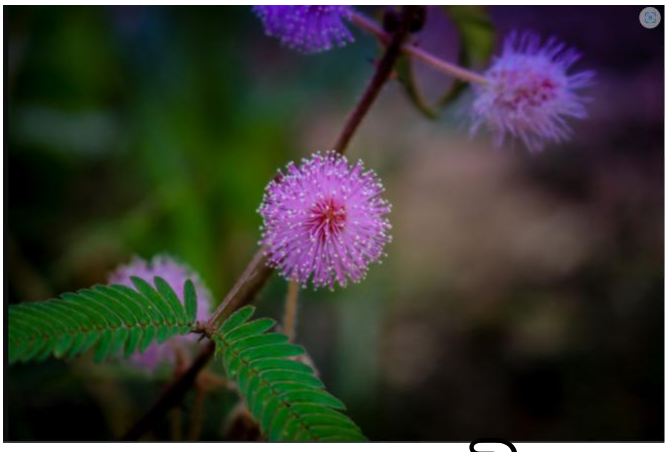
Ginger (আদা)
Scienti c name : Zingiber o cinale

Belongs to Zingiberaceae family is commonly known as ‘ginger’, which is traditionally used as a medicinal preparation in the treatment of peptic ulcers, diarrhea, allergy, smallpox, asthma, urticaria, fever, impotence, and bronchitis. Several previous studies in animal models showed that gastrointestinal ulcers were induced by hypothermic restraint stress and NSAIDs. The e ect of zingeron is protective on the arti cially induced ulcer because of its free radical quenching potentiality. Research suggested that ginger constituents ameliorate low-dose aspirin-induced gastric ulceration in the gastrointestinal tract.

Mango(আম)
Scienti c name:Mangifera indica

M. indica of the Anacardiaceae family is commonly known as the ‘mango’ tree [214]. The fruits, stem barks, heartwoods, leaves, and roots of the plant contain active constituents like triterpenoids, polyphenolics (e.g., mangiferin aglycone), sterols (e.g., mangsterol), alkaloids, saponins, tannins and avonoids (e.g., mangiferin, mangostin, 29-hydroxy mangiferonic), essential oils (e.g., nerol, elemene, linalool, humulene, ocimene), vitamin A, vitamin C, xanthophylls, and β-carotenes [214]. The leaf extract of M. indica, along with rice bran oil, is used traditionally for the treatment of ulcers. The young leaves are also capable of curing dysentery. The seed pulp, along with corn our, can control diabetes. The extracts of the leaves of the mango plant decreased the ulcer index and showed antiulcer properties to ght against in vivo aspi-rin-induced gastric ulcer [215,216]. The ripe mango juice is used to tackle heat stroke, which is a fatal life-threatening in ammatory response [217]. The extract from the bark can treat fever, cold, and vomiting



Lojjaboti(লজ্জাবতী)
Scienti c name :Mimosa pudica

M. pudica of the Fabaceae family is locally known as ‘lajjaboti’ in Bangladesh and is commonly known as ‘zombie’ or ‘shy plant’ worldwide. The leaf juice or whole plant decoction helps in treating urinary tract infection, dysentery, pain in the body or head, tooth pain, and snakebite injury . The fresh leaf and seed decoctions are e ectively used in curing intestinal ulcers traditionally . It has been shown that the metha-nolic extract of M. pudica exhibited more gastroprotective properties than chloroform extract after administrating two di erent doses (100 and 200 mg/kg) for a duration of eight days . It has enhanced gastroprotective properties because of the presence of phyto-constituents (e.g., avonoids, alkaloids, and tannins) and free radical scavenging activity . The ethanolic extract of M. pudica, at the dose of 400 mg/kg, signi cantly attenuated ulcerative colitis induced by 4% acetic acid and potentially reduced both myelop-eroxidase and malondialdehyde in rats when compared to the reference drug prednisolone

