Phytochemical and pharmacological perspectives on medicinal plants of family Cucurbitaceae: A review

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Review

Abstract

Background: Cucurbitaceae is the largest family of fruits and vegetables consisting of more than 900 species. It is one of most varied plant family, which is grown in a variety of environments worldwide. Some of the major genera of Cucurbitaceae included in the present review are *Benincasa, Citrullus, Coccinia, Corallocarpus, Ctenotepis, Cucumis, Curcurbita, Diplocyclos, Kedrostis, Lagneria, Luffa, Momordica, Mukia, Sechium, Solena, Trichosanthes* and *Zehneria*. This review highlights the medicinal uses, phytochemical constituents and pharmacological activities of members of Cucurbitaceae.

Methods: Extensive literature searches were carried out using scientific databases like Scopus, ScienceDirect, Springer, Web of Science, PubChem and Google Scholar.

Results: This family serves as a reservoir for numerous phytochemicals, including cucurbitacin, steroids, phenols, tannins, saponins, terpenoids, triterpenoids, glycosides, alkaloids and flavonoids. Moreover, the various pharmacological activities, includes antioxidant, analgesic, anti-diabetic, antibacterial, hepatoprotective, anthelmintic, anti-inflammatory, anti-allergic, antimicrobial and anticancer properties, are also displayed by members of the Cucurbitaceae family. Due to their Phyto-chemical potential, the members of this family are widely used to treat a variety of illnesses and conditions, including cancer, jaundice, abdominal pain, kidney stones, rheumatism, fever, liver disease, skin conditions, tumors, wounds, malaria, inflammation, menstrual issues, and diabetes.

Conclusions: The present review provides an overview of the Medicinal, phytochemical and pharmacological features of many members of the members of the Cucurbitaceae family.

Keywords: Cucurbits, Phytochemistry, Pharmacology, Medicinal Uses, Food and Nutrition

Background

Plants are used medicinally in several countries and are the source of strong, potent medications (Shakya 2016). Despite advancements in contemporary medical and pharmaceutical research, the usage of herbal medicines has grown throughout the ages and become an integral part of everyday life (Mohd 2012). Many plant species commonly contain monoterpenoids,

which are used in cosmetic, non-cosmetic, and pharmacological preparations, as well as in the food industry (Koziol *et al*. 2014). Proanthocyanidins, flavonoids, and phenolic acids are among the numerous phenolic compounds found in plants that serve as a defense against both biotic and abiotic stressors (Zhang & Tsao 2016). Phenols and flavonoids are potent antioxidants and act as free radical scavengers that prevent oxidative cell damage and have strong anti-cancer activity (Elnour *et al*. 2018). Antioxidants derived from plants are known to exhibit strong free radical scavenging activity, reduce cellular damage, delay aging, and prevent aging-related disorders such as cancer, heart disease, liver disease, and neurological diseases (Cui *et al*. 2022).

The family Cucurbitaceae, comprising approximately 960 species and 125 genera, is the largest family of fruit and vegetable crops. Cucurbits are another name for the plants in this family. The family got its name from the Latin word "corbis," which means "bottle" or "basket." They are the most diverse plant family, as they are cultivated in a wide range of environmental conditions worldwide. Approximately 300 plant species are used by humans, but only 150 are widely grown, and 30 of them are vital to the global food chain. (Agata & Beata 2020). The United States, China, India, and Turkey are the top producers of Cucurbiataceae (Lebeda *et al*. 2006). Cucurbits are a large and significant category of vegetables, comprising the most popular varieties, including cucumber, melon, watermelon, and pumpkin. Globally, a wide variety of cucurbits have been cultivated for their nutritional benefits, with annual vines making up the majority of the plants in this family. Most of the members have large, yellow, or white flowers. Pentangular stems are usually hairy, with tendrils at nodes 90 degrees to the leaf petioles. Leaves are alternate, simple, palmately lobed or compound leaves with unisexual flowers with male and female flowers on separate plants (dioecious) or on the same plants (monoecious) (Dhimathi *et al*. 2012). The plants of this family are regarded as the most significant to mankind, with food goods and valuable fibers. 90% of the species in this family are found in three main regions: Africa and Madagascar, Central and South America, as well as Southeast Asia and Malaysia (Saboo *et al*. 2013; Avinash & Rai 2017). Cucurbit species exhibit remarkable genetic diversity within the family and are well-suited to a variety of environments, including tropical, subtropical, and arid deserts (Suresh 2013).

The majority of plants has therapeutic value. Cucurbitaceae vegetables have been used in traditional medicine and cuisine for a long time. They are acknowledged for their medicinal value in Indian folk medicine and Ayurveda and are considered a source for the development of safe and effective therapeutics (Mukherjee 2019). For centuries, these plants have been utilized in various traditional medicine systems, including Chinese and Ayurvedic systems, to treat a range of illnesses. Numerous significant physiological effects on the heart, liver, and immune system, as well as anti-inflammatory properties, have been reported in scientific investigations (Agata & Beata 2020).

The Cucurbitaceae family of plants contains various proteins and amino acids with plenty of medicinal uses. Proteins derived from these plants have demonstrated promising activity against pathogens associated with fungal infections (Yadav *et al*. 2013). The mineral content of cucurbitaceous crops is very beneficial for their nutritional and health benefits (Avinash & Rai 2017). Many of the Cucurbits have been reported to possess anti-inflammatory, anti-angiogenic, immunomodulatory, cytotoxic, cytostatic, and hepatoprotective properties (Shyam *et al*. 2010) in both in vitro and in vivo models. The aim of this review is to collect, analyze, and summarize all research targeting the ethnomedicine, pharmacology, and toxicology of the members of the Cucurbitaceae family.

Materials and Methods

The data presented in this study were systematically collected from scientific databases, including Scopus (https://www.scopus.com/), ScienceDirect (http://www.sciencedirect.com/), Springer (https://link.springer.com), Web of Science (https://www.webofknowledge.com), and Google Scholar (https.//scholar.google.com/). The results obtained were filtered based on title, keywords, and abstract. The references section contains more than 340 references, including original research articles, review papers, books, and book chapters. Strict inclusion and exclusion criteria were applied to ensure the relevance and scientific quality of the studies analyzed. Only peer-reviewed publications indexed in recognized databases, such as Scopus and Web of Science, were included, with the majority written in English. The studies published between 1990 and 2025 were prioritized to reflect the current state of knowledge. Additionally, chemical structures were verified through PubChem (https://pubchem.ncbi.nlm.nih.gov/).

Results

Phytochemistry of Cucurbitaceae

Phytochemicals are naturally occurring, physiologically active chemical compounds found in plants that provide health benefits for humans that go beyond those associated with macronutrients and micronutrients. An extensive variety of

phytochemicals can be found in nature, with numerous structures exhibiting intriguing biological functions and medicinal properties (Saxena *et al*. 2013). Researchers have thoroughly examined various parts of Cucurbitaceae species- including the leaves, stems, roots, tubers, fruits (at all stages of maturity), pulp, and seeds. The following plants, like *Mukia maderaspatana*, *Solena amplexicaulis*, *Citrullus colocynthis*, *Citrullus lanatus*, *Coccinia indica*, *Cucumis sativus*, *Cucurbita pepo*, *Lagenaria siceraria*, *Luffa acutangula*, *Trichosanthes cucumerina*, *Corallocarpus epigaeus*, *Luffa cylindrica*, *Momordica charantia*, *Trichosanthes dioica*, and *Kedrostis foetidissima* (Fig. 1), are the few of the significant plants in this family that have been the subject of in-depth research (Jamuna *et al*. 2015). (Table.1).

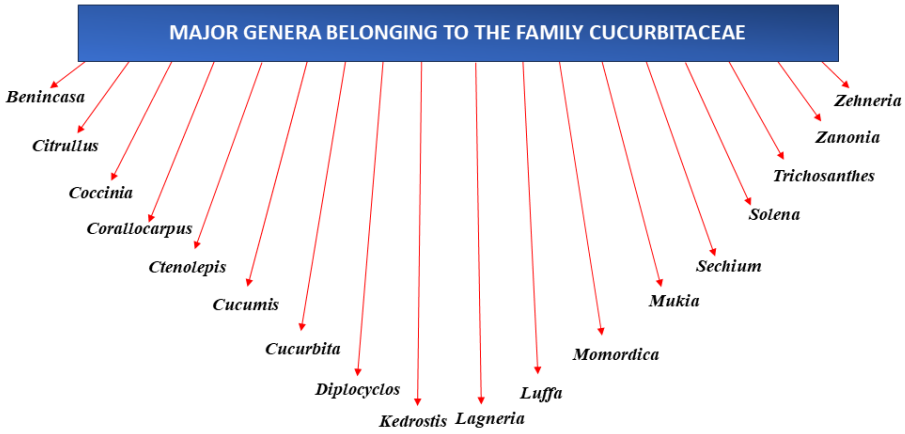

Figure 1. Major genera of the Cucurbitaceae family

The leaf extracts of *Benincasa hispida* is rich in phenolic compounds, Alkaloids, flavonoids, steroids, pectic polysaccharides, hemicellulose polysaccharides, terpenes and terpenoids, flavonoid C-glycosides, sterols, proteins, phenols, alkaloids, glycosides, tannins, saponins, hydroxybenzoic acids, flavonols, hydrocinnamic acids, and triterpenes.The seeds of *B. hispida* indicates the presence of proteins, carbohydrates, phenolic compounds, amino acids, flavonoids, sterols, glycosides, alkaloids, fixed oils and fats, steroids, and unsaturated fatty acids (Islam *et al*. 2021).Regarding the chemical composition of *B. hispida*, Wills *et al*. (1984) reported that the pulp of the fruit contains 0.5-0.9% glucose and 0.5-0.8% fructose, respectively, in mature fruits as well.

The phytochemical components of *Citrullus lanatus* seed include alkaloids, flavonoids, tannins, amino acids, carbohydrates, cardioglycosides, terpenoids, steroids, carotenoids, oils, and lipids, mainly, the metabolites such as curcumenol, curcubitacin E, citrulline, 6-gingerol, citric acid, ascorbic acid, leucine, arginine, palmitic acid, arjunolic acid, glucose, fructose, sucrose, and naringenin were present in the extract of different parts of *C. lanatus* (Varghese *et al*. 2013; Jibril *et al*. 2019). Initially, the amino acid citrulline was extracted and examined from *Citrullus lanatus* (Deshmukh *et al*. 2015). Extracts of *C. colocynthis* that were semipolar and non-polar showed the presence of the chemically varied metabolites. The methanolic extracts of *C. colocynthis* showed a lower colocynthin content in the leaves and a larger level in the fruit pulp (Gupta *et al*. 2018). Extracts of *C. colocynthis* has several components, including α-elaterin and cucurbitacins A, B, C, and D (Adam *et al*. 2001).

The bioactive substances isolated from various parts of *Coccinia grandis* encompass a diverse range of chemical groups. Methanolic leaf and aqueous fruit extracts included alkaloids, including 1-tert-Butyl-5,6,7-trimethoxyisoquinolene and luteolin (Choudhury *et al*. 2013; Kondhare & Lade 2017), whereas ethyl acetate fruit extract includes sensecionine, cathinone, camptothecin, (S)-norlaudanosoline, tracelogenin, and (6S)-hydroxyhyoscyamine (Chanda *et al*. 2020). Phytochemical screening of an ethanol extract of Coccinia grandis revealed the presence of alkaloids, reducing sugar, and saponins (Hossain *et al*. 2014).

Chloroform, methanol, and acetone extracts of *Corallocarpus epigaeus* showed positive tests for alkaloids, flavonoids, phenols, tannins, triterpenoids, and steroids; only petroleum ether and hexane extracts showed triterpenoids and steroidal components (Priyavardhini *et al*. 2012b). The preliminary phytochemical studies show the presence of carbohydrates, flavonoids, alkaloids, mucilages, proteins, and amino acids (Shri *et al*. 2010).

Many active secondary metabolites, including anthocyanin, tannins, saponins, cardiac glycosides, terpenoids, and phenols, were found to be present in *Ctenolepis garcinii*. The highest concentration of these metabolites was detected in all three extracts (methanol, benzene & chloroform extracts) (Sakunthala *et al*. 2017). The ethyl extract of *Ctenolepis garcinii*, used for the phytochemical screening, revealed the presence of components such as flavonoids, alkaloids, tannins, steroids, glycosides, carbohydrates, and phenolic compounds (Kumar *et al*. 2019).

In *Cucumis sativus*, ethanol extract of leaf and stem indicated the presence of tannins, alkaloids, glycosides, steroids, and saponins, whereas the chloroform extract contains tannins, alkaloids, glycosides, steroids, and flavonoids. Additionally, flavone glycosides such as isovitexin, saponarin, and acylated C-glycosides were present in the leaves of *C. sativus*. The presence of glycosides, steroids, flavonoids, carbohydrates, and tannins was detected in the aqueous extract of *Cucumis sativus* fruits. The water content of the fruit is high, and vitamins A and C were found (Rajasree *et al*. 2016). In *Cucumis callosus*, both alcohol and aqueous solvent extracts, the qualitative chemical analysis revealed the presence of alkaloids, proteins, carbohydrates, flavonoids, glycosides, saponins, and tannins (Tara *et al*. 2012). Polyphenols, including flavonoids and tannins, were present in *Cucumis melo* (Patel & Rauf 2017). In addition, sterols, Phenolic glycosides, saponins, and amino acids were also found in *C. melo* (Rajasree *et al*. 2016; Yuan *et al*. 2019). The cucurbitacin content of cucumbers is higher in their fruits and roots than in their seeds (Kaushik *et al*. 2015). Cucurbitacin B, D, E, I, and L have been found in *C. melo* (Ge *et al*. 2018; Xu *et al*. 2013), and Cucurbitacin A, B, C, D, E, and I were present in *C. sativus* (Luo *et al*. 2020; Dong *et al*. 2010).

