphora caudata* (Wight & Arn) engl. *Ancient Science of Life* 26(1&2): 19-25.
- Li J, Lin B, Wang G, Gao H, Qin M. 2012. Chemical constituents of *Datura stramonium* seeds. *China Journal of Chinese Materia Medica* 37(3): 319-322.
- Lima EBC, Sousa CNS, Meneses LN, Ximenes NC, Júnior S, Vasconcelos GS, Lima NBC, Patrocínio MCA, Macedo D, Vasconcelos SMM. 2015. *Cocos nucifera* (L.) (Arecaceae): A phytochemical and pharmacological review. *Brazilian Journal of Medical and Biological Research* 48: 953-964.
- Liu S, Zhang B, Lei Q, Zhou J, Ali M, Long C. 2023. Diversity and traditional knowledge of medicinal plants used by Shui people in Southwest China. *Journal of Ethnobiology and Ethnomedicine* 19(1): 1-53.
- Liya FI, Yasmin MF, Chowdhury NS, Charu TK, Fatema IB. 2021. *Mirabilis jalapa*: A review of pharmacological activities. *Advancement in Medicinal Plant Research* 9(1): 1-10.
- Lopes RM, Agostini Costa TDS, Gimenes MA, Silveira D. 2011. Chemical composition and biological activities of *Arachis* species. *Journal of agricultural and food chemistry* 59(9): 4321-4330.
- Magendiran M, Vijayakumar KK. 2022. Ethnobotanical survey of medicinal plants used by Malayali tribes in Jawadhu hills of Eastern Ghats, Tamilnadu, India. *Journal of Medicinal Herbs and Ethnomedicine* 8: 7-11.
- Mahleyuddin NN, Moshawih S, Ming LC, Zulkifly HH, Kifli N, Loy MJ, Sarker MMR, Al-Worafi YM, Goh BH, Thuraisingam S, Goh HP. 2021. *Coriandrum sativum* L.: A review on ethnopharmacology, phytochemistry, cardiovascular benefits. *Molecules* 27(1): 209.
- Mali PY, Panchal SS. 2017. *Euphorbia tirucalli* L.: Review on morphology, medicinal uses, phytochemistry and pharmacological activities. *Asian Pacific Journal of Tropical Biomedicine* 7(7): 603-613.
- Mao X, Wu LF, Guo HL, Chen WJ, Cui YP, Qi Q, Li S, Liang WY, Yang GH, Shao YY, Zhu D, She GM, You Y, Zhang LZ. 2016. The genus *Phyllanthus*: An ethnopharmacological, phytochemical, and pharmacological review. *Evidence based Complementary Alternative Medicine* 2016 (7584952): 1-36.
- Masters ET. 2023. Medicinal plants of the upper Aswa River catchment of northern Uganda—a cultural crossroads. *Journal of Ethnobiology and Ethnomedicine* 19(1): 48.
- Mavundza EJ, Street R, Baijnath H. 2022. A review of the ethnomedicinal, pharmacology, cytotoxicity and phytochemistry of the genus *Euphorbia* in southern Africa. *South African Journal of Botany* 144: 403-418.
- Mechaala S, Bouatrous Y, Adouane S. 2022. Traditional knowledge and diversity of wild medicinal plants in El Kantara's area (Algerian Sahara gate): An ethnobotany survey. *Acta Ecologica Sinica* 42(1): 33-45.
- Meena AK, Meena J, Jadhav A, Padhi MM. 2014. A review on *Hiptage benghalensis* used as an Ayurvedic drug. *Asian Journal of Pharmaceutical Technology* 4 (1): 28-31.

- Mehra ST, Tailor V, Dey P, Marndi S, Kumar S. 2023. Ironwood (*Memecylon umbellatum* Burm. f.): a medicinal plant of India. In *Medico Bio-wealth of India*, 12: 42-45
- Mili A, Das S, Nandakumar K, Lobo R. 2021. A comprehensive review on *Sesamum indicum* L.: Botanical, ethnopharmacological, phytochemical, and pharmacological aspects. *Journal of Ethnopharmacology* 281: 114503.
- Mishra JN, Verma NK. 2017. *Asparagus racemosus*: chemical constituents and pharmacological activities-a review. *European Journal of Biomedical and Pharmaceutical Sciences* 4: 207-213.