Bitter Groud(করলা)
Scienti c name :Momordica charantia

M. charantia is a climbing plant of the Cucurbitaceae family. It is often called ‘bitter gourd’ worldwide and as ‘corolla’ in Bangladesh.Powder prepared from the whole plant is locally used in treating diversi ed ulcers [218]. The local people use the unripe fruits as vegetables and cook them. The highest percentage of gastric ulcer inhibition was shown to be 62.85% in the ethanol-induced ulcer model at a dose of 100 mg/kg compared to the standard ranitidine . There was signi cant healing activity with this plant extract to treat acetic acid-induced gastric ulcers . The extract successfully reduced the ulcer index and inhibited the development of gastric ulcers in all the experimental ulcer models including indomethacin-induced, pylorus-ligated, ethanol-induced, cysteamine-induced duodenal ulcers, and stress-induced ulcer models

Indian Pennywort(Thankuni pata)
Scienti c name :Mimosa pudica

C. asiatica of the Umbelliferae family is locally known as ‘thankunipata’ in Bangladesh and as ‘Indian pennywort’ worldwide. It originates from the wetlands of Asia . The paste of the leaves of C. asiatica is locally used for ulcers and di erent gastric disorders. Traditionally, this plant has been used to treat diarrhea, rheumatism, skin diseases, syphilis, and in ammation. Several main components i.e., madecassoside, madecassic acid, asiaticoside, and asiatic acid, present in C. asiatica were extensively studied for therapeutic purposes including ulcers and in ammatory diseases. Asiaticoside (molecular formula: C48H78O19) (Figure 1), a major active constituent of C. asiatica, plays an important role in healing gastric ulcers. Asiaticoside is a glycoside compound that belongs to the triterpenoid group. Acetic acid-induced gastric ulcers in rats were reduced with a lower lesion score, minimized ulcer size, and reduced or absent leucocytes in ltration and submucosal edema, when the plant extract was administered orally. Rats pre-treated with leaf extract exhibited comparatively better protection of the gastric mucosa and had cytoprotective e ect

China Rose(joba)
Scienti c name:Hibiscus rosa-sinensis

H. rosa-sinensis (family: Malvaceae) is locally known as ‘joba’ in Bangladesh and commonly known as ‘China rose’ worldwide [200]. The root, leaf, and ower of H. rosa-sinensis contains di erent active constit-uents such as tannins, steroids, anthraquinones, essential oils, quinines, mucilage, phenols, reducing sugars, avonoids, carbohydrates, free amino acids, alkaloids, proteins, terpenoids, cardiac glycosides, and saponins [200]. Traditionally, the root of the plant is used for treating ulcers. The administration of aque-ous ower extract from this plant (250 mg/kg) revealed gastric ulcer suppressive activity against pylo-rus-ligation, aspirin-induced, and ethanol-induced ulcers in vivo and this protective activity occurred due to the presence of avonoids and tannins as free radical quenchers . Fruits are used externally to cure sprains, wounds, and ulcers .

Termeric(holud)
Scienti c name:Curcuma longa L.

