LITERATURE REVIEW

1. Chaturvedi Aditi et al., [2009], this study evaluated the antidiabetic effects of ethanolic extract of dried seed kernel of *Eugenia jambolana* (EJE) and its comparative effect on gastric ulceration and acidpepsin secretion with standard antisecretory FL-blocker. Ranitidine and antidiabetic glibenclamide with a premise that *Eugenia jambolana* may show better ulcer healing effects by promoting defensive or reducing offensive mucosal factors in mild diabetes (MD) rats.

2. Jain et al., [1994], this study has been undertaken to elucidate the possible mechanism of action of calcium channel blockers (CCBs) such as verapamil, nifedipine and diltiazem against experimentally induced gastric ulcers. The parameters studied include volume of gastric secretion, free and total acidity, pepsin activity, ulcer index, gastric wall mucus content, dissolved mucosubstances of gastric juice such as total carbohydrates (total hexose, hexosamine, fucose and sialic acid) and protein content of gastric juice using aspirin plus pylorus ligation (PL) model. CCBs significantly increased total carbohydrates of gastric juice. These results suggest that CCBs may act through prevention of gastric mucosal damage thereby strengthening the mucosal barrier.

3. Maity and Chattopadhyay, [2008], reviewed extensive use of certain drugs, changes in lifestyles and food habits, as well as stress factors in modern human lives have led to an exponential increase in the incidence of gastric ulceration. The ideal anti-ulcer drug with less side effects and recurrence, and affordability has so far remain elusive, providing avenues for innovation, especially with phytochemicals. The review covers different classes of potent natural compounds that have impressive gastro-protective properties against various ulcerogens and are available in large quantities from the natural sources.

4. Cheterjee and Pakrashi, [1992], reviewed *Hibiscus rosa sinensis* L. is an annual or perennial herbaceous bush and has several forms with varying colors
of flowers. It is native to China and grown widely throughout India. The flowers are considered emollient, and an infusion of the petals is used as a demulcent and refrigerant drink in fevers; it's decoction is given in bronchial catarrh in India. A previous study shows that the plant possesses anti-diarrhetic, anti-phlogistic, androgenic, antitumor, antidiabetic, anticonvulsant.

5. Gilani A., et al., [2005], in this study the aqueous-ethanolic extract of the aerial parts of *Hibiscus rosasinensis* Linn. (Malvaceae) was studied for the possible presence of spasmogenic and spasmolytic constituents to rationalize its traditional use in gastrointestinal disorders. The crude extract (Hr.Cr) caused a concentration-dependent (1–10 mg/mL) spasmogenic effect in isolated guinea-pig ileum, which was blocked in the presence of atropine (0.1 μM).

6. Luiz-Ferreira et al., [2008] the crude methanolic extract (ME) obtained from the leaves of *Anacardium humile* was evaluated orally at doses of 250–500–1000 mg/kg on gastric lesion on ethanol and piroxicam induced gastric lesions in rodents. All the tested doses significantly inhibited gastric lesions by 56 to 100%. These results seems to support the traditional use of this species in the treatment of gastric diseases.

7. Jamal, et al., [2006] A crude methanolic extract (TM), essential oil (EO), petroleum ether soluble (PS) and insoluble (PI) fractions of methanolic extract, were studied in rats at doses of 100–500, 12.5–50, 12.5–150 and 450 mg/kg, respectively for their ability to inhibit the gastric lesions induced by aspirin, ethanol and pylorous ligation. In addition their effects on wall mucus and gastric acid output were recorded. All fractions (TM, EO, PS, PI) significantly inhibited gastric lesions induced by ethanol and aspirin but not those induced by pylorus ligation.

8. De Andrade et al., [2007] this study was carried out to evaluate the antiulcerogenic property of the hydroalcoholic extract of aerial parts of *Maytenus robusta*. The antiulcer assays were performed using the following
protocols: nonsteroidal anti-inflammatory drug (NSAID)-induced ulcer, ethanol-induced ulcer, and stress-induced ulcer. The effects of the extract on gastric content volume, pH and total acidity, using the pylorus ligated model, were also evaluated.