Bioactive substances, including phenols, saponins, fatty acids, sterols, and carbohydrates, are naturally found in Cucurbita species (Enneb *et al*. 2020). Numerous physiologically active substances, including polysaccharides, para-aminobenzoic acid, fixed oils, sterols, proteins, and peptides, are found in *Cucurbita pepo*. The fruits were found to have a low-fat content (2.3%); therefore, pumpkin pulp would not be considered an oily source, with a high carotenoid concentration, and a low protein content (3%). Seeds and seed oil represent a rich natural source of antioxidants, vitamins, proteins, polyunsaturated fatty acids, carotenoids, tocopherols, and other beneficial compounds (Ratnam *et al*. 2017). Furthermore, qualitative phytochemical screening of both aqueous and ethanol extracts of the seed and pulp of *Cucurbita maxima* revealed the presence of alkaloids, flavonoids, phenolics, carbohydrates, tannins, saponins, terpenoids, and proteins (Muchirah *et al*. 2018). Polysaccharides, vitamins (β-carotene, vitamin A, vitamin B2, α-tocopherol, vitamin C, and vitamin E), proteins, and essential amino acids (alanine, arginine, aspartic acid, glutamic acid, histidine, leucine, isoleucine, glycine, lysine, methionine, phenylalanine, serine, threonine, valine, and tyrosine) were all present in *Cucurbita moschata* fruits. They get their orange color from a high β-carotene content. These fruits are a primary source of vitamin A and are also rich in other nutrients and carbohydrates (Chigwe & Saka 1994; Craig 1994). Numerous antioxidants and vital nutrients, including essential fatty acids (FAs), vitamins, squalene, carotenoids, tocopherols, phytoestrogens, phytosterols, polyphenols, hydrocarbons, triterpenoids, and selenium, are abundant in *C. moschata* seed oil. They have a high nutritional value, provide good-quality oil, and are an excellent source of protein (Fahim *et al*. 1995).

Bioactive metabolites were found in the fruit and leaves of *Diplocyclos palmatus*. The phytochemical evaluation of *D. palmatus* revealed the presence of primary chemical constituents, including bryonin. Additionally, other phytoconstituents, including saponins, flavonoids, phenolic acids, sugars, punicic acid, goniothalamin, and gluccomannan, were identified in the seeds (Attar & Gane 2017; Sud & Sud 2017).

According to Thenmozhi *et al*. (2014), the initial screening of *Kedrostis foetidissima* leaf extract involved the detection of alkaloids, flavonoids, steroids, tannins, phenolics, glycosides, carbohydrates, proteins, and amino acids. Based on the phytochemical examination, the alcoholic extract of *Kedrostis foetidissima* contains moderate to considerable levels of triterpenoids, alkaloids, flavonoids, volatile acids, and glycosides. Additionally, there are trace levels of hydrolyzable tannins and phylobatannins. Although the aqueous extracts lacked phenols, glycosides, hydrolyzable tannins, volatile acids, and phylobatannins, they exhibited the same characteristics. Alkaloids, flavonoids, volatile acids, phenols, tannins, glycosides, and terpenoids are all present in ethanolic extract (Raja *et al*. 2016).

Lagneria siceraria contains a variety of bioactive compounds, including triterpenoids, flavones, sterols, cucurbitacins, and various C-glycosides and glycosides. Leaf extracts of *L. siceraria* have been found to contain carbohydrates, saponins, glycosides, vitamins, choline, flavonoids, proteins, minerals, and terpenoids (Deshmukh & Sherkar 2019; Zahoor *et al*. 2021). The edible portion of the fruit contains ascorbic acid, triterpenes, minerals, choline, amino acids, vitamin B complex, triterpenoid, cucurbitacins B, D, H, G, 22-deoxy cucurbitacin, β-glycosidedase-elasterase, flavonoids, sterols, and carbohydrates (Hussein *et al*. 2021). In the fruits of *Lagneria siceraria* Lagenin, fucosterol, campesterol, the terpene byonolic acid (an allergenic molecule), and flavone-C glycosides are also present (Upaganlawar 2017). Steroidal moieties such as

isofucasterol, elesterol, avenasterol, sitosterol, campesterol, and spinasterol, as well as sugar moieties like raffinose, sucrose, fructose, glucose, and rhamnose, were identified in the seeds. Saponins were also detected. Furthermore, iron, potassium, sulfur, magnesium, and copper were found in the seed kernels (Prajapati *et al*. 2010).

Luffa acutangula contains a variety of phytochemical constituents like pipecolic acid, flavonoids, carbohydrates, lipids, protein, phytin, and amino acids (alanine, arginine, cystine, glutamic acid, glycine, hydroxyproline, leucine, serine, and tryptophan) (Schilling & Heiser 1981; Nagao *et al*. 1991; Badgujar & Patel 2008). A new N-terminal ribosome inactivating peptide, luffangulin, was identified from the seeds of Luffa species (Pal *et al*. 1968). According to the quantitative examination of *Luffa cylindrica*, the plant exhibits a significant concentration of alkaloids, flavonoids, tannins, antioxidant ORAC, terpenoids, saponins, steroids, oxylates, and phytates; however, cardiac glycosides and phenols are found to be relatively less abundant (Sola *et al*. 2021).

The phytochemical screening of ethanolic leaf extracts of *Momordica charantia* revealed the presence of alkaloids, tannins, saponins, flavonoids, and cardiac glycosides (Mada *et al*. 2013). The main phytochemicals found in the methanolic extract of the seeds of *M. charantia* include amino acids, carbohydrates, glycosides, phenolics, flavonoids, phytosterols, tannins, proteins, and alkaloids (Zahan *et al*. 2020). Phytochemical analysis of the fruit pulp of *Momordica dioica* revealed the presence of secondary metabolites: steroids and fatty acids in the hexane extract (HE) and proteins, saponin glycosides, and triterpenes in the ethyl acetate soluble portion of the methanolic extract (Iilango *et al*. 2012). Fatty acids, carbohydrates, tannins, flavonoids, sterols, saponins, and alkaloids were detected during the phytochemical screening of *M. balsamina* fruit extracts (Singh & Devi 2018). The presence of phytochemical elements such as tannins, saponins, flavonoids, steroids, terpenoids, and cardiac glycerides was revealed by a qualitative analysis of the ethanolic leaf extracts from the *Mukia maderaspatana* (Gomathya *et al*. 2012).

Phytochemical examination of the fruit (pulp and seeds) of *Sechium edule* revealed various bioactive substances such as phenolic acids, alkaloids, flavonoids, carotenoids, triterpenoids, peroxidases, as well as a number of minerals like magnesium, calcium, phosphorus, and potassium. Essential amino acids, such as leucine, arginine, phenylalanine, valine, lysine, isoleucine, threonine, and histidine, were also reported to be present in the seeds (Nagarajaiah & Prakash 2015).
Phytochemical screening of *Solena amplexicaulis* leaf extracts revealed the presence of many phytoconstituents, including sterols, protein and amino acids, carbohydrates, alkaloids, glycosides, tannins, and flavonoids (Agarwal & Jain 2018). Alkaloids, flavonoids, glycosides, saponins, and terpenoids were all present in the methanolic tuber extract of *S. amplexicaulis* (Karthika *et al*. 2014).

According to Shyamsundarachary *et al*. (2013), *Trichosanthes cucumerina* includes alkaloids, glycosides, tannins, flavonoids, phenols, and sterols that are useful in the pharmaceutical sector. Further components include water, fat, carbohydrate, fiber, iron, phosphorus, vitamin B1, vitamin B2, and niacin. The primary chemical compounds include cucurbitacins, saponins, and triterpenoids (Adebooye 2008) Several secondary metabolites of therapeutic significance, including alkaloids, flavonoids, cardiac glycosides, phenols, lignans, tannins, and sterols, were identified in *Trichosanthes cucumerina* L. var. *cucumerina* extracts using phytochemical screening (Kage *et al*. 2009). The phytochemical investigation of *Trichosanthes kirilowii* revealed the presence of terpenoids, sterols, flavonoids, saccharide derivatives, and alkaloids (Minh *et al*. 2015). Alkaloids, tannins, and flavonoids were found in the alcoholic extract of *Trichosanthes lobata* leaves, whereas polyphenolic compounds, flavonoids, tannins, and glycosides were found in the aqueous extract (Kalpana & Raju 2017). Based on the qualitative study, the aqueous root extract of *Trichosanthes dioica* contained flavonoids, alkaloids, and reducing sugars. (Khatua *et al*. 2016).

The presence of alkaloids, flavonoids, phenols, terpenoids, steroids, tannins, carbohydrates, saponins, quinones, resins, proteins, and glycosides were detected in the solvent extracts of *Zanonia indica* using qualitative phytochemical evaluation (Madhura & Shrishail 2021).

Phytochemical examination of *Zehneria scabra* methanolic leaf extract showed the presence of alkaloids, flavonoids, glycosides, terpenoids, phenols, and tannins (Shallitigo & Tesf 2022). The stem and leaf extracts of *Zehneria maysorensis* were rich in phytochemicals that have antioxidant properties, including tannins, alkaloids, phenols, and steroids. The extracts also showed high phenol and flavonoid content (Madhavan 2022). According to a previous study, fourteen chemicals, including daucosterol, benzoic acid, salicylic acid, loliolide, thymine, uracil, and others, have been obtained from *Zehneria maysorensis* (Li *et al*. 2006). (Fig. 2)

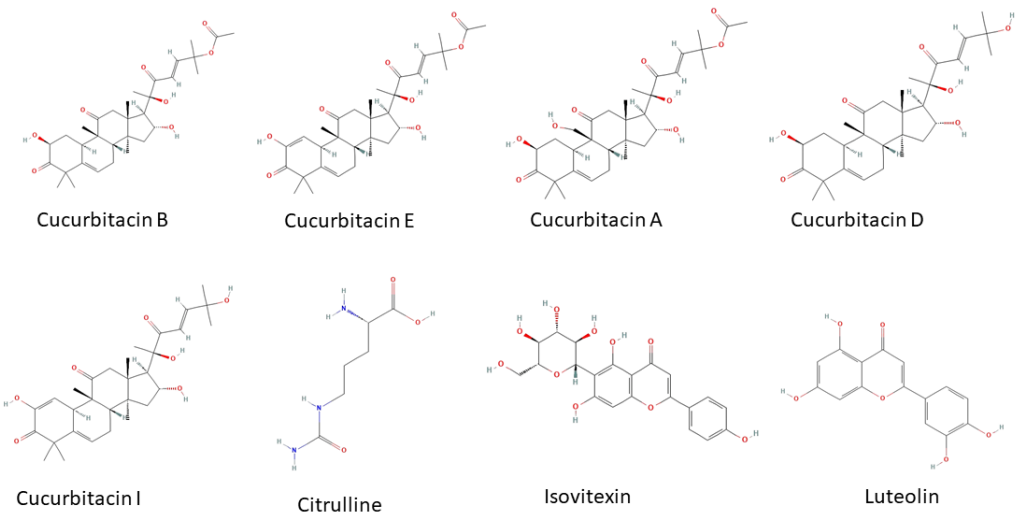

Figure 2. Chemical structures of major compounds in the Cucurbitaceae family

Pharmacological and Medicinal Properties of Cucurbitaceae

Due to the significant growth of traditional medicine practices and the increasing popularity of herbal remedies, the use of medicinal plants is expanding worldwide. In medicine, plants are used to preserve mental, emotional, and spiritual well-being (Ravichandran *et al*. 2023). It has come to light that several significant contemporary medications are derived from plants that have been used by indigenous people (Balick & Cox 2020). According to Azaizeh *et al*. (2003), nearly 80% of the world's population still relies on traditional medical treatments for a range of ailments, with this prevalence being especially pronounced in rural areas. The indigenous community continues to practice herbal therapy despite the development of modern medications. Cucurbitaceae plants are widely consumed as food, both raw and cooked, throughout the world. The significance of these edible plants in conventional medicine, such as Ayurveda and other Indian medical systems, is meticulously documented (Renner & Pandey 2013).

The pharmacological value of plant secondary metabolites continues to grow due to constant discoveries of their potential roles in health and their use as lead compounds for new drug development (Torssel 1983). Since ancient times, plants have been a primary source of pharmacologically active compounds, which humans have utilized for various medicinal purposes (Cordell 1981). Today, it is estimated that more than two-thirds of the world's population relies on plant-derived drugs; approximately 7000 medicinal compounds used in the Western pharmacopoeia are derived from plants (Coe & Anderson 1991). Several clinical and pharmacological studies on Cucurbita species and their active constituents have demonstrated the presence of numerous beneficial compounds opening new possibilities for using them as functional foods and medications for anticancer, antidiabetic, analgesic, anti-inflammatory, and cardioprotective purposes (Table.1). This potential is further strengthened by the confirmed presence of active phytochemicals in these plants (Salehi *et al*. 2019).