C. longa L. of the Zingiberaceae family is locally known as ‘halud’ in Bangladesh and India and commonly termed as ‘turmeric’ worldwide. The rhizome and leaves of C. longa contain many active constituents such as alkaloids, phenolic compounds (e.g., iso avone, diarylheptanoids curcuminoids, diyrenphenate), alcohols, essential oils (e.g., monoterpenes, sesquiterpenes, diterpenes, and triterpenoids), ketones, ß-turmerone, α-turmerone, steroids (e.g., β-sitosterol), and aldehydes. Traditionally, this plant has been used to cure dermatitis, cancer, leprosy, hemorrhoids, in ammation, and asthma, and shows hepato-pro-tective activity. Based on its antioxidant property, curcumin (molecular formula: C21H20O6) (Figure 1), also known as diferuloylmethane, an active component of C. longa, scavenges ROS and regulates matrix metallopeptidases (MMPs) activity to induce antiulcer activity. Beside this, curcumin also exerted di erent pharmacological e ects including anti-in ammatory activity triggered by suppression of PG synthesis . It is reported that the substitution group on the methoxy position draws a vital contribution in the anti-in-ammatory e ects of curcumin. In a transgenic mice model, it was shown that phytosomal curcumin exerted strong e ects on the activation of anti-in ammatory PPARγ (peroxisome proliferator-activated receptor γ) as well as the inhibition of pro-in ammatory NF-κB, therefore, it could be used in the treat-ment of patients with chronic hepatitis B infection . The application of the paste of the rhizome is carried out on injuries, strains, and wounds externally as the primary treatment. The leaves are also used in malar-ia and jaundice treatment and during pregnancy. From the ndings of phase-I clinical trials and toxicology studies conducted by Anand et al., it was concluded that curcumin is safe and tolerated even at very high doses (12 g/day) in humans . A joint report from the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) has recommended that a high intake of curcumin at a concentration of 0-1 mg/kg body weight per day had no adverse health e ects on the human body .g

Cinnamon(daruchini)
Scienti c name:Cinnamomum cassia

C. cassia of the Lauraceae family is commonly known as ‘daruchini’ in Bangladesh and as ‘cinnamon’ world-wide. The bark of cinnamon contains di erent active constituents such as terpenoids, phenylpropanoids, glycosides, cinnamaldehyde, cinnamic acid, cinnamate, and numerous essential oils (e.g., trans-cinnamal-dehyde, cinnamyl acetate, eugenol, L-borneol), etc. The C. cassia plant is traditionally used as a spice and cures dental problems, prevents colon cancer, and acts as a coagulant to prevent bleeding [169]. It performs di erent anti-in ammatory activities.Cinnamaldehyde (molecular formula: C9H8O) (Figure 1), the most abundant phytocomponents of C. cassia, was active as an anti-in ammatory agent in gastric in ammation. This aromatic aldehyde compound inhibited IL-8 secretion/expression and the nuclear factor kappa B (NF-κB) pathway to treat Helicobacter pylori-induced gastric in ammation

Peacock Flower(krishnochura)
Scienti c name:Caesalpinia pulcherrima

C. pulcherrima of the family Fabaceae or Leguminosae is locally known as ‘krishnachura’ in Bangladesh and as ‘peacock ower’ worldwide [130]. Various medicinally active vegetative sections of this plant including young leaves, bark, fruit, seed, stem, ower, and whole plant are considered as a storehouse of di erent bioactive compounds such as sterols (e.g., β-sitosterol), avonoids (e.g., avones, iso avones, avanols chalcones, rotenoids), glycosides, organic compounds (e.g., α-phellandrene), essential oils (e.g., β-caryophyllene, γ-Terpinene), and carotenoids (e.g., lutein, zeaxanthin), etc. [130,131,132]. Traditionally, the extracts of this plant have been used to treat various diseases such as malaria, diarrhea, dysentery, fungal infections, respiratory diseases, in ammatory diseases, and microbial diseases [132]. The gastropro-tective ability of galactomannan extracted from the seeds of C. pulcherrima L. (GM- CP) was assessed in indomethacin induced acute gastritis model, which showed that GM-CP (10 mg/kg dose) decreased the severity of macroscopic lesion as well as the loss of super cial cells through ameliorating in ammatory symptoms including neutrophil in ltration, production of TNF-α, thiobarbituric acid, reactive species migration, and adhesion of mesenteric leukocytes [133]. Sharma and Rajani have assessed the anti-in am-matory and anti-ulcer e cacy of C. pulcherrima in indomethacin induced cotton pellet granuloma and both aspirin and pylorus-ligation-induced ulcer models respectively [134].in at a concentration of 0-1 mg/kg body weight per day had no adverse health e ects on the human body .g