9. **Shine VJ, et al., [2009]**, this study designed to evaluate the gastric antisecretory and antiulcer activity of *Cyclea peltata*. The ethanolic extract of *Cyclea peltata* root was used to evaluate its gastric antisecretory and antiulcer effect in the pylorus-ligated rat model and gastric lesions induced by ethanol or ethanol and indomethacin respectively in rats. The levels of gastric wall mucus, non-protein sulfhydryl groups (NP-SH), malondialdehyde, protein and catalase activity in the stomach samples of *Cyclea peltata* treated and control groups of rats were also quantified.

10. **Falcao, et al., [2008]**, reported that peptic ulcer is a chronic and appalling disease. Today, it is dominant among the diseases that affect the world’s population. The principal factors causing this disease are inadequate dietetic habits, prolonged use of non-steroidal anti-inflammatory drugs, stress and infection by Helicobacter pylori, in addition to other factors of genetic origin. The authors focus on literature survey of plant extracts from the American continent that have been reported to show antiulcer activity. This review refers to 58 plants with their families, parts used, type of extract used, model bioassays and their activity.

11. **Adriana LM et al., [2002]**, Reported that extracts of leaves and fruits of Sapindus saponaria L. were orally administered to rats and the parameters of gastric secretion (volume, pH and acidity) were evaluated after pylorus ligature. The inhibitory effect of the extracts on lesions induced by stress was compared to that of cimetidine. The volume and concentration of hydrochloric acid were reduced after oral administration of the extracts. A significant reduction of the lesion index was observed in the acute assays. No significant alteration in body or organ weight was detected in animals treated orally for 30 days with the extracts. These results suggest that S. saponaria fruits have an antigastric ulcer potential.
12. Guaraldo L et al., [2001] Investigated that the hydroalcoholic extract (HE) and fractions of the stems of D. rugosa Poiret were investigated for possible anti gastric ulcer properties. These extracts were shown to protect rats from developing gastric ulcers induced by two acute models: HCl/ethanol (400 mg/kg i.p.) and immersion-restraint stress (15 and 30 mg/kg of the HE and 15 mg/kg either of the ethanol or the ethanol/water fractions, p.o.).

13. Babincová M et al., [2008] Reported that oral treatment with the water extracts of Scoparia dulcis whole aerial parts, at doses of 50, 100 and 200 mg/kg, dose dependently inhibited the indomethacin-induced gastric damages in rats.

14. Suffredini et al., [1999] Reported that the antiulcer action of the crude extract of the plant rhizome and its toxicity. The effective dose was determined through acute ulcer induction test by stress. Using a determined dose, we performed a test against ulcer through acute induction by ethanol and hydrochloric acid, using cimetidine and misoprostol as reference drugs in both tests. The same extract, its ethanol and ethanol + water (1:1) fractions and the reference drug cimetidine were tested through subchronic induction test with acetic acid. The subchronic toxicity test was performed using a dose of 800 mg/kg of the crude extract, orally administered for 30 days. Finally the extracts and fractions were analysed in order to determine the main chemical groups of substances.

15. Pascual ME et al., [2001] The present study reports the effects of the infusion of L. alba on the rat gastric mucosa. The following behavioural parameters were evaluated: (a) gastric irritancy test in Wistar rats; (b) antiulcer activity, short term and long term; (c) acid secretion; (d) measurement of total proteins; (e) estimation of total protein bound and nonprotein sulphydryl groups. Ranitidine (100 mg/kg, p.o.) was used as the reference antiulcer drug. Oral treatment with the infusion (12.5 g dry plant/kg) did not cause gastric irritancy in the rats treated during five consecutive days. In addition, the oral administration of L. alba was found to be effective at preventing gastric
ulceration induced by indomethacin (50 mg/kg, p.o.) in rats in the short term (1 day) and long term (5 days).

16. Alam S et al., [2009] The objective of the present study was to evaluate the effect of standardized methanolic extract of *Momordica charantia* L. fruits on gastric and duodenal ulcers. The effect was evaluated in acetic acid induced chronic gastric ulcer, pylorus ligation induced gastric ulcer, ethanol induced gastric ulcer, stress induced gastric ulcer, Indomethacin induced gastric ulcer and cysteamine induced duodenal ulcer model. The extract was administered orally at two different doses of 100 mg/kg and 500 mg/kg. The healing of acetic acid induced gastric ulcer was increased by both doses of the extract. In pylorus-ligated rats, the extract showed significant decrease in ulcer index, total acidity, free acidity and pepsin content and an increase in gastric mucosal content.