Table 1. Major medicinal and pharmacological activities of selected genera in the Cucurbitaceae family

Botanical Name	**Phytoconstituents**	**Medicinal uses**	**Major pharmacological properties**	**References**
Benincasa hispida	Phenolic compounds, alkaloids, flavonoids, steroids, pectic polysaccharides, hemicellulose polysaccharides, terpenes, terpenoids, C-glycosides, sterols, proteins, tannins, saponins,	Cardiovascular, blood disease, epilepsy, laxative, fever, menstrual irregularities, jaundice, and neurological conditions	Antioxidant activity, Antiulcer activity, Anthelmintic activity, Anti-inflammatory activity, Anticancer activity, Antibacterial activity, Antidiarrheal activity, Analgesic activity,	Samad *et al*. 2013 Gill *et al*. 2010 Gill *et al*. 2011 Vrushabendraswamy *et al*. 2005 Yoshizumi *et al*. 1998 Natarajan *et al*. 2003 Qadrie *et al*. 2011 Soliman *et al*. 2020

	hydroxybenzoic acids, hydrocinnamic acids proteins, carbohydrates, amino acids, fixed oils and fats, unsaturated fatty acids glucose, fructose		Antiasthmatic activity, Antimicrobial activity.	Ramesh *et al*. 1989 Fatariah *et al*. 2014 Islam *et al*. 2021 Wills *et al*. 1984
Citrullus lanatus	Alkaloids, flavonoids, tannins, carbohydrates, cardioglycosides, terpenoids, steroids, carotenoids, oils, lipids, curcumenol, curcubitacin E, citrulline, 6-gingerol, citric acid, ascorbic acid, leucine, arginine, palmitic acid, arjunolic acid, glucose, fructose, sucrose, naringenin, amino acid citrulline	Scabies, skin tanning, dropsy, renal stones, burns, swellings, rheumatism, jaundice	Analgesic activity, Anti-inflammatory activity, Antimicrobial activity, Anticancer activity, Antibacterial activity, Gastroprotective Activity, Antioxidant activity, Anti-ulcer activity, Anthelmintic activity.	Chiej 1984 Schippers & Budd 1997 Kumari *et al*. 2013 Messaoudi *et al*. 2019 Braide *et al*. 2012 Hassan *et al*. 2011 El Gizawy *et al*. 2022 Bhardwaj *et al*. 2012 Sharma *et al*. 2014 Varghese *et al*. 2013 Jibril *et al*. 2019 Deshmukh *et al*. 2015
Citrullus colocynthis	α-elaterin, cucurbitacins A, B, C, D	Boils, Pimples, Constipation, Inflammation of joints, diabetes, snake poison, stomach ache, Hepatitis	Antidiabetic activity, Anti-inflammatory activity, Antioxidant activity, Antimicrobial activity, Antihypertensive activity, Anticancer activity.	Ghauri *et al*. 2020 Rajamanickam *et al*. 2010 Hussain *et al*. 2013 Hameed *et al*. 2020 Marzouk *et al*. 2011 Iftikhar *et al*. 2023 Abdulridha *et al*. 2020 Joshi 2000 Trivedi 2006 Dafni & Lev. 2002 Adam *et al*. 2001
Coccinia grandis	Alkaloids, including 1-tert-Butyl-5,6,7-trimethoxyisoquinolone, luteolin, sensecionine, cathinone, camptothecin, (S)-norlaudanosoline, tracelogenin, and (6S)-hydroxyhyoscyamine reducing sugar, saponins	Leprosy, jaundice, asthma, bronchitis, skin eruptions, burns, tongue sores, indigestion, eye infections, nausea, insect bites, fever, diabetes	Analgesic activity, Antipyretic, Anti-inflammatory activity, Antibacterial activity, Antimicrobial activity, Antiulcer activity, Antidiabetic activity, Antioxidant activity, Hepatoprotective activity, Anticancer activity.	Niazi *et al*. 2012 Farrukh *et al*. 2012 Shaheen *et al*. 2012 Manoharan *et al*. 2012 Putra *et al*. 2012 Umamaheswari& Chatterjee 2008 Vadivu *et al*. 2012 Bhattacharya *et al*. 2012 Kirthikar & Basu 1987 Wasantwisut & Viriyapanich 2003 Choudhury *et al*. 2013 Kondhare & Lade 2017 Chanda *et al*. 2020 Hossain *et al*. 2014
Corallocarpus epigaeus	Alkaloids, flavonoids, phenols, tannins, triterpenoids, steroids	Chronic rheumatism, snake bite, asthma, dysentery, syphilitic disorders	Anticancer activity, Antioxidant activity, Antibacterial activity, Hepatoprotective activity, Anthelmintic	Priyavardhini *et al*. 2012b Jeyaseelan *et al*. 2014 Aiswarya *et al*. 2022 Ishnava & Konar 2020 Mahesh *et al*. 2012

	carbohydrates, flavonoids, alkaloids, mucilages, proteins, amino acids		activity, Analgesic activity, Anti-inflammatory activity.	Uthrapathy *et al*. 2011 Ganesan *et al*. 2007 Kottaimuthu 2008 Reddy *et al*. 2006 Swarnkar & Kaetewa 2008 Shri *et al*. 2010
Ctenolepis garcinii	Arthrocyanin, tannins, saponins, cardiac glycosides, terpenoids, phenols, flavonoids, alkaloids, steroids, glycosides, carbohydrates, phenolic compounds	Cancer, liver diseases, joint pains, control appetite, increase exercise endurance	Analgesic activity, Antiulcer activity, Antibacterial activity, Antioxidant activity, Antimicrobial activity, Anti-inflammatory activity.	Kumar *et al*. 2019 Vijayakrishnan 2012 Sakunthala *et al*. 2017 Narayanan *et al*. 2021
Cucumis sativus	Cucurbitacin A, B, C, D, E, I, tannins, alkaloids, glycosides, steroids, saponins, flavonoids. isovitexin, saponarin, acylated C-glycosides, carbohydrates, vitamins A and C	Bronchitis, asthma, eye diseases, rheumatism, dyspepsia, piles, hepatitis, diarrhea, vomiting and bowel movements, menstrual disorders	Antioxidant activity, Anti-diabetic activity, Hepatoprotective activity, Gastroprotective activity, Analgesic activity, Anti-inflammatory activity, Antimicrobial activity, Antibacterial activity, Anticancer activity.	Tuama & Mohammed 2019. Sotiroudis *et al*. 2010 Nasrin *et al*. 2015 Kumar *et al*. 2010 Jamal *et al*. 2011 Palanisamy *et al*. 2015 Pradhan *et al*. 2013 Ankita *et al*. 2012 Luo *et al*. 2020 Rajasree *et al*. 2016
Cucumis callosus	Alkaloids, proteins, carbohydrates, flavonoids, glycosides, saponins, tannins	Strong memory, to remove vertigo, astringent, constipation, piles, jaundice, diabetes mellitus	Antimicrobial activity, cardioprotective activity, Antioxidant activity, Anti-hyperlipidaemic activity, Antidiabetic activity.	Panda *et al*. 2016 Panda *et al*. 2016 Varadharajan *et al*. 2016 Rahman 2013 Patel *et al*. 2013 Ediriweera & Ratnasooriya 2009 Tara *et al*. 2012
Cucumis melo	Polyphenols, flavonoids, tannins, sterols, Phenolic glycosides, saponins, amino acids, Cucurbitacin B, D, E, I, L	Abrasions and burns, cancer, diabetes, Alzheimer's disease, cardiac failure, strokes, cataracts, aging	Anti-inflammatory activity, Anticancer activity, Antibacterial activity, Analgesic activity, Antioxidant activity, Anti-diabetic activity, Anti hypothyroidism activity, Antiulcer activity.	Wang *et al*. 2020 Vouldoukis *et al*. 2021 Wahid *et al*. 2020 Sood *et al*. 2011 Parmar & Kar 2009 Chen & Kang 2013 Burkill 1985 Liu 2003 Patel & Rauf 2017 Rajasree *et al*. 2016 Yuan *et al*. 2019 Xu *et al*. 2013
Cucurbita pepo	Polysaccharides, para-aminobenzoic acid, fixed oils, sterols, proteins, peptides vitamins, proteins, polyunsaturated fatty acids, carotenoids, tocopherols	Fatigue, thirst, purifying the blood, cold, Gastritis, burns, throat infection, eyes infections, headaches, bronchitis, fever, kidney problems	Anti-inflammatory activity, Anti-diabetic activity, Antiulcer activity, Antioxidant activity, Anticancer activity, Analgesic activity, Antimicrobial activity, Antibacterial activity, Anti-fungal activity.	Akubugwo *et al*. 2022 Thanh *et al*. 2021 Soni & Bali 2019 Tarhan *et al*. 2007 Shokrzadeh *et al*. 2010 Mohammed *et al*. 2018 Chonoko & Rufai. 2011 Kirtikar & Basu. 1987 Ratnam *et al*. 2017

Cucurbita maxima	Alkaloids, flavonoids, phenolics, carbohydrates, tannins, saponins, terpenoids, proteins	Inflammations, migraine, neuralgia burns, boils, taeniasis	Antioxidant activity, Anticancer activity, Anti-diabetic activity, Analgesic activity, Anti-inflammatory activity, Anthelmintic activity.	Muchirah *et al*. 2018 Vidhya *et al*. 2023 Wahid *et al*. 2021 Mahmoodpoor *et al*. 2018 Ayaz *et al*. 2015 Prajapti *et al*. 2006 Ambasta 1992 Agarwal & Agarwal 1991
Cucurbita moschata	Polysaccharides, carbohydrates, vitamins (β-carotene, vitamin A, vitamin B2, α-tocopherol, vitamin C, vitamin E), proteins, essential amino acids (alanine, arginine, aspartic acid, glutamic acid, histidine, leucine, isoleucine, glycine, lysine, methionine, phenylalanine, serine, threonine, valine, tyrosine, essential fatty acids (FAs), squalene, carotenoids, tocopherols, phytoestrogens, phytosterols, polyphenols, hydrocarbons, triterpenoids, selenium	Diabetes, obesity, osteoporosis, cancer, swelling, preterm birth, miscarriage	Antioxidant activity, Antidiabetic activity, Antimicrobial activity, Anti-inflammatory activity, Antiulcer activity, Analgesic activity, Antibacterial activity.	Yang *et al*. 2007 Chang *et al*. 2014 Abd El-Aziz & Abd El-Kalek 2011 Hossain *et al*. 2023 Govindani *et al*. 2012 Park *et al*. 2020 Chigwe & Saka 1994 Craig 1994 Fahim *et al*. 1995
Diplocyclos palmatus	Bryonin, saponins, flavonoids, phenolic acids, sugars, punicic acid, goniothalamin, glucomannan	Cough, paralysis, snakebite, sterility, female infertility, diabetes, rheumatic pain, asthma, skin diseases, Parkinson's, Alzheimer's diseases	Antitumor activity, Antiulcer activity, Anti-diabetic activity, Anti-oxidant activity.	Attar & Ghane 2017 Patel *et al*. 2020 Godi *et al*. 2024 Gupta *et al*. 2022 Gupta & Sharma 2010 Krishnarajua *et al*. 2005 Singh & Malviya 2006 Kadam & Bodhankar 2013 Devi *et al.* 2014 Gupta & Wagh 2014 Attar & Gane 2017 Sud & Sud 2017
Kedrostis foetidissima	Alkaloids, flavonoids, steroids, phenolics, glycosides, carbohydrates, proteins, amino acids, triterpenoids, volatile acids, hydrolyzable	Cough, cold, asthma, piles	Antifungal activity, Anticancer activity, Antibacterial activity, Antioxidant activity.	Raja *et al*. 2019 Priyavardhini *et al*. 2012a Choene& Motadi 2012 Pavithra& Saravanan 2019 Yoganarasimhan 2000 Raja *et al*. 2016

	tannins, phylobatannins			
Lagneria siceraria	Triterpenoids, sterols, cucurbitacins, various C-glycosides, glycosides, carbohydrates, saponins, vitamins, choline, flavonoids, minerals, proteins, terpenoids, ascorbic acid, amino acids, vitamin B complex, cucurbitacins B, D, H, G, 22-deoxy cucurbitacin, β-glycosidedase-elasterase, Lagenin, fucosterol, campesterol, byonolic acid, isofucasterol, elesterol, avenasterol, sitosterol, compesterol, spinasterol, sugar moieties like raffinose, sucrose, fructose, glucose, rhamnose	Jaundice, diabetes, ulcer, piles, diabetes, hypertension, congestive cardiac failure, skin diseases, baldness, heart problems, digestive disorders, urinary disorders	Antioxidant activity, Hepatoprotective activity, Analgesic activity, Antihypertensive activity, Anthelmintic activity, Anticancer activity, cardioprotective activity, Anti-inflammatory activity, Antiulcer activity, Anti-obesity activity.	Deore *et al*. 2009 Saha *et al*. 2011 Deshmukh & Sherkar 2019 Mali *et al*. 2012 Khan *et al*. 2010 Fard *et al*. 2008 Saha *et al*. 2011 Srivastava *et al*. 2021 Maqsood *et al*. 2017 Rahman 2003 Kirtikar & Basu 2005 Duke & Ayensu 1985 Deshmukh & Sherkar 2019 Zahoor *et al*. 2021 Hussein *et al*.2021 Upaganlawar 2017
Luffa acutangula	carbohydrates, lipids, protein, pipecolic acid, flavonoids, phytin, amino acids (alanine, arginine, cystine, glutamic acid, glycine, hydroxyproline, leucine, serine, tryptophan), luffangulin	Jaundice, diabetes, swollen hemorrhoids, headache, urinary bladder stone, ringworm infection, leprosy, granular conjunctivitis in children	Antidiabetic activity, Hepatoprotective activity, Antiulcer activity, Anticancer activity, Antioxidant activity, Antimicrobial activity, Antibacterial activity, Anthelmintic activity, Analgesic activity, Anti-inflammatory activity, Antiparasitic activity.	Pimple *et al*. 2011 Jadhav *et al*. 2010 Pimple *et al*. 2012 Dashora & Chauhan 2015 Iyyamperumal *et al*. 2013 Gill *et al*. 2011 Moideen & Prabha 2014 Rahman *et al*. 2014 Jaysingrao & Sunil 2013 Prabhakar & Jebanesan 2004 Kanaka *et al.* 2013 Dandge *et al.* 2010 Katewa *et al.* 2004 Mahbubar 2013 Das & Basu 1997 Samvatsar & Diwanji 2000 Schilling & Heiser 1981 Nagao *et al*. 1991 Badgujar & Patel 2008 Pal *et al*. 1968
Luffa cylindrica	Alkaloids, flavonoids, tannins, antioxidant ORAC, terpenoids, saponins, steroids,	Asthma, intestinal worms, sinusitis, chronic bronchitis,	Anti-inflammatory activity, Analgesic activity, Antibacterial activity, Antifungal	Kao *et al*. 2012 Sultana *et al*. 2014 Ahmad & Khan 2013 Du *et al*. 2006

