

Nesting Behaviour of the Soft-furred Field Rat, *Millardia meltada*

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Nesting behaviour of soft-furred field rat, *Millardia meltada pallidior* Ryley, was observed in laboratory enclosures (1.32 × 1.0 × 0.32 m; 0.75 × 0.35 × 0.35 m). 'Saucer-like' 'sleeping' nests and 'dome-like' 'brood' nests made by it were similar to that of other rodent species. But unlike other species, it elaborated a rounded 'brood' nest from larger sheets of paper; and also tunneled both 'sleeping' and 'brood' nests in packings of grass and straw. Advantages of such nesting behaviour in natural environment, are discussed.

Key Words: Nesting, Sleeping nests, Brood nests, Fluffing, Tunnelling

Introduction

Nest-building by rodents is important for breeding and thermoregulation (Morgan & Stellar 1950, Barnett 1975). In fact, two different kinds of nests, viz. "sleeping" and "brood" nests; are constructed to fulfill the diverse needs (Kumari & Khan 1984). Yet, very little is known about nesting behaviour of common Indian rodent species (Barnett & Prakash 1975).

Herein, nesting habits of the soft-furred field rat or 'Metad', *Millardia meltada pallidior* Ryley, observed in laboratory enclosures, are described. These observations fully corroborate what was cursorily noted much earlier in the natural habitat (Jerdon 1874).

Material and Methods

Subjects were chosen from wild-caught stock; housed separately or as bisexual pairs in wire-mesh enclosures (1.32 × 1.0 × 0.32 m; 0.75 × 0.35 × 0.35 m) and maintained on a diet of cereals and vegetables with *ad lib* water. They were observed during the months September-October & March-April. Nest making was followed with

access to nest-boxes (20 × 12 × 10cm) and nesting materials (paper sheets 29 × 24 cm; straw; air-dried grass), only nesting materials, bundles of grass and straw, and packings of straw and grass in open (lidless) boxes of wood or wire-mesh (41 × 25 × 12 cm). Subjects were trapped, and nesting positions examined on alternate days. Nests made, if any, were removed and sketched, measured and weighed. Subjects given bundles of grass and straw or packings of same materials in boxes, were left undisturbed for 15 days. They were then trapped and removed from the cage; nests made were dissected with scissors, measured and sketched.

Results

Nesting Habits

Subjects given nest-boxes and paper sheets (2 ♂, 2 ♀; 2 bisexual pairs) used the boxes for sleeping; with only a few torn pieces of paper dragged inside for cover (figure 1). But grass and straw were not used similarly (3 ♂, 3 ♀; 3 pairs).

Given only nesting materials, the 'Metads' hid beneath paper sheets or heaps of grass and straw (2