17. Souccar C et al., [2008] this study reports the antiulcer and antisecretory gastric acid activities of the plant aqueous extract (AE) and isolated butanolic fraction (BuF) and isolated compounds with the possible mechanism involved. Both AE and BuF were assayed on gastric acid secretion of pylorus-ligated mice, on acute models of gastric mucosal lesions, and on rabbit gastric H+, K+-ATPase preparations. Intraduodenal injection of AE or BuF (0.5–2.0 g/kg, i.d) produced a dose-related decrease of the basal gastric acid secretion in 4-h pylorus-ligated mice.

18. Rao Ch. V et al., [2004] reported the effect of 50% ethanolic extract of *Utleria salicifolia* (USE) was assessed in different acute and chronic gastric ulcer models in rats. USE, 50–200 mg/kg administered orally, twice daily for 5 days showed dose-dependent ulcer protective effect in pylorus ligation, aspirin, ethanol, cold-restraint stress, and acetic acid induced acute and chronic ulcers. The results indicate that USE possesses antiulcer activity.

19. Joseph JM et al., [2010] this study reported the antiulcer activity of the whole plants of Hedyotis puberula (G. Don) R. Br. ex Arn. Gastroprotective potential of the Hedyotis puberula methanol extract was studied on indomethacin
(IND), ethanol and pyloric ligation (PL)-induced gastric ulcer models in rats. The treatment with Hedyotis puberula extract at 400 mg/kg p.o. protected the rats against the ulceration which was comparable to the reference drug omeprazole. Pretreatment with extract protected rats from gastric lesion development by way of increased pH and decreased volume, acidity and pepsin content of gastric secretion. Furthermore, total carbohydrate: protein ratio of the gastric juice was noticeably increased in pretreated rats. Results of this study showed that Hedyotis puberula possess significant gastro protective activity and validate the folklore claim.

20. Hiruma-Lima et al., [2006] the hydroethanolic extract of the leaves (HEL) and bark (HEB) obtained from Alchornea castaneaefolia were investigated for their ability to prevent ulceration of the gastric mucosa in animal models. HEL (500 and 1000 mg/kg) and HEB (1000 mg/kg) significantly reduced the gastric injuries induced by the combination of HCl/ethanol and lowered the severity of gastric damage formation induced by indomethacin/bethanechol in mice. Further investigation showed that HEL also inhibited formation of ulcers in mice submitted to stress and pylorus ligature, but HEL did not modify gastric juice parameters in Shay mice. HEL was also effective in promoting the healing process in chronic gastric ulcer induced by acetic acid in rats.

21. Barbastefano et al., [2007] in this study Methanolic (VPME) and chloroformic (VPCL) extracts, obtained from the aerial parts of Vernonia polyanthes, were investigated for its antiulcerogenic properties. Administration of VPME (250 mg/kg) and VPCL (50 mg/kg) significantly inhibited the gastric mucosa damage (64% and 90%, respectively) caused by absolute ethanol (p.o.). Otherwise, in NSAID-induced gastric damage, their gastroprotective effects have decreased. Since the VPCL extract resulted to be more effective than the VPME we focused our efforts over VPCL action mechanism of action.

22. Mesía-Vela et al., [2007] in this study the freeze-dried aqueous extract (AE) from the aerial parts of Scoparia dulcis was tested for its effects on
experimental gastric hypersecretion and ulcer in rodents. Administration of AE to animals with 4 h pylorus ligature potently reduced the gastric secretion with ED50s of 195 mg/kg (rats) and 306 mg/kg (mice). The AE also inhibited the histamine- or bethanechol-stimulated gastric secretion in pylorus-ligated mice with similar potency suggesting inhibition of the proton pump.

23. Perera et al., [2001] reported the effects of the freeze-dried aqueous extract from red mangrove bark on gastric ulceration induced by ethanol–hydrochloric acid were studied in rats. Mucosal damage was compared with that given with cimetidine. The effects of these agents on the quantity and quality of the gastric mucus were also determined. Oral treatment with red mangrove extract at 500 mg/kg body weight (b.w.) gave the highest level of gastric protection. Mucus content was increased and it was accompanied by a proportional increase in proteins. The group, which received cimetidine, showed no effect on the mucus secretion induced in this experimental model.