	oxylates, phytates, cardiac glycosides, phenols	inflammation, jaundice, leprosy	activity, Antiviral activity, Anthelmintic activity, Antioxidant activity, Hepatoprotective activity, Anticancer activity, Wound healing activity, Antidiabetic activity.	Sharma *et al*. 2016 Abdel-Salam *et al*. 2019 Hazra *et al.* 2011 Abirami*et al*. 2011 Tripathi *et al*. 2016 Xu ZX *et al*. 1987 Khare 2007 Perry 1980 Khan *et al*. 2013 Sola *et al*. 2021
Momordica charantia	Alkaloids, tannins, saponins, flavonoids, cardiac glycosides, amino acids, carbohydrates, glycosides, phenolics, phytosterols, proteins,	Headache, malaria, skin complaints, tumors, wounds, rheumatism, malaria, inflammation, menstrual problems, diabetes, fevers, eczema, leprosy, contraceptive	Anti-diabetic activity, Anti-cancer activity, Anti-microbial activity, Antioxidant activity, Anti-inflammatory activity, Anthelmintic activity, Analgesic activity, Anti-viral activity, Hypoglycemic activity, Antimalarial activity, Anti-HIV activity	Ojewole *et al*. 2005 Güneş *et al*. 2019 Ullah *et al*. 2012 Vedamurthy *et al*. 2015 Gandhi *et al*. 2018 Angamuthu *et al*. 2018 Kubola & Siriamornpun 2008 Leelaprakash *et al*. 2011 Chaturvedi *et al*. 2012 Maiti *et al*. 2012 Abascal K & Yarnell 2005 Rajasree et al. 2016 Mada *et al*. 2013 Zahan *et al*. 2020
Momordica dioica	Steroids, fatty acids, proteins, saponin glycosides, triterpenes	Asthma, Leprosy, Elephantiasis, snake bite, hypertension, acne, skin problem, Bleeding piles, Jaundice, kidney stones, liver, fever, gout, eczema, Fat loss, hemorrhoids, hydrophobia, skin, leprosy, pneumonia, psoriasis, rheumatism, scabies, snakebite	Anti-inflammatory activity, Analgesic activity, Antioxidant activity, Hepatoprotective activity, Anti-inflammatory activity Antimicrobial activity, Antidiabetic activity, Anthelminthic activity, Antimalarial Activity, Antiallergic activity, Antiulcer Activity.	Ilango *et al*. 2003 Shreedhara &Vaidya 2006 Rakh *et al*. 2012 Kumar *et al*. 2022 Shrinivas *et al*. 2009 Singh *et al*. 2011 Misra *et al*. 1991 Rashmi& Negi 2022 Kirtikar & Basu 1999 Kirtikar & Basu 1981 Sharma 2004 Grover & Yadav 2004 Iilango *et al*. 2012
Momordica balsamina	Fatty acids, carbohydrates, tannins, flavonoids, sterols, saponins, alkaloids	Liver diseases, malaria, fever, stomach and intestinal complaints, skin problems, diarrhea	Anti-diarrheal activity, Anti-bacterial activity, Anti-viral activity, Anti-inflammatory activity, Anti-microbial activity, Hypoglycemic activity, Antioxidant activity, Analgesic activity, Antidiabetic activity, Anthelminthic activity,	Alqasoumi *et al*. 2009 Bhardwaj *et al*. 2010 Souda *et al*. 2018 Otimenyin *et al*. 2008 Jigam *et al*. 2004 Ampitan *et al*. 2023 Okpara *et al*. 2008 Karumi *et al*. 2008 Omokhua-Uy I & Van Staden 2020 Karumi *et al.* 2003 Thakur *et al*. 2009 Benoit-Vical *et al*. 2006 Bharathi & John 2013

			Hepatoprotective activity.	Van Wyk *et al.* 2008 Singh & Devi 2018
Mukia maderaspatana	Tannins, saponins, flavonoids, steroids, terpenoids, cardiac glycerides	Fever, dyspnoea, abdominal disorders, hepatic disorders, cough, vomiting, cough, asthma, constipation, ulcer, piles, tuberculosis	Antioxidant activity, Antimicrobial activity, Antidiabetic activity, Anticancer activity, Anti-inflammatory activity, Antihypertensive activity, Hepatoprotective activity, Anthelmintic activity, Anesthetic activity.	Parekh *et al*. 2008 Hemamalini 2007 Dhanaraj *et al*. 2012 Balaraman *et al*. 2010 Sarojini *et al*. 2008 Ramakrishnamacharya *et al*. 1996 Petrs 2012 Raja *et al*. 2007 Lavanya *et al*. 2013 Srilatha & Ananda 2014 Devi & Sathishkumar 2017 Murugesamuthaliyaar 2018 Rameshbabu *et al.* 2004 Warrier *et al.* 2006 Ved *et al.* 2002 Pandey 1994 Lather *et al.* 2011 Gomathya *et al*. 2012
Sechium edule	Phenolic acids, alkaloids, flavonoids, carotenoids, triterpenoids, peroxidases, minerals (magnesium, calcium, phosphorus, and potassium), Essential amino acids (leucine, arginine, phenylalanine, valine, lysine, isoleucine, threonine, histidine)	Asthma, bronchitis, cancer, constipation, diabetes, jaundice, vomiting and bowel movements, kidney stones, arteriosclerosis, hypertension, severe headaches, nervousness, anxiety	Antioxidant activity, Antidiabetic activity, Anti-microbial activity, Anti-ulcer activity, Anti-hypertensive activity, Hepatoprotective activity, Anti-obesity activity.	Ordonez *et al*. 2006 Ordonez *et al*. 2003 Lombardo-Earl *et al*. 2014 Sateesh *et al*. 2012 Yang *et al*. 2015 Firdous *et al*. 2012 Loizzo *et al*. 2016 Bermejo *et al*. 1994 Flick Jr *et al*. 1978 Nagarajaiah & Prakash 2015
Solena amplexicaulis	Sterols, protein, amino acids, carbohydrates, alkaloids, glycosides, tannins, flavonoids saponins, terpenoids	Hepatosplenomegaly, spermatorrhea, skin lesions, skin diseases, diabetes, jaundice., appetizer, cardiotonic, diuretic, thermogenic	Analgesic activity, Antifungal activity, Anti-bacterial activity, Anti-inflammatory activity, Antioxidant activity, Antimicrobial activity, Cytotoxic activity.	Kabir *et al*. 2014 Mondal & Kumar 2021 Arun *et al*. 2011 Chatterjee *et al*. 2018 Moorthy *et al*. 2013 Venkatachalapathi *et al*. 2013 Jamuna *et al*. 2015 Agarwal & Jain 2018 Karthika *et al*. 2014
Trichosanthes dioica	Flavonoids, alkaloids, reducing sugars.	Fever, skin infection, diabetes, wounds, improved appetite, constipation, digestion, alcoholism and jaundice, diuretic, cardiotonic, laxative	Hepatoprotective activity, Wound Healing activity, Antidiabetic activity, Cholesterol-Lowering Activity, Antioxidant activity, Anthelmintic activity, Antimicrobial activity, Antiulcer activity.	Sharmila *et al*. 2007 Shivhare *et al*. 2010a Shivhare *et al*. 2010b Rai *et al*. 2010 Fulzule *et al*. 2001 Prashant *et al*. 2010 Ghaisas *et al*. 2008 Hamdulay *et al*. 2012 Bhattacharya *et al*. 2009 Sharma *et al*. 1989 Khatua *et al*. 2016

Trichosanthes cucumerina	Alkaloids, glycosides, tannins, flavonoids, phenols, water, fat, carbohydrate, fiber, iron, phosphorus, vitamin B1, vitamin B2, niacin, cucurbitacin's, saponins, triterpenoids cardiac glycosides, lignans, sterols.	Headaches, fever, abdominal tumors, boils, acute colic diarrhea, hematuria, skin allergies, malaria, bronchitis, vermifuge, laxative	Antidiabetic activity, Antibacterial activity, Gastroprotective activity, Antioxidant activity, Antifertility activity, Anti-inflammatory activity, Analgesic activity, Anti-ulcer activity, Hepatoprotective activity.	Reddy *et al.* 2010 Liyanage *et al.* 2016 Sandhya *et al.* 2010 Arawwawala *et al*. 2009 Arawwawala *et al*. 2011 Arawwawala *et al*. 2010a Arawwawala *et al*. 2010b Gill *et al*. 2012 Kage *et al*. 2009 Devendra *et al*. 2009 Kumar *et al*. 2009 Adebooye 2008
Trichosanthes lobata	Alkaloids, flavonoids polyphenolic compounds, tannins, glycosides	Jaundice, laxative, depurative, digestive, cardiotonic	Hepato protective activity, Anti-inflammatory activity, Anthelmintic activity.	Aravindakshah & Thangavel 2020 Vaidyaratnam 1994 Rajasekaran & Periyasamy 2012 Kalpana & Raju 2017
Zehneria scabra	Alkaloids, flavonoids, glycosides, terpenoids, phenols, tannins	Skin diseases, gonorrhea, malaria, fever, constipation, diarrhea, conjunctivitis, snake bites, headache, eye infection	Antimicrobial activity, Anti-inflammatory activity, Anti-malarial activity, Wound healing activity, Antidiarrheal activity, Antisecretory activity, Antibacterial activity.	Belay & makonnen 2020 Tekleyes *et al*. 2021 Tadesse *et al*. 2014 Biekop *et al*. 2021 Nureye *et al*. 2021 Abraha *et al*. 2013 Mainen *et al*. 2012 Muthuswamy & Solomon 2009 Ermias *et al*. 2013 Jayagen *et al*. 2015 Shallitigo & Tesfa 2022

Conclusion

The present review primarily focuses on the phyto-pharmacological activities of potential medicinal plants within the Cucurbitaceae family. The current analysis concludes that all the phyto-components of the gourd family, including its potential plant parts such as leaves, seeds, stems, roots, and fruits, contain active phytoconstituents that have therapeutic uses. Curcumin, steroids, phenols, tannins, saponins, terpenoids, triterpenoids, glycosides, alkaloids, and flavonoids are among the main phytochemical components. The major phytochemical constituents include cucurbitacin, steroids, phenols, tannins, saponins, terpenoids, triterpenoids, glycosides, alkaloids, and flavonoids. The members of the family exhibit various pharmacological activities, including antioxidant, analgesic, anti-diabetic, antibacterial, hepatoprotective, anthelmintic, anti-inflammatory, anti-allergic, antimicrobial, and anticancer properties. Different parts of plants of this family are widely used by humans due to their phytochemical potentiality and eco-friendly nature for treating various diseases and ailments such as cancer, jaundice, abdominal pain, kidney stones, rheumatism, fever, liver diseases, skin ailments, treating tumors, wounds, malaria, inflammation, menstrual problems, diabetes, etc. This implies that various pharmacological and therapeutic actions are attributed to the phytochemicals found in plant components. The phytochemical and pharmacological research will enhance the greater recognition of cucurbits for novel therapeutic purposes and functional foods. Further investigations and research in this field are urgently required to comprehend the precise mode of action of distinct phytoconstituents exhibiting a range of medicinal and pharmacological properties.

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Literature cited

Abascal K, Yarnell E. 2005.Using bitter gourd to treat diabetes. Alternative & Complementary Therapies 11(4):179-184 doi: 10.1089/act.2005.11.179

Abd El-Aziz AB, Abd El-Kalek HH. 2011. Antimicrobial proteins and oil seeds from pumpkin (*Cucurbita moschata*). Nature and Science 9(3) :105-119.