- Mismawati A, Srisuwannaket C, Mingvanish W, Kuspradini H, Kusumua IW, Niamnot N. 2015. Phytochemical screening and bioactivity of *Angiopteris evecta* leaves from East Kalimantan. In *Pure Applied Chemistry International Conference*, 151-154.
- Missoum A. 2018. An update review on *Hibiscus rosa sinensis* phytochemistry and medicinal uses. *Journal of Ayurvedic and Herbal Medicine* 4(3): 135-146.
- Mohite MS, Shelar PA, Raje VN, Babar SJ, Sapkal RK. 2012. Review on Pharmacological Properties of *Abutilon indicum*. *Asian journal of pharmaceutical research* 2(4): 156-160.
- Monika S, Thirumal M, Kumar PR. 2023. Phytochemical and biological review of *Aegle marmelos* Linn. *Future Science OA* 9(3): FSO849.
- Mukherjee PK, Kumar V, Kumar NS, Heinrich M. 2008. The Ayurvedic medicine *Clitoria ternatea* - From traditional use to scientific assessment. *Journal of Ethnopharmacology* 120(3): 291-301.
- Muruganandam S, Kadirvelmurugan V, Selvaraju A, Rathinakumar S, Ravikumar S. 2014. Ethnomedicinal plants used by the Malayali tribals in Jawadhu hills of Thiruvannamalai district, Tamil Nadu, India. *Journal of Natural Product and Plant Resources* 4: 55-60.
- Murugesu, S., Selamat, J. and Perumal, V., 2021. Phytochemistry, pharmacological properties, and recent applications of *Ficus benghalensis* and *Ficus religiosa*. *Plants* 10 (12): 2749.
- Mwangi RW, Macharia JM, Wagara IN, Bence RL. 2021. The medicinal properties of *Cassia fistula* L: A review. *Biomedicine & Pharmacotherapy* 144: 112240.
- Nachiar GS. 2023. A comprehensive review of pharmacognostical, phytochemical and anti-microbial investigation towards *Bauhinia tomentosa* L. *Research Journal of Pharmacognosy and Phytochemistry* 15(3): 255-263.
- Nandy S, Mukherjee A, Pandey DK, Ray P, Dey A. 2020. Indian Sarsaparilla (*Hemidesmus indicus*): Recent progress in research on ethnobotany, phytochemistry and pharmacology. *Journal of Ethnopharmacology* 254: 112609.
- Natarajan V, Anbazhagan M, Rajendran R. 2012. Studies on ethnomedicinal plants used by the Malayali tribe of Kalrayan hill, Tamil Nadu state. *Research in Plant Biology* 2(1): 15-21.
- Nayak P, Thirunavoukkarasu M. 2016. A review of the plant *Boerhavia diffusa*: its chemistry, pharmacology and therapeutical potential. *Journal of Phytopharmacology* 5(2): 83-92.
- Novotna B, Polesny Z, Pinto-Basto MF, Van Damme P, Pudil P, Mazancova J, Duarte MC. 2020. Medicinal plants used by 'root doctors', local traditional healers in Bié province, Angola. *Journal of Ethnopharmacology* 260: 112662.
- Ong HG, Kim YD. 2020. Medicinal plants for gastrointestinal diseases among the Kuki-Chin ethnolinguistic groups across Bangladesh, India, and Myanmar: a comparative and network analysis study. *Journal of Ethnopharmacology* 251: 112415.
- Panara K, Joshi K, Nishteswar K. 2012. A review on phytochemical and pharmacological properties of *Citrus medica* Linn. *International Journal of Pharmaceutical and Biological Science Archive* 3(6): 1292-1297.
- Pandey SN, Pratap V, Pratap S Kumar N. 2020. Phytochemicals and pharmacological studies of *Catharanthus roseus* Linn-A Comprehensive review. *World Journal of Pharmaceutical Research* 9(7): 1407-1415.
- Pareek A, Pant M, Gupta MM, Kashania P, Ratan Y, Jain V, Pareek A, Chuturgoon AA. 2023. *Moringa oleifera*: An updated comprehensive review of its pharmacological activities, ethnomedicinal, phytopharmaceutical formulation, clinical, phytochemical, and toxicological aspects. *International Journal of Molecular Sciences* 24 (3): 2098.

- Parra JDL, Quave CL. 2017. Ethnophytotechnology: Harnessing the power of ethnobotany with biotechnology. Trends in Biotechnology 35(9): 802-806.