24. Konan and Bacchi, [2007] the antiulcerogenic effect of a hydroethanolic extract of Anacardium occidentale L. leaves was investigated. The extract inhibited gastric lesions induced by HCl/ethanol in female rats. A dose–response effect study showed that the ED50 was 150 mg/kg b.w. Extract doses higher than 100 mg/kg b.w. were more effective than 30 mg/kg of lansoprazol in inhibiting gastric lesions. A methanolic fraction (257.12 mg/kg) which reduced gastric lesion at 88.20% is likely to contain the active principle of the antiulcer effect. No signs of acute toxicity were observed when mice were treated with extract dose up to 2000 mg/kg b.w.

25. Souza et al., [2009] this study evaluated the effects of hydroethanolic extract (HEECb) and the dichloromethanic fraction (DCMF), from Calophyllum brasiliense stem bark, against Helicobacter pylori, in vitro and in vivo. The in vitro assays were performed using the disk diffusion and broth micro dilution methods to determine the minimum inhibitory concentration (MIC) values. The test substances were evaluated in vivo taking into account the delay in the gastric ulcer healing in Wistar rats, infected with Helicobacter pylori. DCMF appeared the most active and potent in vitro against Helicobacter pylori.
growth with an MIC of 31µg/mL. In the in vivo assays, rats ulcerated by acetic acid, and inoculated with *Helicobacter pylori* showed a marked delay in ulcer healing.

26. Wahida et al., [2007] Reported oral administration of aqueous extracts of *Zizyphus lotus* root barks (50–200 mg/kg) leaves (50–200 mg/kg) and fruits (200–400 mg/kg) produced a significant (*p* < 0.01) and dose dependent inhibition to the acute ulcer induced by HCl/ethanol solution. The effect of all extracts was compared with cimetidine (100 mg/kg, 62%) and omeprazole (30 mg/kg, 93%). Volume, pH and acidity of gastric juice were studied in pylorus-ligated rats. Thus, *Zizyphus lotus* extracts act essentially as cytoprotective agents, which support the antiulcer effect of this plant in the traditional medicine.

27. Alimi et al., [2010] In this *Opuntia ficus indica f. inermis* methanolic root extract (ORE) was investigated for phenolic and flavonoids contents, in vitro evaluated for DPPH radical scavenging activity, reducing power and in vivo tested for its gastro-protective ability against 80% ethanol induced ulcer in rats. DPPH radical scavenging activity and reducing power of ORE showed an EC50 of 118.65±2.51µg/ml and 300µg/ml respectively, and prevented the depletion of antioxidant enzymes, superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx), total glutathione (GSH), and inhibited the increase of myeloperoxidase (MPO) and malondialdehyde (MDA) in rat stomach tissues when compared with ethanol group. Also pretreatament with ORE marked a dose-dependent attenuation of histopathology changes induced by ethanol.

28. Arawwawala et al., [2010] this study investigates whether *Trichosanthes cucumerina* Linn has gastroprotective activity. All the experiments were conducted using Wistar strain rats. Results show that the HWE of *Trichosanthes cucumerina* possesses significant and dose dependent gastro protective effects in the alcohol model in terms of the length and number of gastric lesions mediated by alcohol, with a maximum effect at 750 mg/kg. The same dose also mediated a significant gastro protective activity in the
indomethacine model. Increasing the protective mucus layer, decreasing the acidity of the gastric juice and antihistamine activity are probable mechanisms by which the HWE of Trichosanthes cucumerina mediates its gastroprotective actions.

29. Agrawal et al., [2010] in the current study anti-ulcer activity of its petroleum ether, alcohol and aqueous extracts of leaves were investigated using different animal models. During confirmation of the claimed anti-ulcer activity, treatment with aqueous and alcoholic extracts showed significant reduction in ulcer index, free acidity as well as total acidity in pylorus ligated rats. However, petroleum ether extract showed relatively less profound reduction in all these indices. The anti-ulcer activity observed in aqueous extract treatment group was nearly equivalent to the standard group.

30. Wang et al., [2009] in this study anti-ulcer effects were evaluated with length of lesion (mm) and activity of H+/K+-ATPase in two models induced by ethanol and Pylorus ligation. Experimental groups were administered with different doses of bisabolangelone (3.8, 7.6 and 15.3 mg/kg). The positive control group was administered omeprazole with a dose of 3.3 mg/kg. Bisabolangelone significantly reduced the length of lesion, inhibited the activity of H+/K+-ATPase, decreased the volume of gastric juice, and increased the pH value of gastric juice. Bisabolangelone is the main anti-ulcer active compound of Angelica polymorpha, and remarkably preventive and therapeutic action on gastric ulcer.

