Plants have been playing central role in human life from time immortal. They still have the important role in day-to-day life. Hundreds of plants are documented in ‘Ayurveda’ and other medicinal literature. Notable among these are species of Euphorbiaceae, which have been used in the Ayurvedic system of medicine against different diseases. Ethnomedical surveys represent number of compounds which have medicinal potential for number of diseases. In particular, diterpenoids from Euphorbiaceae have been found to posses interesting biological activities. Molluscicidal properties of Euphorbiaceae plants were reported by Zani et al., and Schall et al.,. The whole plant of Phyllanthus amarus is a potential diuretic, anti-hypertensive and hypoglycemic for human. Vanshidhar and Santos et al., have reported antinociceptive activity of E. heterophylla and Phyllanthus species, respectively. Reports about antimalarial virtue of species of Euphorbiaceae have been made. Alarcon-Aguilara et al., studied some members of Euphorbiaceae for anti-hyperglycemic activity of ethnopharmacologically used antidiabetic plants. Phorbol ester bioactivity in Euphorbiaceae plants has been investigated in Phyllanthoideae and Oldfieldioideae, in Antidesmeae, Crotonoideae, Euphorbioideae and Acalyphoideae. Santos et al., studied antinociceptive properties of Phyllanthus amarus, P. orbicularis, P. fraternus and P. stipulatus.


Aerial parts of the following plants were selected for screening anti-inflammatory activity: Cleistanthus collinus, Euphorbia geniculata, E. hirta, E. tirucalli, Kriganella reticulata, Pedilanthus tithymaloides, Phyllanthus virgatus, Putranjiva roxburghii and Securinega virosa. The “Carrageenan Induced Rat Paw Odema Assay” was adopted to study the anti-inflammatory action of the crude drugs.

The plants selected were washed thoroughly and dried in shade. The dried plant material was ground to fine powder. About 1kg of the plant material was collected and extracted repeatedly in absolute alcohol by using soxhlet apparatus. The extracts were filtered and allowed to dry at room temperature. These extracts were weighed and tested against inflammation. Extracts of the plant materials were concentrated and paste was prepared. This paste was suspended in 5% gum Acacia and homogenous suspension was prepared.

The test compound administered orally at the dose of 100mg/kg body weight of albino rat and 1% Acacia gum was used as control. After an hour carrageenan 0.05ml was injected into the planter tissue of right hind paw. The paw columns were measured plethysmographically at 1 and 3 hrs after the carrageenan injection. The percentage inhibition of the paw oedema was calculated using the equation:

\[ \text{Percentage inhibition} = \left(1 - \frac{V_t}{V_c}\right) \times 100 \]

Where Vt and Vc are the volumes of the paw oedema in the treated and control animals respectively. The observations were recorded in tabular form (Table 1).
Table 1. Screening for anti-inflammatory action of extracts of selected plants of Euphorbiaceae.
(All values represent average of 5 readings)

<table>
<thead>
<tr>
<th>S.No</th>
<th>Drug</th>
<th>Mean edema</th>
<th>Percent inhibition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1hr</td>
<td>3hr</td>
</tr>
<tr>
<td>1</td>
<td>Acacia gum (negative control)</td>
<td>0.7±0.1</td>
<td>1.3±0.254</td>
</tr>
<tr>
<td>2</td>
<td>Cleistanthus collinus</td>
<td>0.5±0.158</td>
<td>0.7±0.158</td>
</tr>
<tr>
<td>3</td>
<td>Euphorbia geniculata</td>
<td>0.4±0.158</td>
<td>0.9±0.244</td>
</tr>
<tr>
<td>4</td>
<td>Euphorbia hirta</td>
<td>0.6±0.291</td>
<td>1.2±0.316</td>
</tr>
<tr>
<td>5</td>
<td>Euphorbia tirucalli</td>
<td>0.2±0.122</td>
<td>1.9±0.458</td>
</tr>
<tr>
<td>6</td>
<td>Kirganelia  reticulata</td>
<td>1.0±0.158</td>
<td>1.6±0.223</td>
</tr>
<tr>
<td>7</td>
<td>Pedilanthus tithymaloides</td>
<td>0.8±0.18</td>
<td>2.2±0.29</td>
</tr>
<tr>
<td>8</td>
<td>Phyllanthus virgatus</td>
<td>0.4±0.1</td>
<td>0.5±0.14</td>
</tr>
<tr>
<td>9</td>
<td>Putranjiva roxburghii</td>
<td>0.6±0.233</td>
<td>1.1±0.353</td>
</tr>
<tr>
<td>10</td>
<td>Securinega virosa</td>
<td>0.3±0.122</td>
<td>0.6±0.158</td>
</tr>
</tbody>
</table>

Note: Dosage of drug 100mg/Kg

Varied inhibitory activity of plant extracts for inflammation was observed in present investigation. Extracts of Phyllanthus virgatus, Putranjiva roxburghii and Cleistanthus collinus showed with increasing percentage of inhibition from 1st hour to 3rd hour. While Euphorbia tirucalli showed good anti-inflammation at 1st hour (71.43%) and gradually decreased to negative value. Euphorbia tirucalli, Kirganelia reticulata and Pedilanthus tithymaloides are being used by the tribals as anti-inflammatory agents but present carrageenan induced rat paw oedema reported here with negative results.

Various phytochemicals viz., flavonoids 17, steroids and triterpenoids 18 and polyphenols 19 are reported to act against inflammations. These chemicals were reported to be present in various species of Euphorbiaceae 20. Hence, one or few of these compounds may be active in inhibiting the inflammation in present investigation. These plants can be used in future for preparation of anti-inflammatory drug.

Acknowledgement
We thank to Mr. Biyani and Miss Jajoo, Lecturers, Sudhakar Naik Institute of Pharmacy, Pusad, Dist. Yavatmal who helped us to analyse anti-inflammatory activities and officials and other staff of Forest Department for extending cooperation and support during the forest visits.

References
4. Zani CL, Marston A, Hamburger M and Hostettmann K 1993, Molluscicidal milliamines from Euphorbia milli var. hislopii. Phytochemistry 34(1) 89-95
1. J. Ethnopharmacol. 72(1-2) 239-243
8.15. Oliveira-Filho EC and Paumgarten FJR 2000, Toxicity of Euphorbia milli latex and niclosamide to snails and nontarget aquatic species. Ecotoxicology and Environmental Safety 46(3) 342-350