

# THE PALM CIVET: A PEST OF COCOA

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Damage to cocoa pods by civets (Carnivora) has been reported in India (Abraham and Padmanabhan, 1967; Bhat *et al.*, 1981) and other cocoa growing countries (Mainstone, 1978; Han and Bose, 1980; Kamarudin and Lee, 1981; Wood and Lass, 1985). Among the two common species of the civets viz. the

Small Indian civet, *Viverricula zibetha* and the palm civet or today cat, *Paradoxurus hermaphroditus* found in the Indian peninsula (Prater, 1971); the latter is considered to be the pest of cocoa in Tamil Nadu (Abraham and Padmanabhan, 1967), Kerala and Karnataka (Bhat *et al.*, 1981).

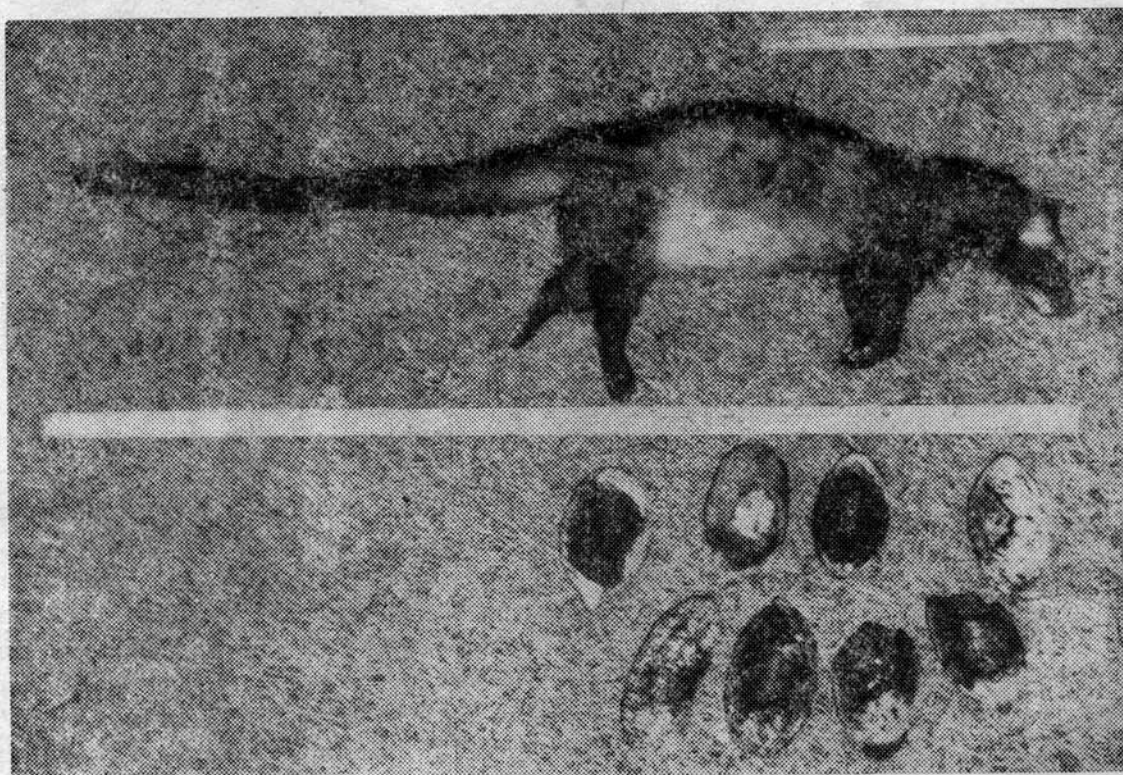


Fig. 1. The palm civet along with the damaged cocoa pods.

## Distinctive characters

The Palm civet, as big as a small dog, has a slightly pointed snout and a hairy tail (Fig. 1). The head and the body of an adult are 45-60 cm long and tail of equal length. A fully grown animal weighs 3.0-3.5 kg. The coat is black with white undercoat which is more prominent on the ventral and lateral sides of the belly. The back is often with faint longitudinal stripes and flanks, shoulders and thighs with spots.