Papaya
Scienti c name:Carica papaya

C. papaya of the Caricaceae family is commonly known as ‘papaya’ [162]. C. papaya contains diverse active constituents like enzymes (e.g., papain, chemopapain, chymopapain, peptidase, lysosome, and myrosine), proteins, fats (e.g., myristic, palmitic, stearic, and linoleic), carbohydrates (e.g., glucose, fructose, galactose, and xylitol), minerals, vitamins, volatile compounds, alkaloids (e.g., carpain, pseudocarpain, choline, and caproside), glycosides, and carotenoids [163,164]. The most common and signi cant constituent, papain, is a papaya proteinase I (cysteine protease) enzyme which has several therapeutic e ects particularly in in ammation and gastrointestinal disorders. Traditionally, the decoctions of leaves and dried owers were used as anti-anemic agents, blood puri ers, and in several diseases [164,165,166]. Fruits are used to treat impotence and ulcer. The crude latex decoction is used to treat anthelmintic, dyspepsia, burns pain, bleeding hemorrhoids, stomachic, and diarrhea [167].

Aloe vera
Scienti c name:Aloe vera (L.)

A. vera from Liliaceae is known as ‘ghritkumari’ in Bangladesh and India, and ‘Aloe vera’ worldwide [66]. The leaves, mainly, of A. vera have great medicinal importance as they have active chemical compounds such as saponins, essential amino acids (e.g., cysteine, alanin, arginine, and histidine); anthraquinones (e.g., aloetic acid, aloin A and B (or collec-tively known as barbaloin), anthracine, anthranon, emodin, etc.); enzymes (e.g., alkaline phosphotase, amylase, catalase, cellulase, cyclooxidase, and lipase); hormones (e.g., auxin and gibberllins); chromones, lignin, minerals, salicylic acid, sterols, carbohydrates (e.g., lignins and sugars); dietary bers, protein, organic acids, lipids, and vitamins [67]. For the treatment of ulcers, rural people take the inner gel layer of eshy leaves orally with water [68]. This plant has great potential for curing and preventing gastric ulcers by stimulating its anti-in ammatory and healing function and by regulating the mucus and gastric secre-tion [69]. A. vera can successfully treat various illnesses and conditions including duodenal ulcers, peptic ulcers, mouth ulcers, and sore throats [70]. A. vera, coupled with silver nanoparticles, was e ective for ulcer healing by their anti-in ammatory enhanced re-epi-thelialization as well as broblast activation e ects [71]. A. vera extract pre-treated animals (dose of 200 mg/kg bwt for ve days) had reduced signs of mucosal injury relative to untreated controls, although the incidence was not as high as in omeprazole-treated rats [72]. On the contrary, A. vera extract pre-treatment was ine ective against gastric lesion formation [73]. Furthermore, the extract of A. vera has been shown to cause dose-depen-dent amelioration in the severity, as well as incidence, of acetic acid-induced gastric lesions when used as a preventive measure in rats [74]. Aloin A and B (molecular formula: C21H22O9), collectively known as barbaloin (Figure 1), is considered one of the prominent constituents isolated from A. vera which showed potency to treat ulcers and in ammatory diseases [75]. To treat ulcerative colitis, barbaloin e ectively increases the mRNA expres-sion of IL-4 and IL-10 in tissues and simultaneously decreases the expression of IFN-γ, IL-6, IL-1β, and TNF-α [76]. Furthermore, barbaloin can prevent the ulcer-mediated myosin light chain kinase (MLCK) signaling pathway by activating the 5’ adenosine monophosphate-ac-tivated protein kinase (AMPK) signaling pathway.