- Patel, D.K., Kumar, R., Sairam, K. and Hemalatha, S., 2013. *Hybanthus enneaspermus* (L.) F. Muell: a concise report on its phytopharmacological aspects. Chinese Journal of Natural Medicines 11(3): 199-206.
- Patel JR, Tripathi P, Sharma V, Chauhan NS, Dixit VK. 2011. *Phyllanthus amarus*: ethnomedicinal uses, phytochemistry and pharmacology: a review. Journal of Ethnopharmacology 138(2): 286-313.
- Patil RS, Mane MP, Magdum AB, Nimbalkar MS. 2022. *Dioscorea oppositifolia* plant extract reduces adipogenesis by down-regulating PPAR $\gamma$ , C/EBP $\alpha$ , SREBP-1, and FASN in 3T3L1 pro-adipocytes. Phytomedicine Plus 2(3):100293.
- Pattar, P.V., Jayaraj, M., Arunkumar, B.S. and Ananth, B., 2011. Pharmacognostical and Preliminary Phytochemical Investigation of *Blepharis molluginifolia*, Pers.-A Threatened Medicinal Herb. Pharmacognosy Journal 3(19): 29-33.
- Peerzada AM, Ali HH, Naeem M, Latif M, Bukhari AH, Tanveer A. 2015. *Cyperus rotundus* L.: Traditional uses, phytochemistry, and pharmacological activities. Journal of Ethnopharmacology 174: 540-560.
- Peng W, Liu YJ, Wu N, Sun T, He XY, Gao YX, Wu CJ. 2015. *Areca catechu* L. (Arecaceae): A review of its traditional uses, botany, phytochemistry, pharmacology and toxicology. Journal of Ethnopharmacology 164: 340-356.
- Prabu T, Madhavan S, Pachaiyappan P. 2014. Ethnobotanical knowledge of Malayali tribes in Jawadhu Hills-An analysis. IOSR Journal of Pharmacy and Biological Sciences 9: 21-25.
- PubMed Central (PMC). [www.ncbi.nlm.nih.gov/pmc/](http://www.ncbi.nlm.nih.gov/pmc/). (Accessed on 15 January 2024)
- Rahimi, V.B., Ajam, F., Rakhshandeh, H. and Askari, V.R., 2019. A pharmacological review on *Portulaca oleracea* L.: focusing on anti-inflammatory, anti-oxidant, immuno-modulatory and antitumor activities. Journal of Pharmacopuncture 22(1):7-15.
- Raj MSA, Santhi VP, Amalraj S, Murugan R, Gangapriya P, Pragadheesh VS, Sundaresan V, Gurav SS, Paramaguru P, Arulmozhan R, Ayyanar M. 2023. A comparative analysis of leaf essential oil profile, *in vitro* biological properties and *in silico* studies of four Indian Guava (*Psidium guajava* L.) cultivars, a promising source of functional food. South African Journal of Botany 153: 357-369.
- Rajalakshmi S, Vyawahare N, Pawar A, Mahaparale P Chellampillai B. 2018. Current development in novel drug delivery systems of bioactive molecule plumbagin. Artificial Cells, Nanomedicine, and Biotechnology 46: 209-218.
- Rajesh P, Latha S, Selvamani P, Kannan VR. 2010. *Capparis sepiaria* Linn-Pharmacognostical standardization and toxicity profile with chemical compounds identification (GC-MS). International Journal of Phytomedicine, 2(1).
- Rajkumar G, Suresh Kumar J, Krishnaveni M, Nooru Nisha Begam M. 2012. Ethnobotanical studies on Thiruvannamalai district, Tamil Nadu, India. Annals of Pharmacy and Pharmaceutical Sciences 3(1):11-29.
- Ralte L, Bhardwaj U, Singh YT. 2021. Traditionally used edible Solanaceae plants of Mizoram, India have high antioxidant and antimicrobial potential for effective phytopharmaceutical and nutraceutical formulations. Heliyon 7(9): e07907.
- Rani S, Rahman K, Sultana A. 2016. Ethnomedicinal and pharmacological activities of Mochrus (*Bombax ceiba* Linn.): An overview. Cellmed 6(1): 2.1-2.9
- Rather LJ, Mohammad F. 2015. *Acacia nilotica* (L.): A review of its traditional uses, phytochemistry, and pharmacology. Sustainable Chemistry and Pharmacy 2:12-30.