Abdel-Salam IM, Awadein NES, Ashour M. 2019. Cytotoxicity of *Luffa cylindrica* L. M. Roem. extract against circulating cancer stem cells in hepatocellular carcinoma. Journal of Ethnopharmacology 229: 89-96 doi: 10.1016/j.jep.2018.09.034

Abdulridha MK, Al-Marzoqi AH, Ghasemian A. 2020. The Anticancer efficiency of *Citrullus colocynthis* toward the colorectal cancer therapy. Journal of Gastrointestinal Cancer 51: 439-444 doi: 10.1007/s12029-019-00299-6

Abirami MS, Indhumathy R, Devi GS, Kumar DS, Sudarvoli M, Nandini R. 2011. Evaluation of the wound healing and antiinflammatory activity of whole plant of *Luffa cylindrica* (Linn) in rats. Pharmacologyonline 3: 281-285.

Abraha T, Balcha A, Mirutse G. 2013. An ethnobotanical study of medicinal plants used in Kilte Awulaelo District, Tigray Region of Ethiopia. Journal of Ethnobiology and Ethnomedicine 9:65. doi: 10.1186/1746-4269-9-65

Adam SE, Al-Yahya MA, AlFarhan AH. 2001. Response of Najdi sheep to oral administration of *Citrullus colocynthis*, neriumolcander leaves or their mixtures. Small Ruminant Research 40: 239-244. doi: 10.1016/S0921-4488(01)00184-5

Adebooye OC. 2008. Phyto-constituents and anti-oxidantactivity of the pulp of snake tomato (*TrichosanthesCucumerina* L.). African Journal of Traditional, Complementary and Alternative Medicines 5(2): 173-179. doi: 10.4314/ajtcam.v5i2.31270

Agarwal VS, Agarwal DD. 1991.Fruit Drug Plants of India. Kalyani Publishers, New Delhi. India. 73-74.

Agarwal K, Jain A. 2018. Evaluation of physicochemical standardization parameters of *Solena amplexicaulis* leaf. Journal of Drug Delivery and Therapeutics 8(2): 29-31.http://dx.doi.org/10.22270/jddt.v8i2.1661

Agata R, Beata O. 2020. Vegetables from Cucurbitaceae family and their products; positive effect on human health. Nutrition 11:77-88 doi: 10.1016/j.nut.2020.110788

Ahmad B, Khan AA. 2013. Antibacterial, Antifungal and Phytotoxic activities of *Luffa cylindrica* and *Momordica charantia*. Journal of Medicinal Plant Research 7: 1593-1599.

Aiswarya SUD, Vikas G, Haritha NH, Liju VB, Shabna A, Swetha M, ... & Bava SV 2022. Cucurbitacin B, purified and characterized from the rhizome of *Corallocarpus epigaeus* exhibits anti-melanoma potential. Frontiers in Oncology 12: 903832 doi: 10.3389/fonc.2022.903832

Akubugwo EI, Emmanuel O, Ekweogu CN, Ugbogu OC, Onuorah TR, Egeduzu OG, Ugbogu EA. 2022. GC-MS analysis of the Phytochemical constituents, safety assessment, Wound healing and Anti-inflammatory activities of *Cucurbita pepo* leaf extract in rats. Scientia Pharmaceutica 90(4): 64 doi: 10.3390/scipharm90040064

Alqasoumi SI, Al-dosari MS, AlSheikh AM, Abdel-kader MS. 2009. Evaluation of the Hepatoprotective Effect of *Fumaria parviflora* and *Momordica balsamina* from Saudi Folk medicine against experimentally induced liver injury in rats. Research Journal of Medicinal Plant 3:9-15

Ambasta SP. 1992. The Useful Plants of India, Publications and Information Directorate. Council of Scientific and Industrial Research, New Delhi, 149.

Ampitan T, Garba MH, Adekambi DI, Ampitan A, Adelakun K. 2023. Prophylactic potency of methanolic extract of *Momordica balsamina* L. against avian Paramyxovirus-1 infection in broiler chickens. Egyptian Journal of Animal Production 60: 25-32. https://dx.doi.org/10.21608/ejap.2023.163641.1049

Angamuthu D, Purushothaman I, Kothandan S, Swaminathan R. 2019. Antiviral study on *Punica granatum* L., *Momordica charantia* L., *Andrographis paniculata* Nees, and *Melia azedarach* L., to human herpes virus-3. European Journal of Integrative Medicine 28: 98-108 doi: 10.1016/j.eujim.2019.04.008

Ankita S, Kaur P, Gupta R. 2012. Phytochemical screening and Antimicrobial assay of various seeds extracts of Cucurbitaceae Family. International Journal of Applied Biology & Pharmaceutical Technology 3(3): 401-409

Aravindakshah AS, Thangavel S. 2020. Analysis of bio-active compounds present in the leaves and stems of *Trichosanthes* Roxb. using GC-MS technique with respect to its Anti-infammatory actions. International Journal of Pharmacy and Pharmaceutical Sciences 13(2):7-13.https://dx.doi.org/10.22159/ijpps.2021v13i2.40236

Arawwawala LDAM, Thabrew MI., Arambewela LSR. 2010b. Gastroprotective activity of *Trichosanthes cucumerina* in rats. Journal of Ethnopharmacology 127(3): 750-754 doi: 10.1016/j.jep.2009.11.026

Arawwawala M, Thabrew I, Arambewela L. 2009. Antidiabetic activity of *Trichosanthes cucumerina* in normal and streptozotocin-induced diabetic rats. International Journal of Biological and Chemical Sciences 3(2) doi: 10.4314/ijbcs.v3i2.44504

Arawwawala M, Thabrew I, Arambewela L. 2011. In vitro and in vivo evaluation of antioxidant activity of *Trichosanthes cucumerina* aerial parts. Acta Biologica Hungarica 62(3): 235-243 doi: 10.1556/abiol.62.2011.3.3

Arawwawala M, Thabrew I, Arambewela L, Handunnetti S. 2010a. Anti-inflammatory activity of *Trichosanthes cucumerina* Linn. in rats. Journal of Ethnopharmacology 131(3): 538-543 doi: 10.1016/j.jep.2010.07.028

Arun CH, Kumar RS, Srinu S, Babu GL, Kumar GR, Babu JA. 2011. Anti-inflammatory activity of aqueous extract of leaves of *Solena amplexicaulis*. International Journal of Pharmaceutical and Bio-Medical Science 2(4): 1617-1619.

Attar UA, Ghane SG. 2017. Phytochemicals, Antioxidant activity and phenolic profiling of *Diplocyclos palmatus* (L.) C. Jeffery. International Journal of Pharmacy and Pharmaceutical Science 9(4): 1016.http://dx.doi.org/10.22159/ijpps.2017v9i4.16891

Avinash T, Rai V. 2017. An Ethanobotanical investigation of cucurbitaceae from South India: A review. Journal of Medicinal Plants Studies 5(3): 250-253.

Ayaz E, Gokbulut C, Turker A, Ceylan K. 2015. Evaluation of the Anthelmintic activity of pumpkin seeds (*Cucurbita maxima*) in mice naturally infected with *Aspiculuris tetraptera*. Journal of Pharmacognosy and Phytotherapy 7(9): 189-193 doi: 10.5897/JPP2015.0341

Azaizeh H, Fulder S, Khalil K, Said O. 2003. Ethnobotanical knowledge of local Arab practitioners in the Middle Eastern region. Fitoterapia 74(1-2): 98-108 doi: 10.1016/S0367-326X(02)00285-X

Badgujar SB, Patil MB. 2008. Estimation of the chemical constituents of *Luffa acutangula*. Natural Product Radiance 7 (1): 79-81.

Balaraman AK, Singh J, Dash S, Maity TK. 2010. Antihyperglycaemic and Hypolipaedemic effects of *Mukia maderaspatana* and *Coccinea indica* in Streptozotocin induced diabetes in rats. Saudi Pharmaceutical Journal 18(3): 173-178 doi: 10.1016/j.jsps.2010.05.009

Balick MJ, Cox PA. 2020. Plants, people, and culture: the science of ethnobotany. Garland Science.

Belay R, Makonnen E. 2020. Anti-inflammatory activities of ethanol leaves extract and solvent fractions of *Zehneria scabra* (Cucurbitaceae) in rodents. Asian Journal of Natural Product Biochemistry 18(1). doi: 10.13057/biofar/f180105

Benoit-Vical F, Grellier P, Abdoulaye A, Moussa I, Ousmane A, Berry A, Ikhiri K, Poupat C. 2006. In vitro and in vivo Antiplasmodial activity of *Momordica balsamina* alone or in a traditional mixture. Chemotherapy 52(6): 288-292. doi: 10.1159/000095960

Bermejo JE, Leon J. 1994. Neglected crops: 1492 from a different perspective, 1st edition, 1, Food and Agriculture Organization of the United Nations, Rome, Italy, 79- 84.

Bharathi LK, John KJ.2013. *Momordica* genus in Asia—an overview. Springer India, New Delhi

Bhardwaj A, Kumar R, Dabasa V, Alam N. 2012. Evaluation of Anti-ulcer activity of *Citrullus lanatus* seed extract in Wistar albino rats. International Journal of Pharmacy and Pharmaceutical Sciences 4(5): 135-139.

Bhardwaj N, Gauttam V, Kalia AN. 2010. Evaluation of Antidiabetic activity of *Momordica balsamina* Linn seeds in experimentally induced diabetes. Journal of Chemical and Pharmaceutical Research 2: 701-707.

Bhattacharya B, Lalee A, Mal DK, Samanta A.2011. In-vivo and in-vitro Anticancer activity of *Coccinia grandis* (L.) Voigt. (Family: Cucurbitaceae) on Swiss albino mice. Journal of Pharmacy Research 4(3): 567-569.

Bhattacharya S, Haldar PK, Ghosh AK. 2009. In vitro effects of *Trichosanthes dioica* leaves on annelids and nematodes. Pharmacologyonline 5: 242-248.

Biekop HM, Kouam MK, Yengeh V, Kamsu GT, Katte B, Teguia A. 2021. Antibacterial Effects of Ethanolic Extract of *Zehneria scabra* on Quails Artificially Infected with *Salmonella enteritidis*. Journal of Pharmacy and Pharmacology 9: 387-396.

Braide WOIJ, Odiong IJ, Oranusi S. 2012. Phytochemical and Antibacterial properties of the seed of watermelon (*Citrullus lanatus*). Prime Journal of Microbiology Research 2(3): 99-104.

Burkhill HM. 1985. The useful plants of west tropical Africa, vol. 1. *Families AD. Royal Botanical Gardens. Kew, England*, 266-267.

Chanda J, Mukherjee PK, Kar A, Maitra PK, Singha S, Halder PK, Gajbhiye R, Vishnuvardh R. 2020. LC-QTOF-MS-based metabolite profiling and evaluation of α- glucosidase inhibitory kinetics of *Coccinia grandis* fruit. Biomedical Chromatography 34 (12): 4950. doi: 10.1002/bmc.4950

Chang CI, Hsu CM, Li TS, Huang SD, Lin CC, Yen CH, Chou CH, Cheng HL. 2014. Constituents of the stem of *Cucurbita moschata* exhibit antidiabetic activities through multiple mechanisms. Journal of Functional Foods 10, 260-273. doi: 10.1016/j.jff.2014.06.017

Chatterjee S, Karmakar A, Azmi SA, Barik A. 2018. Antibacterial activity of long-chain primary alcohols from *Solena amplexicaulis* leaves. In Proceedings of the Zoological Society. Springer India. 71: 313-319. doi: 10.1007/s12595-017-0208-0

Chaturvedi P. 2012. Antidiabetic potentials of *Momordica charantia*: multiple mechanisms behind the effects. Journal of medicinal food 15(2): 101-107. doi: 10.1089/jmf.2010.0258

Chen L, Kang YH. 2013. In vitro inhibitory effect of oriental melon (*Cucumis melo* L. var. makuwa Makino) seed on key enzyme linked to type 2 diabetes: Assessment of Anti-diabetic potential of functional food. Journal of Functional Foods 5(2): 981-986. doi: 10.1016/j.jff.2013.01.008

Chiej R. 1984. Encyclopaedia of medicinal plants. MacDonald ISBN 0- 356-10541-5.

Chigwe CB, Saka VW.1994. Collection and Characterization of Malawi Pumpkin Germplasm. Zimbabwe Journal of Agricultural Research 32(2):139-149.

Choene M, Motadi LR. 2012. Anti-proliferative effects of the methanolic extract of *Kedrostis foetidissima* in breast cancer cell lines. Molecular Biology 1(2): 1-5. http://dx.doi.org/10.4172/mbl.1000107

Chonoko UG, Rufai AB. 2011. Phytochemical screening and antibacterial activity of *Cucurbita pepo* (Pumpkin) against *Staphylococcus aureus* and *Salmonella typhi.* Bayero Journal of Pure and Applied Sciences 4(1): 145-147. doi: 10.4314/bajopas.v4i1.30

Choudhury SN, Paul SB, De B. 2013. A bioactive alkaloid from the fruit of *Coccinia grandis*. Asian Journal of Chemistry 25 (17): 9561-9564. http://dx.doi.org/10.14233/ajchem.2013.15078

Coe FG, Anderson GJ. 1996. Screening of medicinal plants used by the Garifuna of Eastern Nicaragua for bioactive compounds. Journal of Ethnopharmacology 53(1): 29-50. doi: 10.1016/0378-8741(96)01424-9

Cordell GA. 1981. Introduction to the Alkaloids Biogenetic Approach. John Wiley and Sons Publication, New York, p 892.

Craig WJ.1994. Phytochemicals: guardians of our health. Journal of The American Dietetic Association 977:1-11.