31. Kanai et al., [2007] this study investigated gastric acid secretion in response to chemical stimulation and to mechanical stimulation was investigated in adult and old mice. The protein expression of a proton pump (H+–K+-ATPase), a marker of parietal cell function, was determined by Western blotting. Gastric acid secretion, whether produced by carbachol or mechanical stimulation, did not differ between the two age groups. The decrease in the secretory capacity of acid secretion in the old mice may be partly attributable to a decrease in parietal cell function, as shown by decrease in H+–K+-ATPase protein expression.
32. Manonmani et al., [1995] reported the levels of hexosamine and sialic acid showed marked increase in ulcer while hexose and fucose did not show any change. However, on treatment with Cauvery 100 for 15 days, the hexosamine and sialic acid levels were brought back to normal. A similar result was observed in the activity of the enzyme pepsin. The hormone gastrin was increased in ulcer and was brought back to near normal levels on Cauvery 100 treatment. The tritiated thymidine uptake after 48 hrs of injection showed decreased levels in ulcer, while Cauvery 100 treatment had a similar uptake as that of the controls. From these results it is evident that Cauvery 100 is a promising antiulcer agent.

33. Goel and Sairam, [2002], The present article includes the detailed exploration of ulcer protective and healing effects of unripe plantain banana, tambrabhasma and Asparagus racemosus on various models of experimental gastroduodenal ulceration and patients with peptic ulcer. Their effects on mucin secretion, mucosal cell shedding, cell proliferation, antioxidant activity, glycoproteins, and PG synthesis have been reported.

34. Goulart et al., [2005], The antiulcer activity of a hydro-ethanolic extract prepared from the stems of Kielmeyera coriacea Mart. (Guttiferae) was evaluated in rats employing the ethanol-acid, acute stress and Indomethacin models to induce experimental gastric ulcers. Treatment with K coriacea hydro-ethanolic extract provided significant antiulcer protection in the ethanol-acid and Indomethacin models, but not in the acute stress model. These results suggested that the K coriacea hydro-ethanolic extract increased resistance to necrotizing agents, providing a direct, protective effect on the gastric mucosa.

35. Grover et al., [2003], this study investigate the effects of daily oral feeding 15% of powdered leaves of Murraya koeingii (MK) and 10% powder of seeds of Brassica juncea (BJ) for 60 days on serum glucose concentrations and kidney functions in streptozotocin (STZ; 100 mg/kg) diabetic rats. Serum glucose levels, body weight, urine volume, serum creatinine, and urinary
albumin (UAE) levels were monitored on day 0, 10, 25, 40, and 70 of the experiment.

36. Lee JS, [2006], in the study, the effect of soy protein and genistein, one of the main isoflavones in soybeans, on blood glucose, lipid profile, and antioxidant enzyme activities in streptozotocin (STZ)-induced diabetic rats was investigated. The supplementation of genistein and ISP increased the glucokinase level of the STZ-induced diabetic rats. A significant reduction in glucose-6- phosphatase was observed in the groups treated with genistein and ISP in comparison with the diabetic control group.

37. Althunibat et al., [2010], the present study investigate the antioxidant effect of P. granatum peel methanolic extract against oxidative damage in streptozotocin-induced diabetic rats. The antioxidant activity of P. granatum peel extract was investigated by examining the level of antioxidant enzymes, catalase (CAT), superoxide dismutase (SOD), glutathione peroxidase (GPx), glutathione-S-transferase (GST) and glutathione reductase (GR), the serum total antioxidant capacity and lipid peroxidation in the tissues of treated diabetic rates comparing with normal and untreated diabetic ones.

38. Ahmed [2005], this review introduces the chemistry of glycation and AGEs and examines the mechanisms by which they mediate their toxicity. Diabetes mellitus is a common endocrine disorder characterised by hyperglycaemia and predisposes to chronic complications affecting the eyes, blood vessels, nerves and kidneys. Hyperglycaemia has an important role in the pathogenesis of diabetic complications by increasing protein glycation and the gradual build-up of advanced glycation endproducts (AGEs) in body tissues.