- Ravikumar K, Sankar RV. 2003. Village, Javvadhu hills of Eastern Ghats, Tiruvannamalai district, Tamil, Nadu. Journal of Economic and Taxonomic Botany 27(3): 715-726.
- Saha R. 2011. Pharmacognosy and pharmacology of *Annona squamosa*. International Journal of Pharmaceutical and Life Sciences 2: 1183-1189.
- Saini R, Sharma N, Oladeji OS, Sourirajan A, Dev K, Zengin G, El-Shazly M, Kumar V. 2022. Traditional uses, bioactive composition, pharmacology, and toxicology of *Phyllanthus emblica* fruits: A comprehensive review. Journal of Ethnopharmacology 282: 114570.

- Sakharkar P, Chauhan B. 2017. Antibacterial, antioxidant and cell proliferative properties of *Coccinia grandis* fruits. *Avicenna Journal of Phytomedicine* 7(4): 295.
- Salai Senthilkumar MS. 2017. Ethno botanical and folklore studies in Yelagiri, Jawadhu and Kalrayan Hills of Eastern Ghats, Tamil Nadu. Ph.D. dissertation, Bharathidasan University, Tiruchirappalli, India.
- Saleem S, Muhammad G, Hussain MA, Bukhari SNA. 2018. A comprehensive review of phytochemical profile, bioactives for pharmaceuticals, and pharmacological attributes of *Azadirachta indica*. *Phytotherapy Research* 32 (7): 1241-1272.
- Salehi B, Gültekin-Özgüven M, Kirkin C, Özçelik B, Morais-Braga MFB, Carneiro JNP, Bezerra CF, Silva TGD, Coutinho HDM, Amina B, Armstrong L. 2020. Antioxidant, antimicrobial, and anticancer effects of *Anacardium* plants: an ethnopharmacological perspective. *Frontiers in Endocrinology* 11: 295.
- Samant SS, Jagtap VA, Kalangutkar P, Morye R, Gadekar A, Rane R, Desai S. 2023. Phytochemistry and therapeutic uses of *Albizia lebbbeck*. *International Journal of Herbal Medicines* 11(5): 22-26.
- Sanchez M, González-Burgos E, Iglesias I, Gómez-Serranillos MP. 2020. Pharmacological update properties of *Aloe vera* and its major active constituents. *Molecules* 25(6): 1324.
- Sapkal PR, Tatiya AU, Firke SD, Redasani VK, Gurav SS, Ayyanar M, Jamkhande PG, Surana SJ, Mutha RE, Kalaskar MG. 2023. Phytochemical profile, antioxidant, cytotoxic and anti-inflammatory activities of stem bark extract and fractions of *Ailanthus excelsa* Roxb.: *In vitro*, *in vivo* and *in silico* approaches. *Heliyon* 9 (e15952): 1-15.
- Saraswathi K, Bharkavi R, Khusro A, Sivaraj C, Arumugam P, Alghamdi S, Dablood AS, Almehmadi M, Bannunah AM, Sahibzada MUK. 2021. Assessment on *in vitro* medicinal properties and chemical composition analysis of *Solanum virginianum* dried fruits. *Arabian Journal of Chemistry* 14(12): 103442.
- Sarkar C, Mondal M, Khanom B, Hossain MM, Hossain MS, Sureda A, Islam MT, Martorell M, Kumar M, Sharifi-Rad J, Al-Harrasi A. 2021. *Heliotropium indicum* L.: from farm to a source of bioactive compounds with therapeutic activity. *Evidence-Based Complementary and Alternative Medicine* 2021: 1-21.
- Sekharan R, Jagadeesan M. 1997. An ethnobotanical survey of Jawadhu Hills, Tamil Nadu. *Ancient Science of Life* 16(3): 206-214.
- Selvan VT, Kakoti BB, Gomathi P, Ashok Kumar D, Islam A. 2007. Cytotoxic and antitumor activities of *Pavonia odorata* against Erlichss ascities carcinoma cells bearing mice. *Pharmacology online* 2(1): 453-77.
- Semwal RB, Semwal DK, Combrinck S, Cartwright-Jones C, Viljoen A. 2014. *Lawsonia inermis* L. (henna): Ethnobotanical, phytochemical and pharmacological aspects. *Journal of Ethnopharmacology* 155(1): 80-103.