Cui X, Lin Q, Liang Y. 2020. Plant-derived antioxidants protect the nervous system from aging by inhibiting oxidative stress. Frontiers in aging neuroscience 12: 209. doi: 10.3389/fnagi.2020.00209

Dafni A, Lev E.2002. The doctrine of signatures in present-day Israel. Economic Botany 56(4):328. 13.

Dandge S, Rothe P, Pethe A. 2010. Antimicrobial activity and pharmacognostic study of *Luffa acutangula* Roxb var *amara* on some deuteromycetes fungi. International Journal of Science Innovations and Discoveries 2: 191-196.

Das S, Basu P S. 1997. Effect of cephalexin on flowering fruit setting and development of *Luffa acutangula* Roxb. Indian journal of Plant Physiology 2(1): 18-20.

Dashora N, Chauhan L. 2015. In vitro antioxidant and in vivo Anti-tumor activity of *Luffa acutangula* against Dalton's Lymphoma Ascites (DLA) cells bearing mice. Journal of Chemical and Pharmaceutical Research 7: 940-945.

Deore SL, Khadabadi SS, Patel QR, Deshmukh SP, Jaju MS, Junghare NR, Jain RG. 2009. In vitro Antioxidant activity and quantitative estimation of phenolic content of *Lagenaria siceraria*. Rasayan Journal of chemistry 2(1): 129-132.

Deshmukh DB, Sherkar MR. 2019. Evaluation of in vivo analgesic and antiinflammatory activity of Ethanolic extract of medicinal plant- *Lagenaria siceraria*. Asian Journal of Pharmacy and Technology 9:75-8.

Deshmukh CD, Jain A, Tambe MS. 2015. Phytochemical and pharmacological profile of *Citrullus lanatus* (THUNB). Biolife 3(2): 483-488.

Devendra NK, Vijayakumar BM, Seetharam YN, Suresh P, Saraswati BP. 2009. Effect of ethanol extract of whole plant of *Trichosanthes cucumerina* L. var. *cucumerina* on Gonadotropins, Ovarian Follicular Kinetics and Estrous Cycle for Screening of Antifertility Activity in Albino Rats. International Journal of Morphology 27(1): 173-182.

Devi TS, Padmaja IJ, Harshitha C, Kalyani CS, Lakshmi N, Bhavani AKD. 2014. Anti dermatophytic activity on ethnomedical plants used by a primitive tribe "Gadabas" of Paderu. International Journal of Pharma and Bio Sciences 5: 292-9.

Devi GK, Sathishkumar K. 2017. Synthesis of gold and silver nanoparticles using *Mukia maderaspatna* plant extract and its Anticancer activity. IET nanobiotechnology 11(2): 143-151. doi: 10.1049/iet-nbt.2015.0054

Dhanaraj TS, Murugaiah K, Sarmila. 2012. Anti-ulcer activity of *Mukia maderaspatana* (L) on stress induced in rats. Asian Journal of Research Pharmacological Sciences 2(2): 52-54.

Dhimati K, Gupta A, Sharma DK, Gill NS, Goyal A. 2012. A review on the medicinally important plant of the family cucurbitaceae. Asian Journal of Clinical Nutrition 4: 16-26 doi: 10.3923/ajcn.2012.16.26

Dong Y, Lu B, Zhang X, Zhang J, Lai L, Li D, Wu Y, Song Y, Luo J, Pang X, Yi Z. 2010. Cucurbitacin E, a tetracyclic triterpenes compound from Chinese medicine, inhibits tumor angiogenesis through VEGFR2-mediated Jak2-STAT3 signaling pathway. Carcinogenesis 31: 2097-2104. doi: 10.1093/carcin/bgq167

Dr Sud K, Dr Sud S. 2017. A scientific review on shivlingi beej (*Bryonia laciniosa*): a mystical Ethno-medicine for infertility. European Journal of Biomedical and Pharmaceutical sciences 4(8): 1098-102.

Du Q, Xu Y, Li L, Zhao Y, Jerz G, Winterhalter P. 2006. Antioxidant constituents in the fruits of *Luffa cylindrica* (L.) Roem. Journal of Agricultural and Food Chemistry 54(12): 4186-4190. doi: 10.1021/jf0604790

Duke JA, Ayensu ES.1985. Medicinal Plants of China. Ed 1st, Vol. 2nd. Reference Publications, Algonac, Michigan.

Ediriweera ER, Ratnasooriya WD. 2009. A review on an herb used in treatment of Diabetes mellitus by Sri Lankan Ayurvedic and traditional physicians. AYU 30(4): 373-91.

El Gizawy HA, El-Haddad AE, Attia YM, Fahim SA, Zafer MM, Saadeldeen AM. 2022. In Vitro Cytotoxic Activity and Phytochemical Characterization (UPLC/T-TOF-MS/MS) of the Watermelon (*Citrullus lanatus*) Rind Extract. Molecules 27(8): 2480 doi: 10.3390/molecules27082480

Elnour AAM, Mirghani MES, Musa KH, Kabbashi NA, Alam MZ. 20 18. Challenges of extraction techniques of natural Antioxidants and their potential application opportunities as Anti-cancer agents. Health Science Journal 12(5): 596.

Enneb S, Drine S, Bagues M, Triki T, Boussora F, Guasmi F, Nagaz K, Ferchichi, A. 2020. Phytochemical profiles and nutritional composition of squash (*Cucurbita moschata* D.) from Tunisia. South African Journal of Botany 130: 165-171 doi: 10.1016/j.sajb.2019.12.011

Ermias L, Zemede A, Ensermu K, Patrick VD. 2013. Ethnomedicinal study of plants used for human ailments in Ankober District, North Shewa Zone, Amhara Region, Ethiopia. Journal of Ethnobiology and Ethnomedicine 9:63. doi: 10.1186/1746-4269-9-63

Fahim AT, Abd-el Fattah AA, Agha, AM.1995. Effect of pumpkin-seed oil on the level of free radical scavengers induced during adjuvant-arthritis in rats. Pharmacological Research 31:73-79. doi: 10.1016/1043-6618(95)80051-4

Fard MH, Bodhankar SL, Dikshit M. 2008. Cardioprotective activity of fruit of *Lagenaria siceraria* (Molina) Standley on Doxorubicin induced cardiotoxicity in rats. International Journal of Pharmacology 4:466-71.

Farrukh U, Shareef H, Mahmud S, Ali SA, Rizwani GH. 2008. Antibacterial activities of *Coccinia grandis* L. Pakistan Journal of Botany 40(3): 1259-1262.

Fatariah Z, Zulkhairuazha TYT, Wan Rosli WI. 2014. Quantitative HPLC analysis of gallic acid in *Benincasa hispida* prepared with different extraction techniques. SainsMalaysiana 43: 1181-1187

Firdous S, Sravanthi KA, Debnath RA, Neeraja KA. 2012. Protective effect of ethanolic extract and its ethyl acetate and n-butanol fractions of *Sechium edule* fruits against carbon tetrachloride induced hepatic injury in rats. International Journal of Pharmacy and Pharmaceutical Sciences 4(1): 354-9.

Flick Jr GJ, Burnette FS, Aung LH, Ory RL, St. Angelo AJ. 1978. Chemical composition and biochemical properties of mirlitons (*Sechium edule*) and purple, green, and white eggplants (*Solanum melongena*). Journal of Agricultural and Food Chemistry 26(5): 1000-5.

Fulzule SV, Satturwar D, Joshi SB. 2001. Studies on Anti-inflammatory activity of a polyherbal formulation- Jatydi Ghrita. Indian Drugs 39:42-4.

Gandhi PR, Jayaseelan C, Kamaraj C, Rajasree SR, Mary RR. 2018. In vitro Antimalarial activity of synthesized TiO2 nanoparticles using *Momordica charantia* leaf extract against *Plasmodium falciparum*. Journal of Applied Biomedicine 16(4): 378-386. doi: 10.1016/j.jab.2018.04.001

Ganesan S, Ramer Pandi N, Banumathy N. 2007. Ethnomedicinal survey of Alagarkoil hills (Reserved forest), Tamil Nadu, India. EJournal of Indian Medicine 1: 1-19.

Ge W, Chen X, Han F, Liu Z, Wang T, Wang M, Chen Y, Ding Y, Zhang Q. 2018. Synthesis of Cucurbitacin B Derivatives as Potential Anti-Hepatocellular Carcinoma Agents. Molecules 23: 3345. doi: 10.3390/molecules23123345

Ghaisas MM, Tanwar MB, Ninave PB, Navghare VV, Deshpande T. 2008. Hepatoprotective activity of aqueous and ethanolic extract of *T. dioica* in ferrous sulphate induced liver injury. Pharmacologyonline 3:127-35.

Ghauri AO, Ahmad S, Rehman T. 2020. In vitro and in vivo anti-diabetic activity of *Citrullus colocynthis* pulpy flesh with seeds hydro-ethanolic extract. Journal of Complementary and Integrative Medicine 17(2): 20180228.

Gill NS, Marwah N, Arora R, Bali M. 2012. Study of Antioxidant, Analgesic and Antiulcer Potential of *Trichosanthes cucumerina* Ethanolic Seeds Extract. Asian Journal of Plant Sciences. 11(5) 235-240. doi: 10.3923/ajps.2012.235.240

Gill NS, Dhiman K, Bajwa J, Sharma P, Sood S. 2010. Evaluation of free radical scavenging, Anti inflammatory and Analgesic potential of *Benincasa hispida* seed extract. International Journal of Pharmacology 6: 652−657. doi: 10.3923/ijp.2010.652.657

Gill NS, Dhiman K, Sharma P, Bajwa J, Sood S, Sharma PD, Singh B, Bali M. 2011. Evaluation of free radical scavenging and antiulcer potential of methanolic extract of *Benincasa hispida* seeds. Research Journal of Medicinal plants 5(5): 596-604.

Gill S, Arora R, Kumar R. 2011. Evaluation of Antioxidant, Anti-inflammatory and Analgesic potential of the *Luffa acutangula* Roxb. Var*. amra.* Phytochemistry 5: 201-208.

Godi S, Agrawal A, Gupta V, Patil PV. 2024. Antioxidant and Antiulcer Activity of Phytoconstituents Isolated from *Cocinnia grandis* and *Diplocyclos palmatus* Fruit. Natural Volatiles and Essential Oils Journal 11(01): 14-37.

Gomathya G, Vijayc T, Sarumathyd K, Gunasekarane S, Palanif S. 2012. Phytochemical screening and GC-MS analysis of *Mukia maderaspatana* (L.) leaves. Journal of Applied Pharmaceutical Science 2(12): 104-106. https://dx.doi.org/10.7324/JAPS.2012.21220

Govindani H, Dey A, Deb L, Rout SP, Parial SD, Jain A. 2012. Protective role of methanolic and aqueous extracts of *Cucurbita moschata* Linn. fruits in inflammation and drug induced gastric ulcer in wister rats. International Journal of Pharma Research and Technology 4: 1758-65.

Grover JK, Yadav SP. 2004. Pharmacological actions and potential uses of *Momordica charantia*: A review. Journal of Ethnopharmacology 93(1): 123-132. doi: 10.1016/j.jep.2004.03.035

Gunes H, Alper M, Celikoglu N. 2019. Anticancer effect of the fruit and seed extracts of *Momordica charantia* L. (Cucurbitaceae) on human cancer cell lines. Tropical Journal of Pharmaceutical Research 18(10): 2057-2065 doi: 10.4314/tjpr.v18i10.9

Gupta P, Wagh RD. 2014. A review on morphology, phytochemistry, pharmacology and folklore uses of *Diplocyclos palmatus* (L.) Jeffry. International Journal of Pharmacy & Life Sciences 5:3622-6

Gupta VK, Sharma SK. 2010. In vitro antioxidant activities of aqueous extract of *Ficus bangalensis* Linn Root. International Journal of Biological Chemistry 4:134-40.

Gupta P, Gupta SK, Dwivedi S. 2022. Investigation of Anti-diabetic activity of Leaves of *Trianthema porctulacastrum* Linn., *Leonotis nepetaefolia* (L.) R. Br. and *Diplocyclos palmatus* (L.) Jeffrey. Neuro Quantology 20(20): 1734.

Gupta SC, Tripathi T, Paswan SK, Agarwal AG, Rao CV, Sidhu OP. 2018. Phytochemical investigation, Antioxidant and Wound healing activities of *Citrullus colocynthis* (bitter apple). Asian Pacific Journal of Tropical Biomedicine 8(8): 418-424. doi: 10.4103/2221-1691.239430

Hamdulay N, Attaurrahaman Z, Shende V, Lawar M. 2012. Evaluation of gastric antiulcer activity of *Trichosanthes dioica* Roxb. leaves. International Journal of Pharmaceutical Sciences and Research 3(11): 4332.

Hameed B, Ali Q, Hafeez MM, Malik A. 2020. Antibacterial and antifungal activity of fruit, seed and root extracts of *Citrullus colocynthis* plant. Biological and Clinical Sciences Research Journal 33: 1-5. doi: 10.47264/bcsrj0101033

Hasler CM, Blumberg JB.1999. Symposium on Phytochemicals: Biochemistry and Physiology. Journal of Nutrition 129: 756S-757S

Hassan LEA, Sirat HM, Yagi SMA, Koko WS, Abdelwahab SI. 2011. In vitro Antimicrobial activities of chloroformic, hexane and ethanolic extracts of *Citrullus lanatus* var. *citroides* (Wild melon). Journal of Medicinal Plants Research 5(8): 1338-1344.