Jackfruit (কাঁঠাল)
Scientific name : Artocarpus heterophyllus

heterophyllus Lam. from the Moraceae family is locally called ‘kanthal’. The leaf ash is taken orally to treat ulcers and young leaves in combination with roots are often beneficial for skin problems, respiratory diseases, and diarrhea (oral medication). The methanolic extract of A. heterophyllus at a concentration of 500 mg/kg inhibited the indomethacin-induced gastric ulceration, decreased gastric acid concentration, and increased gastric pH concentration. In another experiment, the natural phenolic compound Moracin-C (molecular formula: C19H18O4) (Figure 1) was isolated from A. heterophyllus, and has been proven to have considerable anti-inflammatory effects by blocking the release of lipopolysaccharide (LPS), activated nitric oxide (NO), and reactive oxygen species (ROS) without showing detectable cytotoxicity [106]. Moreover, the compound Moracin-C signifi-cantly decreased LPS-stimulated mRNA up-regulation and protein expression of inducible cyclooxygenase-2 (COX-2), nitric oxide synthase (iNOS), and several pro-inflammatory cytokines (e.g., IL-1, IL-6, and TNF-).

Beet (চিনি বীট)
Scientific name : Beta vulgaris

vulgaris of the Chenopodiaceae family is generally referred to as ‘beetroot’ or ‘sugar beet’, widely used as a vegetable or as a salad .The root decoction along with a small amount of vinegar is traditionally used for the treatment of ulcers and sores. The alcoholic root extract of B. vulgaris at a concentration of 200–400 mg/kg

significantly decreased the ulcer index, ulcer score, total acidity, and maintains normal mucosa in pylorus ligation and ethanol-induced ulcer in rat models. The active constituents in B. vulgaris are polyphenols, tannins, alkaloids, vitamins (e.g., C, B3, B6, B9), carotenoids, flavonoids, betacyanins, betaxanthins, betanin, and saponins, most likely have inhibitory effects on gastric mucosal injury. Betalains (molecular formula: $C_{24}H_{26}N_2O_{13}$) (Figure 1), nitrogenous water-soluble compounds, are abundant in B. vulgaris which have strong therapeutic activity against inflammatory diseases. This phenolic chromoalkaloid synthesized from the amino acid tyrosine is used as food additives due to its high solubility and lack of toxicity. Pre-treatment with petroleum ether extract of B. vulgaris L. gave significant defense against aspirin-induced gastric ulcers. The anti-ulcer effects are likely due to the existence of steroids or phenols in the extract. Moreover, there are significant anti-inflammatory properties in the aqueous extract of B. vulgaris which was also investigated against the carrageenan-induced edema in rats.

Pot marigold (গাঁদা)
Scientific name : Calendula officinalis

C. officinalis L. (family: Asteraceae) is popular with the name ‘gada ful’ to Bangladeshi people. The petals are orally administered in the treatment of stomach pain, inflammation, and ulcers. The extract of C. officinalis had both antacid property and gastroprotective capacity. Significant gastro-curative efficacy of the extract was investigated against absolute ethanol and indomethacin induced ulcerative lesion in rats. Another study also confirmed the presence of gastroprotective properties in the plant extract of C. officinalis resulting in the substantial inhibition of the ulcer development caused by chemical and physical agents with 87.15% utmost therapeutic efficiency (450 mg/kg bwt) in cold-resistant and stress-induced ulcers.

Apple of Sodom (আকন্দ)
Scientific name : Calotropis procera

C. procera of the Asclepiadaecae family is popularly termed ‘akanda’ in Bangladesh and ‘milkweed’ worldwide. The leaf, flower, flower bud, latex, root bark, and root of this plant contain different bioactive compounds such as triterpenoids, lupeol, flavonoids, flavanols, glycosides, resins, cardenolides, mudarine, anthocyanins, -amyrin, amyrin, calactin, calotropin, and -sitosterol. Bioactive compounds from C. procera show protective properties against different diseases. Traditionally, the latex is used in reducing toothache [141], in the treatment of vertigo, paralysis, hair loss, baldness, and rheumatoid/joint swellings. In addition, the leaves have therapeutic values to reduce swelling as well as to treat joint pain. The bark is used in the treatment of eczema, leprosy, and elephantiasis treatment.

