TABLE 2: DETERMINATION OF HEXAMINE IN HIPREX.

Assay method	Amount found[a](mg)	't'value[b]	'F'value[c]
Official method	429.97±0.729		
UV/Vis	430.68±1.326	0.8144	3.3136
Fluorimetry	429.5±1.248	0.3753	2.9211
HPLC	429.85±0.688	0.4535	1.1245

True average of hexamine moiety per tablet=428.6 mg S; [a]average of five replicates RSD (%); [b]theoretical student $t_{0.05}$ value (d.o.f=4) =2.776; [c]theoretical student F test value for five determinations=5.05.

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Antiinflammatory Activity of Various Extracts of *Celosia argentea* Linn

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Crude ethanol extract of *Celosia argentea* leaves was successively fractionated with petroleum ether, solvent ether, ethyl acetate, butanol and butanone. The ethanolic extract and various fractions were investigated for antiinflammatory activity in rats at a dose of 100 mg/kg i.p. The ethanolic extract exhibited antiinflammatory activity when compared to control and was comparable to that of standard drug aspirin.

Celosia argentea Linn. (Amaranthaceae) is a small plant, which distributed in India, Sri Lanka, Africa, America and Taiwan. Traditionally the dried plant is used as antiscorbutic[1]. The leaves are antipyretic, reduce inflammations, strengthen the liver and were useful in gonorrhoea and burns. The seeds are bitter and useful in blood diseases and mouth sores[2]. The seeds were reported to be an efficacious remedy in diarrhoea[3].

A literature survey reveals that no scientific study has been reported with respect to antiinflammatory properties of *Celosia argentea* Linn. Therefore, in the present commu-

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nication we report the antiinflammatory activity of the leaf extracts of *Celosia argentea*.

The leaves of *Celosia argentea* were collected from Belgaum District and authenticated at the Department of Biological Sciences, K. L. E. S.'s College of Pharmacy, Belgaum. The air dried leaves were reduced to a fine powder and subjected to Soxhlet extraction with ethanol (95%). The extract was concentrated to dryness by heating on a steam bath.

A part of the ethanol extract was kept aside for pharmacologica studies and the remaining dispersed in distilled water and was successively fractionated with petroleum ether (40-60), solvent ether, ethyl acetate, butanol and butanone using a separating funnel. The separated organic fractions were washed with water to eliminate water soluble impurities, dried over anhydrous sodium sulphite and finally evaporated to dryness on a steam bath. All the extracts were kept in a desiccator and stored in a refrigerator for pharmacological studies. The test doses were prepared in propylene glycol (1%) suspension in distilled water of each extract to get the desired concentration of the extract.

Antiinflammatory activity was evaluated using carrageenan induced rat hind paw oedema method of Winter *et al.*[3] The experimental protocol has been approved by Institutional Animal Ethics Committee (CPCSEA Registration No. 221). Wistar rats of either sex weighing between 150-200 g were divided into eight groups of six animals each. The first group served as control and received the vehicle only (propylene glycol 1%), second group of animals were administered with standard drug aspirin 100 mg/kg body weight, i.p. The animals of the third, fourth, fifth, sixth, seventh and eighth groups were treated with ethanol (95%), petroleum ether (40-60) solvent ether, ethyl acetate, butanol and butanone fractions of *Celosia argentea*.

A dose of 100 mg/kg was selected on basis of the acute toxicity studies and administered i.p. A mark was made on both the hind paws just below the tibio-torsal junction so that every time the paw could be dipped in the mercury column of plethysmograph up to the mark to ensure constant paw volume. After 30 min of above treatment an inflammatory oedema was induced in the left hind paw by injecting 0.05 ml of 1% w/v carrageenan in saline in the planter tissue of all the animals. The paw volume was measured at 0 h and followed by every hour till 6 h after administration of carrageenan to each group. The difference between the initial and subsequent reading gave the actual oedema volume

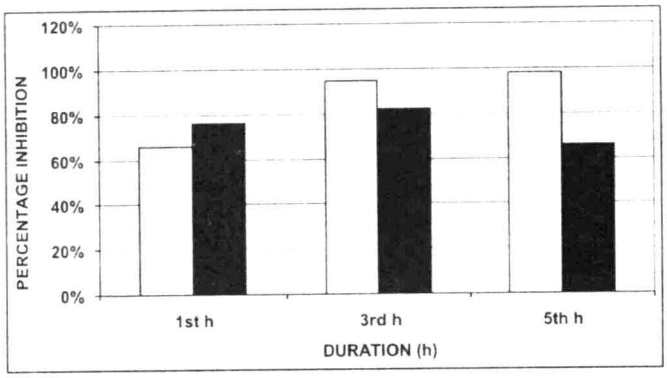

Fig.1: Percent Inhibition of carrageenan induced rat paw oedema.