Hazra M, KunduSen S, Bhattacharya S, Haldar PK, Gupta M, Mazumder UK. 2011. Evaluation of Hypoglycemic and Antihyperglycemic effects of *Luffa cylindrica* fruit extract in rats. Journal of Advanced Pharmacy Education and Research 1(2):138-146.

Hemamalini K, Varma MVK. 2007. Antimicrobial activity of methanolic leaves extract of *Melothria maderaspatana*(L), Pharmaccologyonline 3: 323-326

Hossain MR, Alam R, Chung HJ, Eva TA, Kabir MF, Mamurat H, Hong ST, Hafiz MA, Hossen SM. 2023. In vivo, in vitro and in silico study of *Cucurbita moschata* flower extract: A promising source of natural Analgesic, Anti-inflammatory, and Antibacterial agents. Molecules 28(18): 6573. doi: 10.3390/molecules28186573

Hossain SA, Uddin SN, Salim MA, Haque R. 2014. Phytochemical and pharmacological screening of *Coccinia grandis* Linn. Journal of Scientific and Innovative Research 3(1): 65-71.

Hussain AI, Rathore HA, Sattar MZ, Chatha SA, uddin Ahmad F, Ahmad A, Johns EJ. 2013. Phenolic profile and Antioxidant activity of various extracts from *Citrullus colocynthis* (L.) from the Pakistani flora. Industrial Crops and Products 45: 416-422. doi: 10.1016/j.indcrop.2013.01.002

Hussein MMA, Arisha AH, Tayel EM, Abdo SA. 2021. Effect of long-term oral exposure to carmoisine or sunset yellow on different hematological parameters and hepatic apoptotic pathways in mice. Journal of Animal Health and Production 9:80- 6. doi: 10.17582/journal.jahp/2021/9.s1.80.86

Iftikhar N, Hussain AI, Fatima T, Alsuwayt B, Althaiban AK. 2023. Bioactivity-Guided Isolation and Antihypertensive Activity of *Citrullus colocynthis* Polyphenols in Rats with Genetic Model of Hypertension. Medicina 59(10):1880. doi: 10.3390/medicina59101880

Ilango K, Maharajan G, Narasimhan S. 2003. Analgesic and Anti-inflammatory Activities of *Momordica dioica* Fruit Pulp. Natural Product Sciences 9(4): 210-212.

Ilango K, Maharajan G, Narasimhan S. 2012. Preliminary Phytochemical screening and Antibacterial activity of fruit pulp of *Momordica dioica* Roxb. (Cucurbitaceae). African Journal of Basic & Applied Sciences 4(1): 12-15.

Ishnava KB, Konar PS. 2020. In vitro Anthelmintic activity and Phytochemical characterization of *Corallocarpus epigaeus* (Rottler) Hook. f. tuber from ethyl acetate extracts. Bulletin of the National Research Centre 44: 1-10. doi: 10.1186/s42269-020-00286-z

Islam MT, Quispe C, El-Kersh DM, Shill MC, Bhardwaj K, Bhardwaj P, ... & Cho WC. 2021. A literature-based update on *Benincasa hispida* (Thunb.) Cogn.: Traditional uses, nutraceutical, and phytopharmacological profiles. Oxidative Medicine and Cellular Longevity (1), 6349041. doi: 10.1155/2021/6349041

Iyyamperumal U, Periyannanc M, Ilavarasand R. 2013. Antiinflammatory and In vitro Antioxidant potential of extracts leaves of *Luffa acutangula* (var) *amara* in rodent model (rats). International Journal of Pharmacy and Pharmaceutical Sciences 5(2): 79-83.

Jadhav VB, Thakare VN, Suralkar AA, Deshpande AD, Naik SR. 2010. Hepatoprotective activity of *Luffa acutangula* against CCl4 and rifampicin induced liver toxicity in rats: A biochemical and histopathological evaluation. Indian Journal of Experimental Biology 48(8): 822.

Jamal P, Barkat AA, Amid A. 2011. Response surface optimization of the process conditions for Anti-diabetic compounds from *Cucumis sativus.* African Journal of Biotechnology 10(81): 18788-18794. doi: 10.5897/AJB11.2754

Jamuna S, Karthika K, Paulsamy S. 2015. Phytochemical and pharmacological properties of certain medicinally important species of Cucurbitaceae family-a review. Journal of Research in Biology 5(6): 1835-1849.

Jayagen B, Chennai P, Sathish Kumar, Manikandan V. 2015. Screening of antioxidants capacity and total phenolic contents in different medicinal plants. World Journal of Pharmaceutical Research 4(3):1459- 1465.

Jaysingrao J, Sunil CN. 2013. Evaluation of antimicrobial activity of *Luffa acutangula* (L.) Roxb. var. *amara* (Roxb.) Clarke. International Journal of Advanced Research 1(10): 323-326.

Jeyaseelan M, Arumugam T, Thangaraj N. 2014. Evaluation of antioxidant and antiinflammatory activities of *Corallocarpus epigaeus* (Hook. F) rhizomes. International Journal of Pharmaceutical and Biomedical Research 591: 18-24.

Jibril MM, Abdul-Hamid A, Ghazali HM, Dek MSP, Ramli NS, Jaafar AH, Mohammed AS. 2019. Antidiabetic antioxidant and phytochemical profile of yellow-fleshed seeded watermelon (*Citrullus Lanatus*) extracts. Journal of Food and Nutrition Research. 7: 82-95.

Jigam AA, Akanya HO, Adeyemi DJ. 2004. Antimicrobial and antiplasmodial effects of *Momordica balsamina.* Nigerian Journal of Natural Products and Medicine 8: 11-12. doi: 10.4314/njnpm.v8i1.11808

Joshi SG. 2000. Medicinal plants. Oxford and IBH Publishing.

Kabir MG, Rahman MM, Ahmed NU, Fakruddin M, Islam S, Mazumdar RM. 2014. Antioxidant, antimicrobial, toxicity and analgesic properties of ethanol extract of *Solena amplexicaulis* root. Biological Research 47: 1-12. doi: 10.1186/0717-6287-47-36

Kadam P, Bodhankar S. 2013. Antiarthritic activity of ethanolic seed extracts of *Diplocyclos palmatus* (L) C. Jeffrey in experimental animals. Der Pharmacia Lettre 5(3) :233-242.

Kage DN, Seetharam YN, Malashetty VB. 2009. In vitro antibacterial property and phytochemical profile of *Trichosanthes cucumerina* L. var. *cucumerina*. Advances in Natural and Applied Sciences 3(3): 438-441.

Kalpana P, Raju W. 2017. Morpho-Anatomy, Physiochemical and Phytochemical Standardization with HPTLC Fingerprinting of Aerial Parts of *Trichosanthes lobata* Roxb. International Journal of Pharmacognosy and Phytochemical Research 9(8): 1153-1158.

Kanaka R, Narasinga R, Venkateshwarlu M, Sammaiah D, Anitha U, Ugandhar T. 2013. Studies on the medicinal plant biodiversity in forest ecosystem of Mahadevpur forest of Karimnagar (A.P.) India. Bioscience Discovery 4: 82-88.

Kao TH, Huang CW, Chen BH. 2012. Functional components in *Luffa cylindrica* and their effects on anti-inflammation of macrophage cells. Food Chemistry 135(2): 386-395. doi: 10.1016/j.foodchem.2012.04.128

Karthika K, Jamuna S, Paulsamy S. 2014. TLC and HPTLC Fingerprint Profiles of Different Bioactive Components from the Tuber of *Solena amplexicaulis*. Journal of Pharmacognosy and Phytochemistry 3(1): 198-206.

Karumi Y, Onyeyili P, Ogugbuaja V. 2003. Anti-inflammatory and Antinociceptive (Analgesic) Properties of *Momordical balsamina* Linn. (Balsam Apple) Leaves in Rats. Pakistan Journal of Biological Sciences 6:1515-1518. doi: 10.3923/pjbs.2003.1515.1518

Katewa S, Chaudhary B, Jain A. 2004. Folk herbal medicines from tribal area of Rajasthan, India. Journal of Ethnopharmacology 92: 41-46.

Kaushik U, Aeri V, Mir SR. 2015. Cucurbitacins-an insight into medicinal leads from nature. Pharmacognosy Reviews 9: 12. doi: 10.4103/0973-7847.156314

Khan KW, Ahmed SW, Ahmed S. 2013. Analgesic activity of leaves, flowers and fruit peel of *Luffa cylindrica* (l.) Roem. PharmaNest 4(6): 1401-1408.

Khan MN, Hussain A, Iqbal Z, Sajid MS. 2010. Evaluation of anthelmintic activity of *Lagenaria siceraria* (Molina) Standl and *Albizia lebbeck* L. against gastrointestinal helminths of sheep. Egyptian Journal of Sheep and Goats Sciences 5(1): 1-16.

Khare CP. 2007. Indian Medicinal Plants: An illustrated dictionary, New York, NY 10013, USA, Springer Science + Business Media, LLC. 233 Spring Street: 384-385.

Khatua S, Pandey A, Biswas SJ. 2016. Phytochemical evaluation and antimicrobial properties of *Trichosanthes dioica* root extract. Journal of Pharmacognosy and Phytochemistry 5(5): 410-413.

Kirtikar KR, Basu BD. 1981. Indian Medicinal Plants. Lalit Mohan Basu, Allahabad, India. 2: 11-2.

Kirthikar KR, Basu BD. 1987. Indian Medicinal Plants. International Book Distributors, Dehradun, Edition 3: 1151-1154.

Kirtikar KR, Basu BD.1999. Indian Medicinal Plants. International Book Distributors, Dehradun.2: 1129-1135.

Kirtikar KR, Basu BD. 2005. Indian Medicinal Plants. Oriental Enterprises, International Book distributors, Dehradun, India. 1116-1117.

Kondhare D, Lade H. 2017. Phytochemical profile, aldose reductase inhibitory, and antioxidant activities of Indian traditional medicinal *Coccinia grandis* (L.) fruit extract. 3 Biotech 7(6): 378. doi: 10.1007/s13205-017-1013-1

Kottaimuthu R. 2008. Ethnobotany of the Valaiyans of Karandamalai, Dindigul District, Tamil Nadu, India. Ethnobotanical Leaflets (1): 24.

Koziol A, Stryjewska A, Librowski T, Salat K, Gawel M, Moniczewski A, Lochynski S. 2014. An overview of the pharmacological properties and potential applications of natural monoterpenes. Mini Reviews in Medicinal Chemistry 14(14): 1156-1168.

Krishnarajua AV, Rao TVN, Sundararajua D, Vanisreeb M, Tsayb H, Subbaraju GV. 2005. Assessment of bioactivity of Indian medicinal plants using Brine Shrimp (*Artemia salina*) lethality assay. International Journal of Applied Science and Engineering 3:125-34.

Kubola J, Siriamornpun S. 2008. Phenolic contents and antioxidant activities of bitter gourd (*Momordica charantia* L.) leaf, stem and fruit fraction extracts in vitro. Food Chemistry 110(4): 881-890. doi: 10.1016/j.foodchem.2008.02.076

Kumar A, Dubey A, Singh R. 2022. Investigation on Anti-Ulcer Activity of *Momordica dioica* Fruits in Wistar Rat. International Journal for Research in Applied Sciences and Biotechnology 9(1): 105-111.

Kumar CP, Prathap P, Kazmi MH, Darshanala A. 2019. Evaluation of antiulcer activity by using flower extract of *Ctenolepis garcini* in aspirin induced rats. International Journal of Research and Review 6(11): 209-213.

Kumar D, Kumar S, Singh J, Vashistha BD, Singh N. 2010. Free radical scavenging and analgesic activities of *Cucumis sativus* L. fruit extract. Journal of Young Pharmacists 2(4): 365-368.

Kumar SS, Kumar BR, Mohan GK. 2009. Hepatoprotective effect of *Trichosanthes cucumerina* Var *cucumerina* L. on carbon tetrachloride induced liver damage in rats. Journal of Ethnopharmacology 123(2): 347-350.

Kumari A, Rao J, Kumari J, Sharma N, Jain P, Dave V, Sharma S. 2013. Analgesic activity of aqueous extract of *citrullus lanatus* peels. Advances in Pharmacology and Pharmacy 1(3): 135-138.

Lather A, Gupta V, Garg S, Singh A, Sachdeva K. 2011. Pharmacological potential of the plants used in treatment of piles-A review. Journal of Natura Conscientia 2(1): 255-265.

Lavanya M, Anusha G, Seshu Lavanya R, Mary Prasanna Kumari B, Anand Kumar P, Parvathi M, Sandeep D. 2013. In-vitro comparative Study of Anthelmintic Activity of *Mukia maderaspatana* and *Sida cordata*. International Journal of Pharmaceutical and Chemical sciences 2(2): 1020-1024.

Lebeda A, Widrlechner MP, Staub J, Ezura H, Zalapa J, Krístková H. 2006. Cucurbits (Cucurbitaceae; Cucumis spp., Cucurbita spp., Citrullus spp.). Genetic resources, chromosome engineering, and crop improvement. Taylor & Francis Publishing, Boca, FL8, 271-376.

Leelaprakash G, Rose JC, Gowtham BM. 2011. In vitro antimicrobial and antioxidant activity of *Momordica charantia* leaves. Pharmacophore 2(4): 207-215.