39. Ramesh et al., [2007], this study was designed to evaluate the effect of Umbelliferone on membrane fatty acid composition and histopathology of liver and kidney of control and streptozotocin (STZ) diabetic rats. Results showed that Umbelliferone has a protective effect on membrane fatty acid composition of liver and kidney as supported by antioxidant and antihyperlipidemic effects of Umbelliferone reported earlier as evidenced by
improved histopathological changes, hepatic and nephritic markers, indicating recovery from the risk of diabetic complications.

40. **Pandit et al., [2010]**, in the present study, the antidiabetic effect of aqueous extract of Ficus religiosa bark (FRAE) was investigated in normal, glucose-loaded hyperglycemic and streptozotocin (STZ)-induced diabetic rats. Oral administration of FRAE at the doses of 25, 50 and 100 mg/kg was studied in normal, glucose-loaded and STZ-diabetic rats. The three doses caused significant reduction in blood glucose levels in all the models. FRAE also showed significant antilipid peroxidative effect in the pancreas of STZ-induced diabetic rats.

41. **Ganapathy Saravanan et al., [2009]**, in this study the antihyperglycemic effect of S-allylcysteine (SAC) on normal and streptozotocin (STZ) diabetic rats was investigated. Diabetes was induced into male albino Wistar rats by intraperitoneal administration of STZ. The SAC was administered orally (150 mg/kg bw) to normal and STZ-diabetic rats for 45 days. The diabetic rats showed an increase in levels of blood glucose. SAC administration to diabetic rats reversed these enzyme activities in a significant manner.

42. **Chandramohan et al., [2008]**, in the present study, the long-term effect of 3-HMX in type 2 diabetic rats has been investigated. An optimum dose of 3-HMX (40 mg/kg body weight) was orally administered for 45 days to streptozotocin-diabetic rats for the assessment of glucose, insulin, hemoglobin (Hb), glycated hemoglobin (HbA1c), hepatic glycogen, and activities of carbohydrate metabolizing enzymes, such as glucokinase, glucose 6-phosphatase, fructose 1,6-bisphosphatase and glucose-6-phosphate dehydrogenase and hepatic marker enzymes.

43. **Sohn et al., [2010]**, this study investigated the protective effects of Aster koraiensis extract (AKE), on the damage of renal podocytes in streptozotocin (STZ)-induced diabetic rats. AKE (100, 200 mg/kg per day) was given to diabetic rats for 13 weeks. Blood glucose, glycated haemoglobin (HbA1c), proteinuria and albuminuria were examined. Kidney histopathology, AGEs
accumulation, apoptosis, and expression of Bax and Bcl-2 also were examined. In 20-week-old STZ-induced diabetic rats, severe hyperglycemia was developed, and proteinuria and albuminuria were markedly increased.

44. **Rai V et al., [1997]**, Ocimum album (Holy basil) leaves significantly decreased the fasting and post-prandial blood glucose levels in patients with NIDDM in a randomized, placebo-controlled, crossover, single blind trial. Administration of Ocimum sanctum leaf powder to normal and diabetic rats for a period of one month resulted in a significant reduction in fasting blood sugar, uronic acid, total amino acids, total cholesterol, triglyceride, phospholipids and total lipids.

45. **Azadbakhta et al., [2010]**, The study was to assess hypoglycemic effect of aqueous fruits extract of *Diospyros lotus* L. on streptozotocin-induced diabetic rats and the possible morphologic changes in the liver, kidney and heart. Administration of different doses of *D. lotus* L (500, 750, 1000 and 1500 mg/kg) to diabetic animals caused significant decrease in glucose level, since the maximum reduction was observed in the animals group with 1000 mg/kg after 16 days post-treatment. These results suggest that the product of *D. lotus* L. may provide a new therapeutic avenue against diabetes and diabetes-related complications-a global burden.

46. **Nirmala et al., [2009]**, in the present investigation an attempt is made to study the beneficial effects of *Basella rubra* in streptozotocin-induced diabetic rats and validate its traditional claim. The diabetes-induced rats were fed with *Basella rubra* (400 mg/100 gm body weight orally through a gavage), when tested after ingestion the fasting blood glucose levels were remarkably reduced to normal and liver glycogen content was remarkably increased. In liver, the changes caused after induction of diabetes was global microvesicular steatosis. The results demonstrate that the leaf pulp of *B. rubra* possesses a strong hypoglycemic effect in streptozotocin-induced diabetic rats, thus supporting its traditional use in diabetes mellitus control.