

## **Antinociceptive action of Icon®, a pyrethroid insecticide on pregnant rats**

**W. D. Ratnasooriya, S. S. K. Ratnayake, Y. N. A. Jayatunga**  
*Department of Zoology, University of Colombo, Colombo-3, Sri Lanka.*

**Corresponding Author:**

**Professor W.D. Ratnasooriya,**  
*Department of Zoology, University of Colombo,*  
*Colombo -3, Sri Lanka.*  
*Tel: 094-1- 503399 Fax: 094-1-503 148*  
*email: [wdratna@webmail.cmb.ac.lk](mailto:wdratna@webmail.cmb.ac.lk)*

*Received on 10.03.03*

*Accepted on 11.23.03*

### **Abstract**

Icon® is a type II synthetic pyrethroid insecticide based on active ingredient Lambda cyhalothrin (10% w/w). In a recent study it was evident that this insecticide although induced marked signs of stress and other overt signs of toxicity in pregnant rats it never provoked aversive behaviours: suggestive of antinociceptive activity. Hence this study was conducted to investigate the possible antinociceptive potential of Icon® on pregnant rats. Different doses of Icon® 0, 63, 83 or 125 mg/ kg body weight/day (active ingredient 0, 6.3, 8.3, 12.5 mg / kg body weight/day) was orally administered to pregnant (early, mid and late) rats for seven consecutive days and antinociception potential was determined using the hot plate technique. The results showed a marked antinociceptive activity (in terms of prolongation of reaction time) of Icon in pregnant rats. It is concluded that the antinociception is mediated by both specific (neuronal) and non specific (stress and food inhibition) mechanisms.

**Key words: Antinociception, Icon®, Lambda-cyhalothrine, insecticide, pyrethroid, pregnancy**

### **1. Introduction**

Icon®, a water miscible type II synthetic pyrethroid insecticide based on active ingredient Lambda cyhalothrin (IPCS-99 Cyhalothrin, 1990) (10% w/w; information on inert fillers, adjuvants, excipients, wetting agents and purity are not available) has been recently introduced to Sri Lanka as an