- Senthamari R, Uvarani M, Jayakar B. 2002. Pharmacognostical studies on leaf of *Coldenia procumbens* Linn. *Ancient science of life* 22(1): 67-75.
- Senthilkumar MS, Vaidyanathan D, Sisubalan N, Basha MG. 2014. Medicinal plants using traditional healers and Malayali tribes in Jawadhu hills of Eastern Ghats, Tamil Nadu, India. *Advances in Applied Science Research* 5(2): 292-304.
- Shafin N, Zulkipli NN, Sulaiman SF, Omar N, Al-Sowayan N, Ahmad R, Ahmad AH, Othman Z, Zakaria R. 2023. *Centella asiatica* (L.) Urb: A comprehensive bibliometric analysis of published studies between 1857 and 2022. *Plant Science Today* 10(2): 281-288.
- Shahul, A., Suja, S.R. and Nair, V.T., 2023. Ethnomedicinal importance of *Rhinacanthus nasutus*, a plant used by tribal communities: evaluation of *in vitro* antioxidant and anti-inflammatory potential. *Biodiversity Challenges and Threats; Current Scenario*, 77.
- Shamsuddin T, Alam MS, Junaid M, Akter R, Hosen SM, Ferdousy S, Mouri NJ. 2021. *Adhatoda vasica* (Nees.): A review on its botany, traditional uses, phytochemistry, pharmacological activities and toxicity. *Mini-Reviews in Medicinal Chemistry* 21(14): 1925-1964.
- Shao Y, Sun Y, Li D, Chen Y. 2020. *Chrysanthemum indicum* L.: A comprehensive review of its botany, phytochemistry and pharmacology. *The American Journal of Chinese Medicine* 48(04): 871-897.
- Sharma S, Arora S. 2015. Phytochemicals and pharmaceutical potential of *Delonix regia* (bojer ex Hook) Raf a review. *International Journal of Pharmacy and Pharmaceutical Sciences* 7(8): 21-33.

- Sharma, V., Katiyar, A. and Agrawal, R.C., 2018. *Glycyrrhiza glabra*: chemistry and pharmacological activity. Sweeteners 87-100. doi: 10.1007/978-3-319-27027-2\_21
- Sharma V, Sharma R, Gautam DS, Kuca K, Nepovimova E, Martins N. 2020. Role of vacha (*Acorus calamus* Linn.) in neurological and metabolic disorders: evidence from ethnopharmacology, phytochemistry, pharmacology and clinical study. *Journal of Clinical Medicine* 9 (4): 1176.
- Shelar, P. and Singh, S.K. 2023. Ethnomedicinal uses, phytochemistry and pharmacology of few species of genus *Atalantia* (Rutaceae): a review. *Journal of the Turkish Chemical Society Section A: Chemistry* 10(3): 805-820.
- Silambarasan R, Ayyanar M. 2015. An ethnobotanical study of medicinal plants in Palamalai region of Eastern Ghats, India. *Journal of Ethnopharmacology* 172: 162-178.
- Silambarasan R, Sureshkumar J, Ayyanar M. 2017. Traditional herbal medicines practiced by the ethnic people in Sathyamangalam forests of Western Ghats, India. *European Journal of Integrative Medicine* 16: 61-72.
- Silambarasan R, Sasidharan S, Kumar N, Aravind R, Nair AS, Selavinayagam KT. 2023. A multivariate and quantitative assessment of medicinal plants used by the indigenous Malayali tribes in the Javadhu hills of Tiruvannamalai district, Tamil Nadu, India. *Heliyon* 9(5): e15607.
- Singh A, Mishra JN, Singh SK. 2019. Pharmacological importance of *Moringa concanensis* Nimmo leaf: An overview. *Asian Journal of Pharmaceutical and Clinical Research* 12(2): 27-31.
- Singh N, Rao AS, Nandal A, Kumar S, Yadav SS, Ganaie SA, Narasimhan B. 2021. Phytochemical and pharmacological review of *Cinnamomum verum* J. Presl - a versatile spice used in food and nutrition. *Food Chemistry* 338: 127773.
- Singh, S. and Kumar, S.N. 2014. A review: introduction to genus *Delonix*. *World Journal of Pharmaceutical Sciences* 3(6): 2042-2055
- Sivakumar T. 2023. Traditional medicine, Phytochemicals and pharmacological applications of common plants in the Cucurbitaceae family-An extensive review. *Journal of Xidian University* 17(7): 758-767.