Black Cumin (কালোজিরা)
Scientific name: Nigella sativa

Belongs to Ranunculaceae family known as black cumin or kalonji, which is used as a spice in many cuisine. Its seed has been used to make medicine for thousands of year. Black seed might have effects in the body that help boost the immune system, fight cancer, prevent pregnancy, reduce swelling, and lessen allergic reactions by acting as an antihistamine. People commonly use black seed for asthma, hay fever, diabetes, high blood pressure, eczema, weight loss, menstrual cramps, and many other conditions, but there is no good scientific evidence to support many of these uses. There is also no good evidence to support using black seed for COVID-19.

Tea plant (চা গাছ)
Scientific name : Camellia sinensis

C. sinensis of the Theaceae family is locally termed as ‘cha’ in Bangladesh and as ‘black tea’ worldwide. The leaves, stems, and twigs contain different active constituents like flavonoids (e.g., thearubigins, theaflavins, and catechins), vitamins amino acids, - carotene, chlorogenic acids, volatile compounds carbohydrates, phenolic acids (e.g., gallic acid, caffeic acid, and cauramic acid), proteins, lipids, and fluoride [147,148]. These components help in the treatment of different diseases with their different protective properties. This plant is traditionally used in the treatment of flatulence, digestion, vomiting, diarrhea, maintaining body temperature, blood sugar, and in the alleviation of stomach discomfort [149,150]. Heteropolysaccharides extracted from C. sinensis exerted gastroprotective properties by reducing ethanol-induced gastric lesions. Moreover, it was also found effective in gastroprotection by gastric mucus maintenance and decreased glutathione levels.

Sweet And chili pepper (মরিচ)
Scientific name : Capsicum annuum

C. annuum and C. frutescens from the Solanaceae family are known as ’chili’, ‘pepper’ or simply “capsicum” worldwide, contains different active constituents like solasonine, capsacin, acyclic diterpene glycosides, and capsidiol. The fruit is used

locally as a spice, which shows potent anti-ulcer and antioxidant properties. It also helps prevent type-2 diabetes. The fruit of C. frutescens was taken to treat gastric disorders and ulcers. At doses of 300 and 600 mg/kg body weight, the aqueous extract of the chili pepper (C. frutescens) reduced the gastric ulcer length of aspirin-induced ulcer in experimental rats, which proved the curing properties of the extract of C. frutescen. Capsaicin is the major bioactive component of these plants, exhibits anti-inflammatory characteristics. This secondary metabo-lite of Capsicum spp. is also known as capsaicinoid due to their alkaloid nature. Researchers assessed the impact of capsaicin on the mucosa of the stomach, pro-inflammatory cy-tokines (e.g., TNF- , IL-6, IL-1), and COX-2 in gastric mucosa in two experimental models. Histopathological examinations coupled with molecular studies of stomach sam-ples revealed a protective action of gastric mucosa along with a substantial reduction of pro-inflammatory cytokines as well as COX-2 in both experimental models.

Chinese cinnamon (তেজপাতা)
Scientific name : Cinnamomum cassia

C. cassia of the Lauraceae family is commonly known as ‘daruchini’ in Bangladesh and as ‘cinnamon’ worldwide. The bark of cinnamon contains different active constituents such as terpenoids, phenylpropanoids, glycosides, cinnamaldehyde, cinnamic acid, cinnamate, and numerous essential oils (e.g., trans-cinnamaldehyde, cinnamyl acetate, eugenol, L-borneol), etc. The C. cassia plant is traditionally used as a spice and cures dental problems, prevents colon cancer, and acts as a coagulant to prevent bleeding. It performs different anti-inflammatory activities. Cinnamaldehyde (molecular formula: C9H8O) (Figure 1), the most abundant phytocomponents of C. cassia, was active as an anti-inflammatory agent in gastric inflammation. This aromatic aldehyde compound inhibited IL-8 secretion/expression and the nuclear factor kappa B (NF- B) pathway to treat Helicobacter pylori-induced gastric inflammation.

