Monotheca buxifolia is an evergreen flowering tree of genus Monotheca which belongs to family Sapotaceae in the hilly areas of Northern Pakistan, Afghanistan Oman, and in the south-east Saudi Arabia. The leaves of Monotheca buxifolia contain more than 160 compounds. The previous studied of this plant showed antibacterial, antifungal, anti-inflammatory, cytotoxic, antipyretic, antioxidant, anti diabetic Hepatoprotective and anti cancer activity. M. buxifolia is an evergreen flowering tree of genus Monotheca which belongs to family Sapotaceae in the hilly areas of Northern Pakistan, Afghanistan Oman, and in the south-east Saudi Arabia. The leaves of M. buxifolia contain more than 160 compounds. The previous studied of this plant showed antibacterial, antifungal, anti-inflammatory, cytotoxic, antipyretic, antioxidant, anti diabetic Hepatoprotective and anti cancer activity.

**Methods and Materials**

*Monotheca buxifolia* leaves methanolic extract was prepared using standard method with some modification. Experimental animals (Rabbits) of uniform weight (1000-1500 g) were used. For sedative activity Rabbits were divided into 6 groups. Group 1 was treated by distilled water and considered as negative control while group 2 was treated by diazepam (0.3 mg/kg) as positive control (figure). R3 rabbits were treated by extract dose of 50 mg/g while doses of 100, 150 and 200 mg/kg were injected intra muscular to other groups respectively. Rabbits were observed for one hour continuously and after that pedal reflex, palpebral reflex and right reflexes were used as a standard.

**Results**

*Monotheca buxifolia* leaves methanolic extract exhibited significant sedative effect on dose dependent manner. Dose of 100, 150 and 200 mg/kg (intramuscularly injected) showed significant sedative effect as compared to positive and negative control. The results are shown in Table 1 and Figure 1.

**Table 1.** (+) pedal and palpebral reflex, (−) loss of pedal and palpebral reflex.

<table>
<thead>
<tr>
<th>DOSES</th>
<th>30min</th>
<th>60min</th>
<th>90min</th>
<th>120min</th>
</tr>
</thead>
<tbody>
<tr>
<td>(diazepam) 0.3 ml/kg</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>(Distill H2O) 5 ml/kg</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>50 mg/kg</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>100 mg/kg</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>150 mg/kg</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>200 mg/kg</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
</tbody>
</table>

**Discussion**

The present studies indicate that M. buxifolia possessed acute toxicity and sedative activity. The in vivo acute toxicity was carried out to find the toxic effect of the extract. Different doses of the extract were prepared (250, 300, 350, 400 mg/kg) and subcutaneously and orally administrated into rabbits and the control group was treated with distilled H2O. After doses administration the animals were observed for 24 hours, clinical sign, change in body temperature, weight and postmortem examination of dead animals were carried out. Hassan et al., 2018 investigated that *M. buxifolia* possess significant sedative effect on various doses of (50, 100, 150, 200 mg/kg) comparing with reference sedative inducing drug (diazepam).

The sedative effect of methanolic extract of *M. buxifolia* was also determined. For this activity the Loss of right reflex, pedal reflex and palpebral reflex of subject animals were compared with control groups, and different doses were prepared (50, 100, 150 and 200 mg/kg) and intramuscularly inject into rabbits.

**Conclusions**

The findings of this study concluded that Monotheca Buxifolia is good source for pharmacologically active compounds and might be useful in hypnotic medicine. It also concluded that M. Buxifolia methanolic leaves extract possessed significant sedative activity. It also conclude that this plant maybe use as alternate source of sedative drugs which can be helpful in the treatment of anosmia anxiety and depression.

**References**