- Srinivasan N, Murali R, Sivakrishnan S. 2022. *Sida cordifolia*-an update on its traditional use, phytochemistry, and pharmacological importance. *International Journal of Pharmaceutical Research and Allied Sciences* 11(1): 74-86.
- Srivastava R. 2014. A review on phytochemical, pharmacological, and pharmacognostical profile of *Wrightia tinctoria*: Adulterant of kurchi. *Pharmacognosy reviews* 8(15): 36.
- Surendran S, Prasannan P, Jeyaram Y, Palanivel V, Pandian A, Ramasubbu R. 2023. Knowledge on ethnogynaecology of Indian Tribes- a comprehensive review. *Journal of Ethnopharmacology* 303: 115880.
- Suresh K. 2010. Ethno-medico botanical survey among Malayali Tribes in the Southern Eastern Ghats, Tamilnadu. PhD dissertation. Gandhigram Rural Institute, Dindigul, India.
- Sureshkumar J, Ayyanar M, Silambarasan R. 2021. Ethnomedicinal uses, phytoconstituents and pharmacological importance of pteridophytes used by Malayalis in Kolli hills, India: A quantitative survey. *Journal of Herbal Medicine* 25: 100418.
- Sureshkumar J, Silambarasan R, Bharati K A, Krupa J, Amalraj S, Ayyanar M. 2018. A review on ethnomedicinally important pteridophytes of India. *Journal of Ethnopharmacology* 219: 269-287.
- Tali BA, Khuroo AA, Ganie AH, Nawchoo IA. 2019. Diversity, distribution and traditional uses of medicinal plants in Jammu and Kashmir (J&K) state of Indian Himalayas. *Journal of Herbal Medicine* 17: 100280.
- Tcheghebe OT, Seukep AJ, Tatong FN. 2017. Ethnomedicinal uses, phytochemical and pharmacological profiles, and toxicity of *Sida acuta* Burm. F.: a review article. *The Pharma Innovation* 6(6): 1 - 6
- Tekdal D. 2021. Plant genes for abiotic stress in legumes. In *Abiotic Stress and Legumes* (291-301). Academic Press, London, United Kingdom.
- Tesfaye T, Ravichadran YD. 2018. Traditional Uses, Pharmacological action and phytochemical analysis of *Carissa carandas* L. A review. *Natural Product Chemical Research* 6(5):1- 20.
- The International Union for Conservation of Nature (IUCN). <https://www.iucnredlist.org/>. (Accessed on 28 April 2024).

- Theja DD, Nirmala S. 2023. A review of *Vernonia cinerea* L. ethno-medicinal uses and pharmacology shows that it could be a useful plant for medical purposes. *Intelligent Pharmacy* 1(4): 1-42. doi: 10.1016/j.ipha.2023.11.005.
- Thirumal M, Vadivelan R, Kishore G, Brahmaji VS. 2012. *Aristolochia bracteolata*: An overview on pharmacognostical, phytochemical and pharmacological properties. *Critical review in pharmaceutical sciences* 1(1): 70-82.
- Thirumalai T, Beverly CD, Sathiyaraj K, Senthilkumar B, David E. 2012. Ethnobotanical Study of Anti-diabetic medicinal plants used by the local people in Javadhu hills Tamilnadu, India. *Asian Pacific Journal of Tropical Biomedicine* 2(2): S910-S913.
- Tian Y, Deng F. 2020. Phytochemistry and biological activity of mustard (*Brassica juncea*): a review. *CyTA- Journal of Food* 18(1): 704 - 718.
- Timalsina D, Devkota HP. 2021. *Eclipta prostrata* (L.) L. (Asteraceae): ethnomedicinal uses, chemical constituents, and biological activities. *Biomolecules* 11(11): 1738.
- Ugbogu EA, Dike ED, Uche ME, Etumnu LR, Okoro BC, Ugbogu OC, Adurosakin OE, Chinma CE, Ohaeri E, Iweala EJ. 2023. Ethnomedicinal Uses, Nutritional Composition, Phytochemistry and Potential Health Benefits of *Carica papaya*. *Pharmacological Research-Modern Chinese Medicine* 7: 100266.
- Unbushe D, Getaneh S. 2023. Ethnobotanical study of medicinal plants of lake Abaya basin, southern Ethiopia. *Journal of Herbal Medicine* 42: 100760.