Sweet wood (যষ্টিমধু)
Scientific name: Glycyrrhiza glabra

G. glabra (family: Fabaceae) has been reported to treat gastric ulcers, oral ulcers, as well as ulcerative colitis. Although the powder form of G. glabra is commonly used to treat cough, gastric pain, and vomiting tendency, however, the extract of G. glabra L also has healing properties against gastric ulcer lesion, caused by indomethacin and HCl/Ethanol, in a dose-dependent manner. It has been reported that root of G. glabra, also known as licorice or liquorice, derived compounds stimulate the mucus secretion from the stomach, expand the life span of the surface cell of the stomach, and enhance the prostaglandin level which eventually lead to ulcer healing. According to recent studies, the most important bioactive compounds in licorice are flavonoids, triterpenes, and polysaccharides. Glycyrrhizin, the major bioactive compound of G. glabra, is effective against inflammation and ulcers. This triterpenoid saponin-based compound has two isomers such as 18 -GL & 18 -GL and they have anti-fibrogenic properties. Due to the probable antioxidant effect, extracts of licorice had a healing capacity in gastrointestinal ulceration. In the early 1960s, a succinate derivative of glycerrhetinic acid called carbenoxolone was developed in London as an antiulcer drug and was used to assist in the healing of ulcers as the preferred form of licorice. It is determined that G. glabra can increase superoxide dismutase effectively as an enzymatic defense system to treat ulcerative colitis induced by acetic acid.

Bottle gourd (লাউ)
Scientific name : Lagenaria siceraria

L. siceraria of the Cucurbitaceae family is commonly known as ‘bottle gourd’. The fruits, leaves, roots, and seeds of L. siceraria contain different active constituents such as vitamin B, amino acids, and ascorbic acid (vitamin C). The leaves are cooked and taken by women as a potherb and to relieve the pain during menstruation. The syrups from the fruits are also used to treat bronchial abnormalities like pectoral cough, asthma, etc. The extract of L. siceraria has both strong anti-ulcer and antioxidant activities, though the molecular mechanisms of both anti-ulcer and anti-oxidant activities were not investigated. However, the doses of 250 and 400 mg/kg were safe as there was no indications of signs of toxicity or mortality. From another study, a dose up to 1000 mg/kg could be safe after the repeated administration of methanolic extract of L. siceraria fruit for 28 days.

Drumstick Tree (সজনে)
Scientific name : Moringa oleifera

M. oleifera of the Moringaceae family is locally known as ‘shajna’ in Bangladesh and as ‘drum-stick tree’ worldwide. This plant contains active constituents like alkaloids, beta carotene, tannins, beta sitosterol, zeatin, quercetin, flavonoids, kaempferom, protein, vitamins, minerals, amino acids, phenolic acids, natural sugars, phytosterols, saponin, and terpenoids. Quercetin, a flavonoid compound in M. oleifera, showed strong anti-inflammatory activity. The leaf of M. oleifera helps in the treatment of ulcers, indigestion, asthma, and sinus pain. The ethanolic root extract significantly decreased ulcer index, total acidity, and enhanced gastric pH at both doses of 350 and 500 mg/kg. The extract also has anti-secretory and cytoprotective potentiality.