## Habits

The palm civet is nocturnal and arboreal in habit. It lives mostly on big trees and palms, lying curled up during day time. In villages they take shelter mostly on the branches of big banyan or fig trees or on the crowns of tall palms. In towns, they usually hide in the drainage channels or on the false roofing of buildings. Though the palm civets belong to

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the group of carnivorous animals they feed on a wide variety of food materials of both animal and plant origin. They prey on small birds, rodents, poultry, lizards, frog, crab, insects, etc. Fruits of papaya, banana, cocoa, coffee and *Caryota* (toddy

palm) are also consumed very often. As the name indicates, the palm civets relish fresh toddy very much. They easily climb tall palms which are tapped for toddy and drink the sweet juice collected in pots (Prater, 1971).

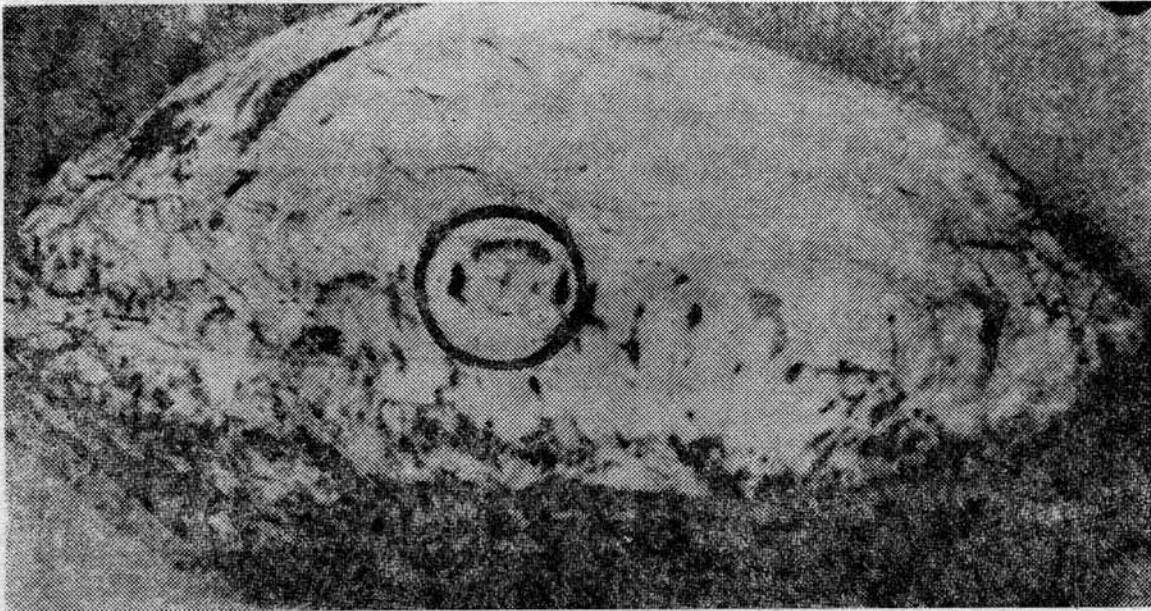


Fig. 2. The damaged cocoa pod showing the characteristic teeth marks of palm civet.

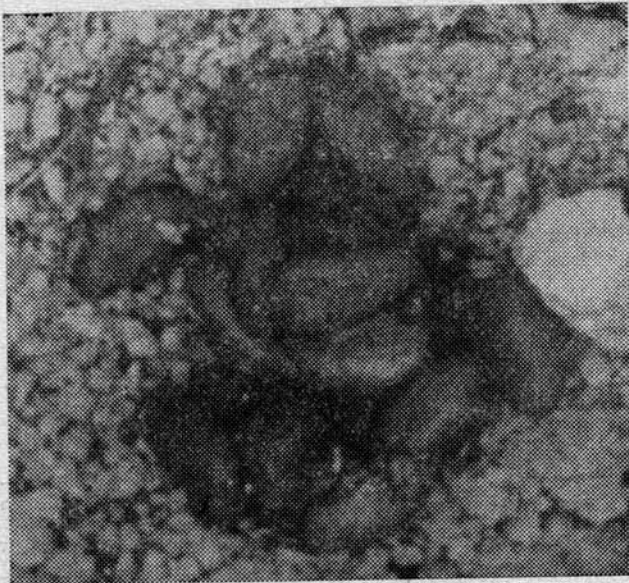


Fig. 3. Cocoa beans in the excreta of palm civet

#### Nature of damage

The palm civets are good climbers. They reach the tip of any branch with ease. Unlike rodents

