change in this fraction is more marked in the embryo, this may be more directly associated with the growth and development of the different embryonic parts.

21 August 1987; Revised 4 March 1988

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TOXICITY OF *ANACYCLUS PYRETHRUM* IN MICE

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ANACYCLUS PYRETHRUM (AP) is a medicinal plant known for its use as an aphrodisiac, sialagogue, and in hemiplegia, paralysis, epilepsy, rheumatism and tooth-ache[1,2]. It is available in all parts of the world and belongs to the Compositae family. Its therapeutic properties could be due to an alkaloid[3,4] 'pellitorin' (pyrethrin).

Aqueous root extract of this plant caused local anaesthesia with no side effects[5]. Its toxicity data are scanty, and therefore we have determined the i.p. value of LD_{50} of water extract of its dried root.

The material was identified and collected from Yogaprabha Pharmacy, Tirupati. The root was powdered and a sterile cold extract was prepared in water[6]. Its LD_{50} dose was calculated by conventional methods[7]. Four doses (400, 550, 750 and 1000 mg/kg i.p./mice) were administered in four groups (n = 18 males weighing 28–30 g) of inbred Swiss albino mice producing an effect in comparison with control (0–100% changes and mortality). Saline (0.9% NaCl) was administered (0.1 ml i.p.) in the control group. At the same time the experimental group also received AP herbal extract intraperitoneally. The LD_{50} was calculated according to the method of Litchfield and Wilcoxin[8]. Accordingly, the LD_{50} for the aqueous extract of the root of AP was 750 mg/kg i.p. dose. The graphical analysis[9] and Karber's method[10] of probit analysis were also employed for estimating the LD_{50} of the aqueous cold extract of the plant material and was found to be 800 and 758.6 mg/kg (table 1). The data were found to be significant and varied between 690 and 840 mg/kg.

Table 1 *Values of LD_{50} (determined by Karber's method)*

Group	Dose mg/kg	Number of animals	Dose difference (a)	Dead	Mean mortality (b)	Product ($a \times b$)
1	333.33	4	0	0	0	0
2	666.66	4	333.33	0	0	0
3	1000.00	6	333.34	4	2	666.68
4	1333.33	4	333.33	4	4	1333.32

LD_{50} = 800 mg/kg (approx.); The sum of the product is divided by the number of animals in a group and the resulting quotient is substrated from the least lethal dose to obtain the LD_{50} value.

However, this work enables one to have an estimate of the median effective concentration (ME_{50}) of AP and to compare the relative potency with known drugs, toxicity, rating in terms of intensity and duration to quantify its usage as a local anaesthetic as a ground-data for repetition in primates or for a pilot clinical application.

The authors thank Profs. B. B. Chatterjee and K. Bhargava for encouragement. We acknowledge receipt of the plant material from Shri Krishnamacharyulu (Yogaprabha Pharmacy).

31 October 1987; Revised 20 February 1988

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RESTRICTION IN FEEDING TIME AND THE GONADAL STATUS IN SPOTTED MUNIA, *LONCHURA PUNCTULATA*

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SURVIVAL success of a species depends on its ability to reproduce at a particular time of the year when environmental conditions are most suitable for upbringing the young ones. Among the environmental factors controlling avian reproduction, 'photoperiod' has received considerable attention[1]. Although food has been realized as a proximate factor in this process, very few reports are available on it[2]. Information on the importance of food in reproduction is almost nil particularly on subtropical birds. In the present paper an attempt has been made to see the effect, if any, of feeding time on the gonadal status of the subtropical finch, spotted munia.

During the early breeding period (July) adult birds were captured around Varanasi, (Lat. 25° 18′ N; Long: 83° 1′ E) and kept in the departmental aviary. After a week's acclimatization, the birds were sexed by laparotomy and the healthy males were used for the experiment. Two groups of 10 each were established. The birds were then housed 5 per cage (16 × 10 × 10 inches). The control group received food (pearl millet) *ad libitum* throughout the day while in the experimental group food supply was restricted to two times a day (8 – 10 h and 16 – 18 h). Food was provided in two separate containers so that each bird had easy access to the food source. No water restriction was imposed in any of the groups. Every month the testis on the left of each bird was measured *in situ* and the gonadal volume was recorded (calculated from the size of long and short axes of the testis). During September (peak breeding time) the total food consumption was studied in both the groups.

The results are summarized in table 1. No significant change in the reproductive status of the birds was observed following the restriction in feeding time. In these animals a normal testicular cycle was maintained as in controls. During September the total food consumption in the control group was 3.07 ± 0.12 g/b/d and in experimental group it was 2.42 ± 0.17 g/b/d (21.17% less than the former).

The above observations indicate that the restriction in feeding time has no significant effect in the reproduction of this bird. In fact, this is the first attempt where the importance of feeding time has been investigated in a subtropical finch. Earlier report[3] indicated that 50% or more of reduction in the amount of food alters the thyroid function in this bird. Thyroid is also known to be antigonadal in this species[4,5]. It appears therefore that the apparent increase in gonadal volume in September and October is due to the decline in thyroid function following food restriction, and the initial decrease in testicular volume could be the result of a temporary stress after the abrupt change in food supply. However, all these changes were not significant because, in the present investigation, restriction in feeding time reduced the amount of food consumption by 21.17% only and this did not alter the thyroid function of this bird. Keeping all these in view, it appears that the amount of food may have a greater

Table 1 *Effect of restriction in feeding time at 8–10 h and 16–18 h of the day on the testicular volume of spotted munia*

Testicular volume (mm^3) during different months	Control	Experimental
July	4.9 ± 0.5	5.8 ± 0.7
August	34.4 ± 8.9	15.7 ± 1.6
September	37.8 ± 9.2	47.6 ± 5.9
October	20.4 ± 1.6	30.9 ± 7.0