The inhibitory effects of ethanol extract (■) *Celosia argentea* on carrageenan-induced rat paw oedema was compared to that produced by standard drug aspirin (□).

Percent inhibition of inflammation was calculated using the formula % inhibition=100(1-Vt/Vc) where Vc represents oedema volume in control and Vt oedema volume in group treated with test compound. The data were analyzed using students "t" test and the level of significance was set at $P<0.01$ The results represented as percent inhibition of inflammation are presented in fig. 1.

In carrageenan-induced rat paw oedema test, it was found that there was no significant reduction in the oedema in the groups treated with petroleum ether, solvent ether, ethyl acetate, butanol and butanone fractions. In case of the groups treated with ethanol extract significant reduction was noticed, when compared to control. Thus it can be concluded that on preliminary screening of crude extracts of *Celosia argentea* the ethanol extract possessed significant antiinflammatory activity. These results indicate a need for a detailed phytochemical investigation of *Celosia argentea* to identify the active constituents.

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Spectrophotometric Methods for the Determination of Sibutramine Hydrochloride from Capsules

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A new simple, sensitive spectrophtometric method in ultraviolet region has been developed for the determination of sibutramine hydrochloride in bulk and in capsule dosage form. Sibutramine hydrochloride shows maximum absorbance at 220 nm. Beer's law was obeyed in the concentration range 10–50 μg/ml. Results of the analysis were validated statistically and by recovery studies.

Sibutramine hydrochloride is chemically 1-(4-chlorophenyl)-N-N-dimethyl-α(2-methyl propyl)-hydrochloride monohydrate. It is a relatively new antiobesity drug[1-3]. It is not yet official in any pharmacopoeia. Survey of literature reveals that sibutramine hydrochloride is estimated in pharmaceuticals and in biological fluids by spectrophotometry[4-8], GC[9-10], HPLC[11-15] and polarography[16]. In the present work a simple and sensitive spectrophotometric method was developed for the determination of sibutramine hydrochloride in bulk as well as from solid dosage forms using methanol as a solvent.

An Elico UV/Vis spectrophotometer model SL-150 with 1 cm matched quartz cells was used for all absorbance measurements. All the chemicals used were of AR grade. Pure sibutramine hydrochloride was obtained as a gift sample from Cipla, Pune. Sibutramine hydrochloride (100 mg) was accurately weighed and dissolved in 100 ml of methanol to give a stock solution (1000 μg/ml). From this stock, aliquots of solution were transferred into six 10-ml volumetric flasks and the final Volume was adjusted with methanol to give concentration of 10, 20, 30, 40, 50 and 60 μg/ml. The solution was scanned in the UV range. The absorbance was measured at 220 nm against a methanol blank.

For analysis of sibutramine hydrochloride from formulation, 10 capsules (1. Sibutrim-10, Sun Pharma, 2. Sibutrex-10, Glenmark and 3. Slenfig-10, Torrent) were weighed. The capsule powder equivalent to 10 mg of sibutramine hydrochloride was transferred into a 100-ml standard flask. A small quantity of methanol was added and it was shaken well to dissolve the drug and then volume was made up to mark with methanol and filtered. The absorbance of this solution was measured at 220 nm against methanol as blank.

Recovery studies were performed by adding a known amount of the drug to previously analyzed capsules. From the amount of drug found, percentage recovery was calculated. The proposed method of determination of sibutramine hydrochloride shows molar absorptivity 17.88×10^{3}/mol.cm. Linear regression of absorbance with concentration gave a correlation co-efficient of 0.9996. Sibutramine hydrochloride

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