which gnaw holes on the pods, the palm civets are known to bite and break the husk. The pieces of broken chunks are 2.0-3.0 cm in diameter. There is no distinct pattern in the damage. In some pods the terminal half is removed, whereas in some others only one side is broken. In civet-damaged pods, two distantly placed (about 1.0 cm apart) markings caused by the canine teeth are very prominent on the husk (Fig. 2). In between these two markings there may also be a row of six small dots representing the markings of incisors. While feeding, the civets are known to swallow the beans also and as such no trace of the beans, unlike in rodent damages, is visible directly underneath the tree. Instead, piles of defecated beans are seen scattered around the plantations (Fig. 3).

#### Extent of damage

A total of 944 cocoa growers, in two districts of Karnataka and 12 districts of Kerala, were contacted during 1985-'86 and their opinion on the pest

status of civets in their gardens was ascertained. The pest was prevalent in 29.24% (range 10.34%-81.82%) of the gardens surveyed (Table 1). Reliable information on the percentage of damage by these

animals could not be collected during the survey as the farmers were not maintaining any records of that. However, Bhat *et al.* (1981) reported upto 12.8% damage in cocoa by this pest in Kerala.

TABLE I  
*Prevalence of palm civet damage in cocoa gardens*

|                            | Gardens<br>Surveyed | Presence of<br>pest | Percentage of<br>incidence |
|----------------------------|---------------------|---------------------|----------------------------|
| <i>Karnataka</i>           |                     |                     |                            |
| Shimoga . . . . .          | 44                  | 36                  | 81.82                      |
| Dakshina Kannada . . . . . | 32                  | 49                  | 59.76                      |
| <i>Kerala</i>              |                     |                     |                            |
| Kasaragod . . . . .        | 41                  | 12                  | 29.27                      |
| Cannanore . . . . .        | 24                  | 10                  | 41.67                      |
| Kozhikode . . . . .        | 227                 | 66                  | 29.07                      |
| Malappuram . . . . .       | 13                  | 2                   | 15.38                      |
| Palghat . . . . .          | 15                  | 4                   | 26.67                      |
| Trichur . . . . .          | 21                  | 3                   | 14.29                      |
| Idukki . . . . .           | 29                  | 3                   | 10.34                      |
| Pathanamthitta . . . . .   | 100                 | 21                  | 21.00                      |
| Ernakulam . . . . .        | 114                 | 14                  | 12.28                      |
| Kottayam . . . . .         | 106                 | 14                  | 13.21                      |
| Alleppey . . . . .         | 59                  | 16                  | 27.12                      |
| Trivandrum . . . . .       | 69                  | 26                  | 37.68                      |
| <b>Overall</b> . . . . .   | <b>944</b>          | <b>276</b>          | <b>29.24</b>               |

#### Control

Field studies carried out in four gardens revealed that the problem of civets in cocoa could be easily controlled by poison baiting with carbofuran granules using ripe banana as bait. A longitudinal slit was made on the banana and about 0.5 g of carbofuran granules were added to it and closed properly. Two such bananas were tied on the trunk/jorquette of five to six cocoa trees per ha.

Before the commencement of the trial the intensity of civet damage was assessed for five days. On the sixth day, the poison baits were tied and the mortality of the animals was observed for the next one week. After the poisoning period, the post-control assessment of damage was done for five more days.

The pre-control damage was assessed to be about 21.5% (Table 2). During the poisoning period we could observe seven dead civets (five adults and two

sub-adults) in the gardens reducing the damage significantly.

TABLE II  
Percentage of civet damages in plots baited with carbofuran

| Plots        | Percentage of damage |       |       |       |       |
|--------------|----------------------|-------|-------|-------|-------|
|              | I                    | II    | III   | IV    | Mean  |
| Pre-control  | 15.15                | 30.26 | 20.63 | 17.65 | 20.92 |
| Post-control | Nil                  | Nil   | 2.04  | 2.70  | 1.18  |

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