- Vaishnavi, B.A., Khanm, H. and Bhoomika, H.R., 2019. Review on pharmacological properties of glory lily (*Gloriosa superba* Linn.)-an endangered medicinal plant. *International Journal of Current Microbiology and Applied Sciences* 8(02): 1359 - 1364.
- Veeramuthu K, Ahuja V, Annadurai P, Gideon DA, Sundarrajan B, Rusu ME, Annadurai V, Dhandayuthapani K. 2023. Chemical Profiling and Biological Activity of *Psydrax dicoccos* Gaertn. *Molecules* 28(20): 7101.
- Venkadassalopathy SD, Ramasamy M, Victor DJ, Subramanian S, Praveen JA A, Akbar MAR. 2023. *In Vitro* antibacterial, cytotoxicity and wound healing activities of methanol and aqueous extracts from *Achyranthes aspera*. *Journal of Pharmacy and Bioallied Sciences* 15: S764-S770.
- Wadhvani BD, Mali D, Vyas P, Nair R, Khandelwal P. 2021. A review on phytochemical constituents and pharmacological potential of *Calotropis procera*. *RSC advances* 11 (57): 35854-35878.
- Wahab S, Annadurai S, Abullais SS, Das G, Ahmad W, Ahmad MF, Kandasamy G, Vasudevan R, Ali MS, Amir M. 2021. *Glycyrrhiza glabra* (Licorice): A comprehensive review on its phytochemistry, biological activities, clinical evidence and toxicology. *Plants* 10(12): 2751.
- Warrier RR, Priya SM, Kalaiselvi R. 2021. *Gmelina arborea* - an indigenous timber species of India with high medicinal value: A review on its pharmacology, pharmacognosy and phytochemistry. *Journal of Ethnopharmacology* 267: 113593.
- Wen M, Chen Q, Chen W, Yang J, Wu A, Lai J, Chen J, Mei Q, Yang S. 2022. A comprehensive review of *Rubia cordifolia* L.: Traditional uses, phytochemistry, pharmacological activities, and clinical applications. *Frontiers in Pharmacology* 13: 965390.
- World Flora Online (WFO), 2023. <http://www.worldfloraonline.org>. (Accessed 12 /01/ 2024).
- Xuan TD, Khanh TD. 2016. Chemistry and pharmacology of *Bidens pilosa*: an overview. *Journal of pharmaceutical investigation* 46: 91-132.
- Yadav MK, Singh SK, Singh M, Mishra SS, Singh AK, Tripathi JS, Tripathi YB. 2019. Neuroprotective activity of *Evolvulus alsinoides* & *Centella asiatica* ethanolic extracts in scopolamine-induced amnesia in Swiss albino mice. *Open Access Macedonian Journal of Medical Sciences* 7(7): 1059.
- Yadav V, Krishnan A, Vohora D. 2020. A systematic review on *Piper longum* L.: Bridging traditional knowledge and pharmacological evidence for future translational research. *Journal of Ethnopharmacology* 247: 112255.
- Yahia EM, de Jesús Ornelas-Paz J, Brecht JK, García-Solís P, Celis MEM. 2023. The contribution of mango fruit (*Mangifera indica* L.) to human nutrition and health. *Arabian Journal of Chemistry* 16(7): 104860.
- Yasmin S, Islam MAM, Biswas NN, Karmakar UK, Sadhu SK. 2011. Assessment of phytochemical and pharmacological activities of *Anisomeles indica* leaves. *Hamdard Medicus* 54(1): 9-14.

Zahidin NS, Saidin S, Zulkifli RM, Muhamad II, Ya'akob H, Nur H. 2017. A review of *Acalypha indica* L. (Euphorbiaceae) as traditional medicinal plant and its therapeutic potential. *Journal of Ethnopharmacology* 207: 146-173.

Zeng Z, Tian R, Feng J, Yang NA, Yuan L. 2021. A systematic review on traditional medicine *Toddalia asiatica* (L.) Lam.: Chemistry and medicinal potential. *Saudi Pharmaceutical Journal* 29(8) 781-798.

Zhang XR, Kaunda JS, Zhu HT, Wang D, Yang CR, Zhang YJ. 2019. The genus *Terminalia* (Combretaceae): An ethnopharmacological, phytochemical and pharmacological review. *Natural Products and Bioprospecting* 9: 357-392.