The alcoholic leaf extract also resulted in the reduction of acid pepsin secretion and ulcer lesion. The acetone, methanol, chloroform, and petroleum ether extracts of the leaves and fruits of M. oleifera were investigated on both gastric and duodenal ulcers using acetic acid, pylorus ligation, indomethacin, ethanol, and cold-restraint stress-induced gastric ulcer and cysteamine-induced duodenal ulcer model. The methanol and acetone extract of the leaves exerted significant gastric antisecretory and gastric cytoprotective effects in pylorus-ligated rats and both ethanol- and indomethacin-induced gastric ulcers, respectively. Compared to the insignificant antiulcer effect of fruit, the leaf extract reduced both cysteamine-induced duodenal ulcers and the stress-induced gastric ulcers remarkably.

Sal tree শাল (উদ্ভিদ)
Scientific name: Shorea robusta

S. robusta of the Dipterocarpaceae family and is commonly known as ‘sal tree’ and locally known as ‘shaal’, in Bangladesh [236]. This plant contains different active constituents like mangiferonic acid, uvaol, ursolic acid, and amyrin, asiatic acid, tri, and tetrehydrox-yursenoic acid [236]. Ointments prepared from S. robusta are traditionally used in curing different ailments such as ulcers, wounds, hemorrhoids, burns, dermatitis, pain, swelling, ear problems, and eye problems. The resin or oleoresin (gum) of the plant is used in curing diarrhea, gonorrhea, and dysentery [236]. Rats received S. robusta resin at doses of 150 and 300 mg/kg for treating ethanol and pyloric ligation-induced gastric ulcer, prevented gastric mucosal damage, decreased gastric juice volume, total acidity, and pepsin secretion.

Heart-leaved moonseed (গুলঞ্চ)
Scientific name: Tinospora cordifolia

T. cordifolia (family: Menispermaceae), locally known as ‘pipolti’, is traditionally used as a treatment for gastric trouble and ulcers. Moreover, the anti-ulcer efficiency of T. cordifolia extracts was assessed in ethanol and the pylorus ligation-induced ulcer model whereas a remarkable reduction of ulcer index, gastric volume, and total acidity sup-ported the efficacy of the extract as an anti-ulcer agent. The major phytocomponents which were isolated from the T. cordifolia, sesquiterpene tinocordifolin, tinocordifolioside, sesquiterpene glycoside, arabinogalactan, tinocordiside, makisterone, magnoflorine, and palmatine could play a vital role in reducing the illness.

Myrobalan (হরিতকী)
Scientific name : Terminalia chebula

T. chebula, of the Combretaceae family, is commonly known as ‘chebulic myrobalan’. In Bangladesh and India, it is well known as ‘haritoki’ [202]. This plant contains diverse bioactive chemical compounds such as chebulic acid, sorbitol, chebulinic acid, tannic acid, chebulagic acid, lucilage, gallic acid, tannin, corilagin, fixed oils, ellagic acid, resin, flavonoids, fructose, amino acids, and sterols. T. chebula mixed with triphala and sindhu salt, is used in treating ulcers and ulcerated wounds. The fruit helps in the treatment of blood dysentery and stomachache. The maceration of the bark of T. chebula, in addition to other medicinal plants, helps in waist pain and pain in bones.

Holy Basil (তুলসী)
Scientific name: Ocimum tenuiflorum

Ocimum tenuiflorum, commonly known as holy basil or tulsi, is an aromatic perennial plant in the family Lamiaceae. Tulsi can address physical, chemical, metabolic and psychological stress through a unique combination of pharmacological actions. Tulsi has been found to protect organs and tissues against chemical stress from industrial pollutants and heavy metals, and physical stress from prolonged physical exertion, ischemia, physical restraint and exposure to cold and excessive noise. Tulsi has also been shown to counter metabolic stress through normalization of blood glucose, blood pressure and lipid levels, and psychological stress through positive effects on memory and cognitive function and through its anxiolytic and anti-depressant properties. Tulsi's broad-spectrum antimicrobial activity, which includes activity against a range of human and animal pathogens, suggests it can be used as a hand sanitizer, mouthwash and water purifier as well as in animal rearing, wound healing, the preservation of food stuffs and herbal raw materials and traveler's health.