Li H, Luo Y, He Z. 2006. Phytochemical study on *Zehneria maysorensis*. Natural Product Research and Development 18(3): 411.

Liu RH. 2003. Health benefits of fruit and vegetables are from additives and synergistic combinations of phytochemicals. American Journal of Clinical Nutrition 78:517-520.

Liyanage R, Nadeeshani H, Jayathilake C, Visvanathan R, Wimalasiri S. 2016. Comparative analysis of nutritional and bioactive properties of aerial parts of snake gourd (*Trichosanthes cucumerina* Linn.). International Journal of Food Science (1): 8501637.

Loizzo MR, Bonesi M, Menichini F, Tenuta MC, Leporini M, Tundis R. 2016. Antioxidant and carbohydrate-hydrolysing enzymes potential of *Sechium edule* (Jacq.) Swartz (Cucurbitaceae) peel leaves and pulp fresh and processed. Plants Food for Human Nutrition 71(4): 381-7.

Lombardo-Earl G, Roman-Ramos R, Zamilpa A, Herrera-Ruiz M, Rosas-Salgado G, Tortoriello J, Jiménez-Ferrer E. 2014. Extracts and fractions from edible roots of *Sechium edule* (Jacq.) Sw. with antihypertensive activity. Evidence-Based Complementary and Alternative Medicine (1): 594326.

Luo F, Li Q, Yu L, Wang C, Qi H. 2020. High concentrations of CPPU promotes cucurbitacin B accumulation in melon (*Cucumis melo* var. *makuwa Makino*) fruit by inducing transcription factor CmBt. Plant Physiology and Biochemistry 154: 770-781. doi: 10.1016/j.plaphy.2020.05.033.

Madhavan M. 2022. The total phenol, flavonoid content and antioxidant activity of *Zehneria maysorensis* stem and leaf extracts. Journal of Pharmaceutical Negative Results 13(4):1091-1095. doi: 10.47750/pnr.2022.13.04.151

Mada SB, Garba A, Mohammed HAA, Muhammad A, Olagunju A, Muhammad AB. 2013. Antimicrobial activity and phytochemical screening of aqueous and ethanol extracts of *Momordica charantia* L. leaves. Journal of Medicinal Plants Research 7(10): 579-586.

Madhura S, Shrishail HC. 2021. Qualitative and quantitative phytochemical evaluation and in vitro antimicrobial activity of *Zanonia indica* L. leaf extracts. Plant Cell Biotechnology and Molecular Biology 22: 14-26.

Mahbubar R. 2013. Ethno-medico-botanical studies on cucurbits of Rajshahi division, Bangladesh. Journal of Medicinal Plants Studies 1: 118-125.

Mahesh R, Babu VS, Narayana MSV, Naik DN, Malothu R. 2012. Hepatoprotective activity of leaves of *Corallocarpus epigaeus* in carbon tetrachloride induced rats. International Journal of Biological and Pharmaceutical Research 3(4): 567-570.

Mahmoodpoor A, Medghalchi M, Nazemiyeh H, Asgharian P, Shadvar K, Hamishehkar H. 2018. Effect of *Cucurbita maxima* on control of blood glucose in diabetic critically ill patients. Advanced Pharmaceutical Bulletin 8(2): 347.

Mainen J M, Donald F O, Anke W. 2012. Ethnomedicine of the Kagera Region, north western Tanzania. Part 3: plants used in traditional medicine in Kikuku village, Muleba District. Journal of Ethnobiology and Ethnomedicine 1-11.

Maiti R, Satya P, Rajkumar D, Ramasamy A. 2012. Crop plant anatomy. CPI Group (UK) Ltd, Croydon, CRO 4YY.

Mali VR, Mohan V, Bodhankar SL. 2012. Antihypertensive and cardioprotective effects of the *Lagenaria siceraria* fruit in N G-nitro-L-arginine methyl ester (L-NAME) induced hypertensive rats. Pharmaceutical Biology 50(11): 1428-1435.

Manoharan P, Shobana J, Upendarrao G, Thangathirupathi A. 2010. Anti-ulcer effect of *Coccinia grandis* (Linn.) on pylorus ligated (albino) rats. International Journal of Research and Development 2(5): 1-9.

Maqsood M, Ahmed D, Atique I, Malik W. 2017. Lipase inhibitory activity of *Lagenaria siceraria* fruit as a strategy to treat obesity. Asian Pacific Journal of Tropical Medicine 10: 305-10.

Marzouk B, Marzouk Z, Mastouri M, Fenina N, Aouni M. 2011. Comparative evaluation of the antimicrobial activity of *Citrullus colocynthis* immature fruit and seed organic extracts. African Journal of Biotechnology 10(11): 2130-2134.

Messaoudi S, Tebibel S, Beladjila AK, Touhami FK, Kabouche Z. 2019. Anti-hyperlipidemic, Anti-inflammatory and Antioxidant Activities of *Citrullus lanatus.* World Journal of Environmental Biosciences 8(1): 100-106.

Minh CV, Nhiem NX, Yen HT, Kiem PV, Tai BH, Le Tuan Anh H, Hien TT, Park S, Kim N, Kim SH. 2015. Chemical constituents of *Trichosanthes kirilowii* and their cytotoxic activities. Archives of Pharmacal Research 38: 1443-1448.

Misra P, Pal NL, Guru PY, Katiyar JC, Tandon JS. 1991. Antimalarial activity of traditional plants against erythrocytic stages of *Plasmodium berghei*. International Journal of Pharmacognosy 29(1): 19-23.

Mohammed H, Najem RS, Altekrity SSA. 2018. Antimicrobial and antifungal activity of pumpkin (*Cucurbita pepo*) leaves extracted by four organic solvents and water. Iraqi Journal of Veterinary Sciences 32(1): 33-39.

Mohd M, Khan TA, Mohammad F. 2012. Medicinal Plants of Rural India: A review of use of medicinal plant by Indian Folks. Indo-Global Journal of Pharmaceutical Sciences 2(3): 286-304.

Moideen R, Prabha A. 2014. Green synthesis of silver nano particles using *Luffa acutangula* roxb. var. *amara*. lin and its antibacterial activity. International Journal of Pharma and Bio Sciences 5: 1051-1061.

Mondal A, Kumar Maity T. 2021. Isolation of cytotoxic monomeric protein and morin derivatives from *Solena amplexicaulis* (Lam.) Gandhi. Natural Product Research 35(12): 2086-2089.

Moorthy KK, Subramaniam P, Senguttuvan J. 2013. In vitro antifungal activity of various extracts of leaf and stem parts of *Solena amplexicaulis* (Lam.) Gandhi. International Journal of Pharmacy and Pharmaceutical Sciences 5(3): 745-747.

Muchirah PN, Waihenya R, Muya S, Abubakar L, Ozwara H, Makokha A. 2018. Characterization and anti-oxidant activity of *Cucurbita maxima* Duchesne pulp and seed extracts. The journal of phytopharmacology 7(2): 134-140.

Mukherjee PK. 2019. Ethnopharmacology and ethnomedicine-inspired drug development. Quality Control and Evaluation of Herbal Drugs. Elsevier. 29-51.

Murugesamuthaliyaar K S. 2018.GunapadamMooligaiVaguppu- 1st part, Indian medicine and homeopathy, p462-63.

Muthuswamy R, Solomon MA. 2009. Ethanomedicinal surver of folk drugs used in Bahirdar Zuria district Northwestern Ethiopia. Indian Journal of Traditional Knowledge 8(2): 281-284.

Nagao T, Tanaka R, Iwase Y, Hanazono H, Okabe H.1991. Studies on the constituents of *Luffa acutangula* Roxb. Structures of acutosides A-G, oleanane type triterpene saponins isolated from herb. Chemical and Pharmaceutical Bulletin 39:599 doi: 10.1248/cpb.39.599

Nagarajaiah SB, Prakash J. 2015. Chemical composition and bioactive potential of dehydrated peels of *Benincasa hispida*, *Luffa acutangular*, and *Sechium edule*. Journal of Herbs, Species & Medicinal Plants 21(2): 193-202 doi: 10.1080/10496475.2014.940437

Narayanan M, Divya S, Natarajan D, Senthil-Nathan S, Kandasamy S, Chinnathambi A, Tahani AA, Pugazhendhi A. 2021. Green synthesis of silver nanoparticles from aqueous extract of *Ctenolepis garcini* L. and assess their possible biological applications. Process Biochemistry 107: 91-99 doi: 10.1016/j.procbio.2021.05.008

Nasrin F, Bulbul IJ, Aktar F, Rashid MA. 2015. Anti-inflammatory and antioxidant activities of *Cucumis sativus* leaves. Bangladesh Pharmaceutical Journal 18(2): 169-173 doi: 10.3329/bpj.v18i2.24317

Natarajan D, Lavarasan RJ, Refai MST, Ansari LT. 2003. Antimicrobial studies on methanol extract of *Benincasa hispida* cogn., fruit. Ancient Science of Life 22(3): 98-100.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 5281316, (+)-Cucurbitacin B. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Cucurbitacin-B.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 5281319, Cucurbitacin E. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Cucurbitacin-E.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 5281315, Cucurbitacin A. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Cucurbitacin-A.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 5281318, Cucurbitacin D. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Cucurbitacin-D.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 5281321, Cucurbitacin I. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Cucurbitacin-I.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 9750, Citrulline. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/2S_-2-amino-5-_carbamoylamino_pentanoic-acid.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 162350, Isovitexin. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Isovitexin.

National Center for Biotechnology Information (2025). PubChem Compound Summary for CID 5280445, Luteolin. Retrieved August 8, 2025 from https://pubchem.ncbi.nlm.nih.gov/compound/Luteolin

Niazi J, Singh P, Bansal Y, Goel RK. 2009. Anti-inflammatory, analgesic and antipyretic activity of aqueous extract of fresh leaves of *Coccinia indica*. Inflammopharmacology17: 239-244. doi: 10.1007/s10787-009-0010-3

Nureye D, Tekalign E, Fisseha N, Tesfaye T, Hammeso WW. 2021. Evaluation of antiplasmodial activity of hydroalcoholic crude extract and solvent fractions of *Zehneria scabra* roots against *Plasmodium berghei* in Swiss albino mice. Infection and Drug Resistance 2583-2596. doi: 10.2147/IDR.S314262

Ojewole JA, Adewole SO, Olayiwola G. 2005. Hypoglycaemic and hypotensive effects of *Momordica charantia* Linn (Cucurbitaceae) whole-plant aqueous extract in rats. Cardiovascular Journal of Africa 17: 227-232. https://hdl.handle.net/10520/EJC24147

Okpara JO, Salihu AA, Akanni KN, Ogbu KI, Ochai CZ. 2017.Antidiarrhoel properties of the methanolic fruit extract of *Momordica balsamina* (Linneaus). International Journal of Sciences and Applied Research 2: 17-26.

Omokhua-Uyi AG, Van Staden J. 2020. Phytomedicinal relevance of South African Cucurbitaceae species and their safety assessment: a review. Journal of Ethnopharmacology 259:112967. doi: 10.1016/j.jep.2020.112967

Ordonez AAL, Gomez JD, Vattuone MA. 2006. Antioxidant activities of *Sechium edule* (Jacq.) Swartz extracts. Food Chemistry 97(3), 452-458 doi: 10.1016/j.foodchem.2005.05.024

Ordonez AAL, Gomez JD, Cudmani NM, Vattuone MA, Isla MI. 2003. Antimicrobial activity of nine extracts of *Sechium edule* (Jacq.) Swartz. Microbial Ecology in Health and Disease 15(1): 33-39. doi: 10.1080/0891060010015583

Otimenyin SO, Uguru MO, Ogbonna A. 2008. Antimicrobial and hypoglycemic effects of *Momordica balsamina*. Linn. Journal of Natural Products 1: 3-9.

Pal S, Chakraborti SK, Banerjee A, Mukerji B. 1968. Search for anticancer drugs from Indian medicinal plants. Indian Journal of Medical Research 56: 445-455.

Palanisamy V, Shanmugam S, Balakrishnan S. 2015. Hepato protective activity of *Cucumis sativus* L. International Journal of Pharmaceutical Sciences and Research 20: 85-8.

Panda SP, Haldar PK, Das S. 2016. In vitro hypoglycemic and antimicrobial activity of *Cucumis callosus* (Rottl.) Cogn. fruit. Asian Journal of Pharmaceutical and Clinical Research 9(2): 77-81.

Panda S, Chakraborty M, Majumder P, Mazumder S, Das S, Haldar PK. 2016. Antidiabetic, antioxidant and anti-hyperlipidaemic activity of *Cucumis callosus* in streptozotocin-induced diabetic rats. International Journal of Pharmaceutical Sciences and Research 7(5): 1978.

Pandey G. 1994. Uncommon plant drugs of Ayurveda, Sri Satguru publications, New Delhi, India, p315.

Parekh J, Chanda SV. 2008. Antibacterial activity of aqueous and alcoholic extracts of 34 Indian medicinal plants against some *Staphylococcus* species. Turkish Journal of Biology 32: 63-71.

Park JY, Jo SG, Lee HN, Choi JH, Lee YJ, Kim YM, Cho JY, Lee SK, Park JH. 2020. Tendril extract of *Cucurbita moschata* suppresses NLRP3 inflammasome activation in murine macrophages and human trophoblast cells. International Journal of Medical Sciences 17(8): 1006. doi: 10.7150/IJMS.39003