Butea monosperma is a species of Butea native to tropical southern Asia. It is a medium sized dry season-deciduous tree, growing to 15 m tall. The leaves are pinnate, with an 8-16 cm petiole and three leaflets, each leaflet 10-20 cm long. The flowers are 2.5 cm long, bright orange-red and produced in racemes up to 15 cm long. The fruit is a pod 15-20 cm long and 4-5 cm broad.

The species of Butea monosperma found in India include Butea monosperma, B. Parviflora, B. minor and B. subperba. The species of Butea monosperma is commonly known as bark, palas, bastard teak, flame of forest and Bengal keno tree. This beautiful tree is a native of mountainous districts of India and Burma and now grows wild throughout India. All parts of the plant have been used but the bark is of particular interest from a medicinal point of view as an appetizer, lessens inflammation, biliousness, dysmenorrhoea, used in liver disorder, fractures, tumors, diabetes and ulcer. Butea monosperma has also reported as antiinfertility, antiheuristic, antianasthetic, antispermatogenic effect, antioestrogenic, anticonvulsant, antidiarhoeal and hypoglycemic activity. Flavonoids and their glycoside, nitrogenous compounds, fatty acids, sterols and triterpenoids are reported from Butea monosperma bark.

The bark was collected from valley of Narendra Nagar of Uttarakhand. The species for the proposed study was identified as Plaso monosperma (Lam.). The bark was collected by peeling method where the tree was cut at the base and bark was peeled out. First of all the bark was washed with water and dried it in sunlight for 1 h and then it was dried in shade. By the help of wood grinder the dried bark was powdered and was passed through the sieve No. 60 for powder analysis and coarse powder was used for phytochemical works.

**Antiinflammatory activity:** The extract was screened for antiinflammatory action by carrageenan induced paw edema method. Albino rats of either sex weighing 150-200 g were divided into five groups of six animals each. The first, second, third and fourth group serves as control, treated with aqueous extract (100 mg/kg), treated with aqueous extract (200 mg/kg) and treated with indomethacin (10 mg/kg), respectively. All drugs were administered orally. After 1 h of the administration of the drugs, dose 0.1 mL of 1% w/v carrageenan solution in normal saline was infected into the subplantar tissue of the left hind paw of the rat and right kind hind paw serves as the control. The volume of the mercury displaced in the plethysmograph as measured at the end of 0, 1, 2 and 4 h, The % increase in paw edema of the treated group was compared with that of the control and the inhibitory effect of the drugs as studied. The relative potency of the drugs under investigations as calculated based upon the percentage inhibition of the inflammation.

**Statistical analysis:** The experimental results were expressed as the mean ± standard error of mean (SEM) and the statistical significance was evaluated by using student’s t test. The p-values of less than 0.001 imply significance.
Table-1 clearly indicates that the aqueous extract of *Butea monosperma* bark showed anti-inflammatory effect in the carrageenan induced rat paw edema. It was found that the aqueous bark extract (200 mg/kg) showed significant activity ($p < 0.001$) at 2nd and 3rd h when compared to standard but it has been found that the dose of 200 mg/kg aqueous bark extract showed good activity as compared to dose of 100 mg/kg aqueous bark extract. Carrageenan induced paw edema was taken as a prototype of exudative phase of inflammation. The development of edema has been described as biphasic$^{11,12}$. The initial phase is attributed to the release of histamine, serotonin and kinin in the first hour. The edema maintained between the first and the second phase is due to kinin like substances. The second phase is said to be promoted by prostaglandin like substances. It has been reported that second phase edema is sensitive to the drug like hydrocortisone, phenylbutazone and indomethacin.

### REFERENCES