

IDEAL TRAPS FOR CATCHING SQUIRRELS IN COCOA AND ARECANUT GARDENS

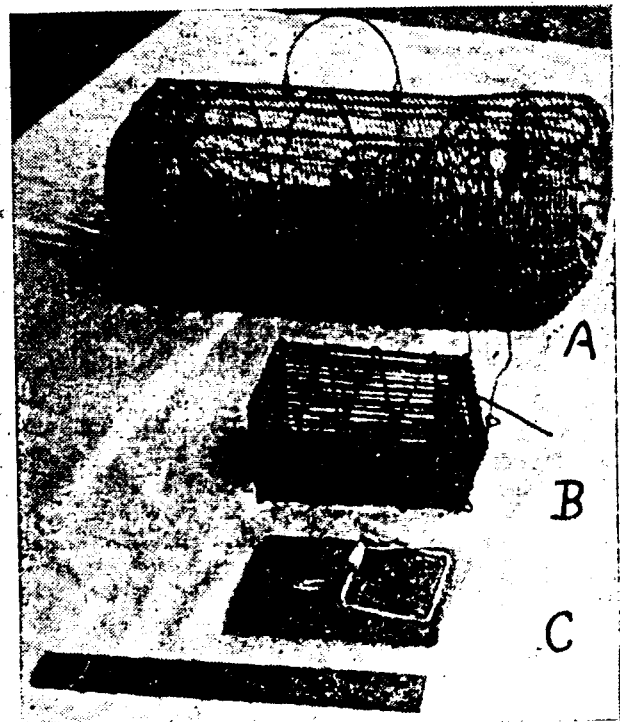
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Squirrels inflict considerable damage to the stand-
 crop of cocoa (*Theobroma cacao* L.) in South India
 (Bhat *et al*, 1981). Though of minor importance these
 animals are also considered to be the pests of arecanut
 (*Areca catechu* L.) in different localities (Nambiar, 1949;
 Vidu, 1962). Hitherto, no effective control method has
 been evolved for this pest. In this report the studies
 were made at Vittal (12° 30' N, 74° 80' E). Dakshina Kannada
 district of Karnataka on the relative efficiencies of three
 commonly available devices for trapping the Western
 Ghats squirrel *Funambulus tristriatus* Waterhouse are
 discussed.

Materials and methods

The relative efficiencies of three traps namely, the
 multiple catch wonder trap (45 × 25 × 20 cm),
 the single catch wiremesh box trap (25 × 15 × 15 cm),
 and the snap trap (20 × 15 cm), in trapping the West-
 ern Ghats squirrel were evaluated for 10 months dur-
 ing 1978-'79 at four trapping sites around Vittal. The
 main crops in the first two trapping sites were areca
 and cocoa and in the other two, areca and paddy (*Oryza
 sativa* L.) The extent of each area was about 2.5 ha.
 In all, 30 trap points were selected in each area and 10
 traps each of the three types were set randomly in
 these trap points. Trapping was carried out on two
 consecutive days each month. The bait used was the
 coconut kernel. Ripe perianth of the Jack fruit and
 the ripe apples of cashew were also used as baits,
 whenever available. The traps were set at 0700-0800
 hr. and examined at 1730-1900 hr. The trapped
 squirrels were weighed and sexed. After removing
 the squirrels the traps were thoroughly washed in
 running water. On the second day the sequence of dis-
 tribution of traps was altered and the old baits were
 replaced with fresh ones. The number of squirrels trap-
 ped in each type of trap was recorded separately. The
 data were collected for a total of 800 trap days total
 number of traps used × total number of days set for
 each type of trap. In certain cases some traps were found

sprung without trapping squirrels or ineffective due
 to several reasons. In such cases a correction proce-
 dure was employed wherein 50% of the traps sprung
 without squirrels or ineffective ones were subtracted
 from the total number of trap days. The corrected
 trap days calculated for snap, wonder and box traps
 were 793.0, 799.5 and 793.5, respectively.



Results and discussion

Out of the 180 Western Ghats squirrels trapped
 seventyfive (41.7%) were captured in the box trap,
 fiftyseven (31.7%) in the wonder and fortyeight
 (26.7%) in the snap are given in the Table below.

TABLE I Efficacy of different traps for trapping *F. tristriatus*

Traps	Trap days		Squirrels captured		Trap success	
	Unadjust- ed	Corrected	Actual number	Perce- ntage	Unadjust- ed	Correct- ed
Box	800	793.5	75*	41.7	9.37	9.45
Snap	800	793.0	48	26.7	6.00	6.05
Wonder	800	799.5	57	31.7	7.12	7.13
Total	2400	2386.0	180	100.0	22.49	22.63
Mean	800	795.3	60	33.3	7.59	7.54

*Differ significantly from other two, P < 0.05

The number of squirrels captured in the box trap was significantly more ($P < 0.05$) than those in the other two. The numbers captured in wonder and snap traps, however, did not differ significantly. Multiple catches were encountered only in wonder traps. Out of the 57 squirrels captured in wonder traps 10 were in pairs.

More than two squirrels were never trapped in same trap simultaneously.

The superiority of the box trap for trapping Western Ghats squirrel was revealed in all the selected for this study are given in the Table below.

TABLE II

Number of *F. tristatus* and their sex trapped in different traps in different habitat

Habitat	Box trap			Snap trap			Wonder trap		
	Male	Female	Sex* ratio	Male	Female	Sex* ratio	Male	Female	Sex* ratio
I	16	12	1.33	9	9	1.00	13	13	1.00
II	8	10	0.80	6	4	1.50	8	4	2.00
III†	5	5	1.00	4	3	1.33	3	4	0.75
IV	10	8	1.25	8	5	1.60	5	7	0.71
Total	39	35	1.11	27	21	1.29	29	28	1.07

*Number of males per female.

†In this habitat one of the squirrels trapped in the box trap could not be sexed.

The sex ratios of the squirrels trapped in different types of traps indicated that both the sexes were equally susceptible to all the three types of traps. The reason for the greater efficiency of the box trap was its more sensitive triggering mechanism. The lesser bandicoots, *Bandicota bengalensis* were more susceptible to the single catch box traps in Calcutta (Spillett, 1968). Cockrum (1947) found box traps as the best for trapping several species of small mammals in England. The present study indicates that the Western Ghats squirrels were more susceptible to wiremesh box traps than the wonder and snap traps.

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REFERENCES

- BHAT, S.K., NAIR, C.P.R. AND MATHEW, D. (1981) Mammalian pests of cocoa in southern India. *Trop Pest Manage.*, 27: 297-302.
- COCKRUM, E.L., (1947). Effectiveness of live traps versus snap traps. *J. Mammal.*, 23:435-438.
- NAIDU, G.V.B. (1962). Squirrel damage to areca crop and its control. *Arca nut J.* 13: 91-94.
- NAMBIAR, K.K. (1949) *Survey of arecanut crop in India*. 75 pp. Indian Central Arecanut Committee, Calicut.
- SPILLETT, J.J., (1968). *The ecology of the lesser bandicoot in Calcutta*. Bombay Natural History Society and the Johns Hopkins University Center for Medical Research and Training, Calcutta