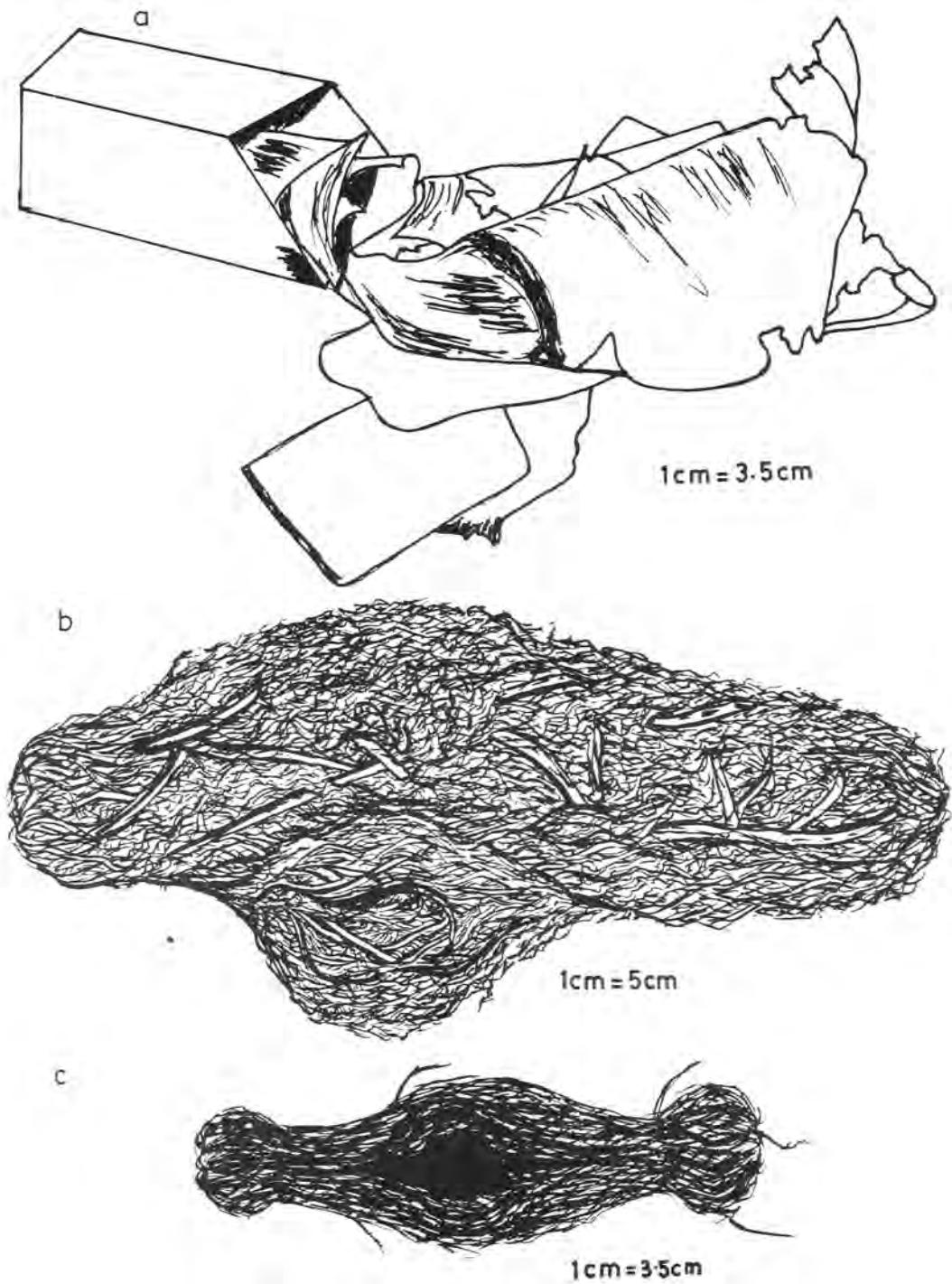


Figure 1 a-c Metads drag large pieces of paper into nest-boxes, but do not line or make bedding of it inside; (a) Spaces are fluffed out; (b) or cavities are cut; (c) in bundles of grass and straw, for nesting

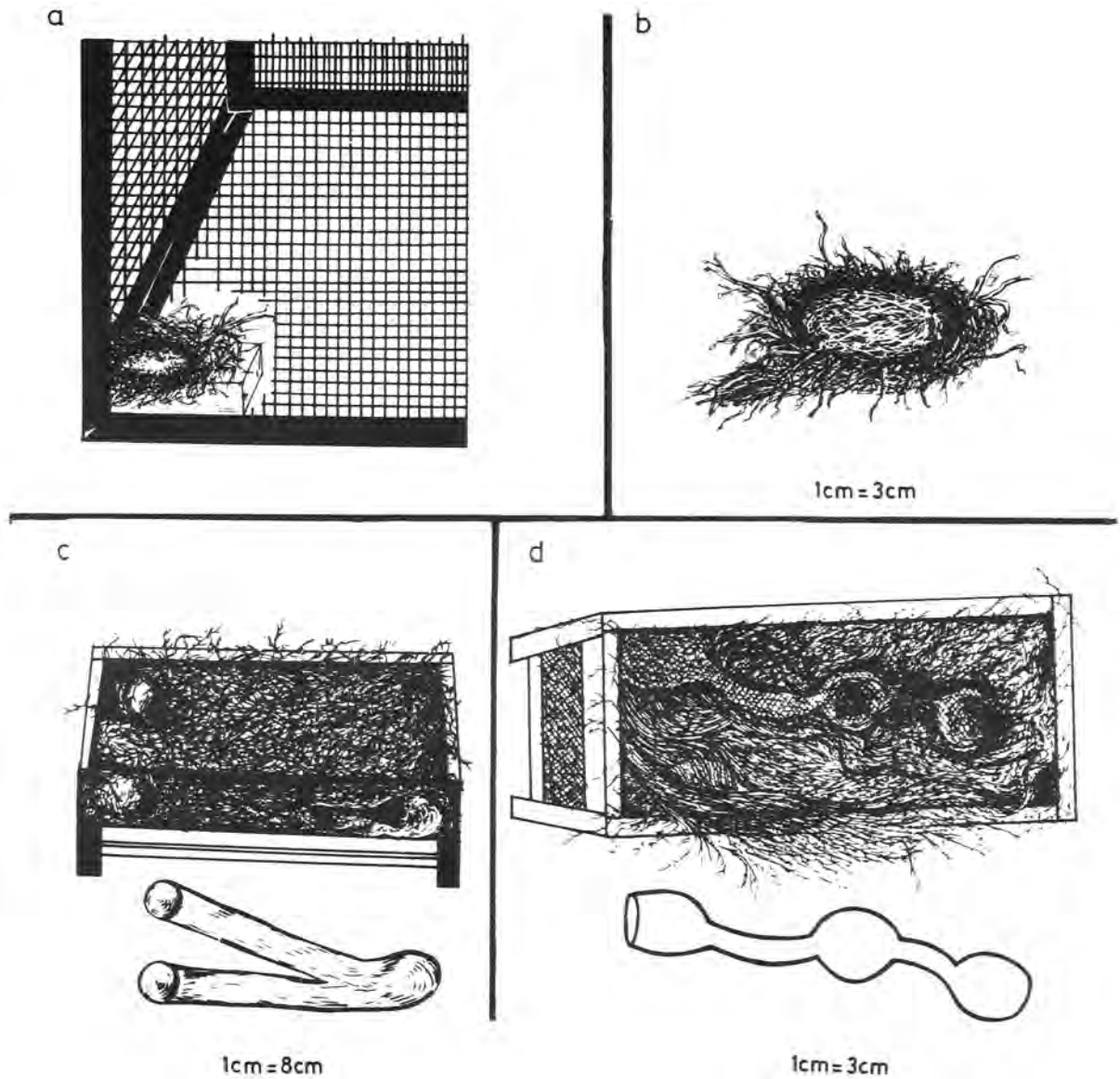


Figure 2 a-d Saucer-shaped "sleeping" nests are made of grass or straw, at corners of cages; (a,b) Packings of grass and straw are tunnelled to make "sleeping" nest with one or two sleeping chambers when in pairs (c,d)

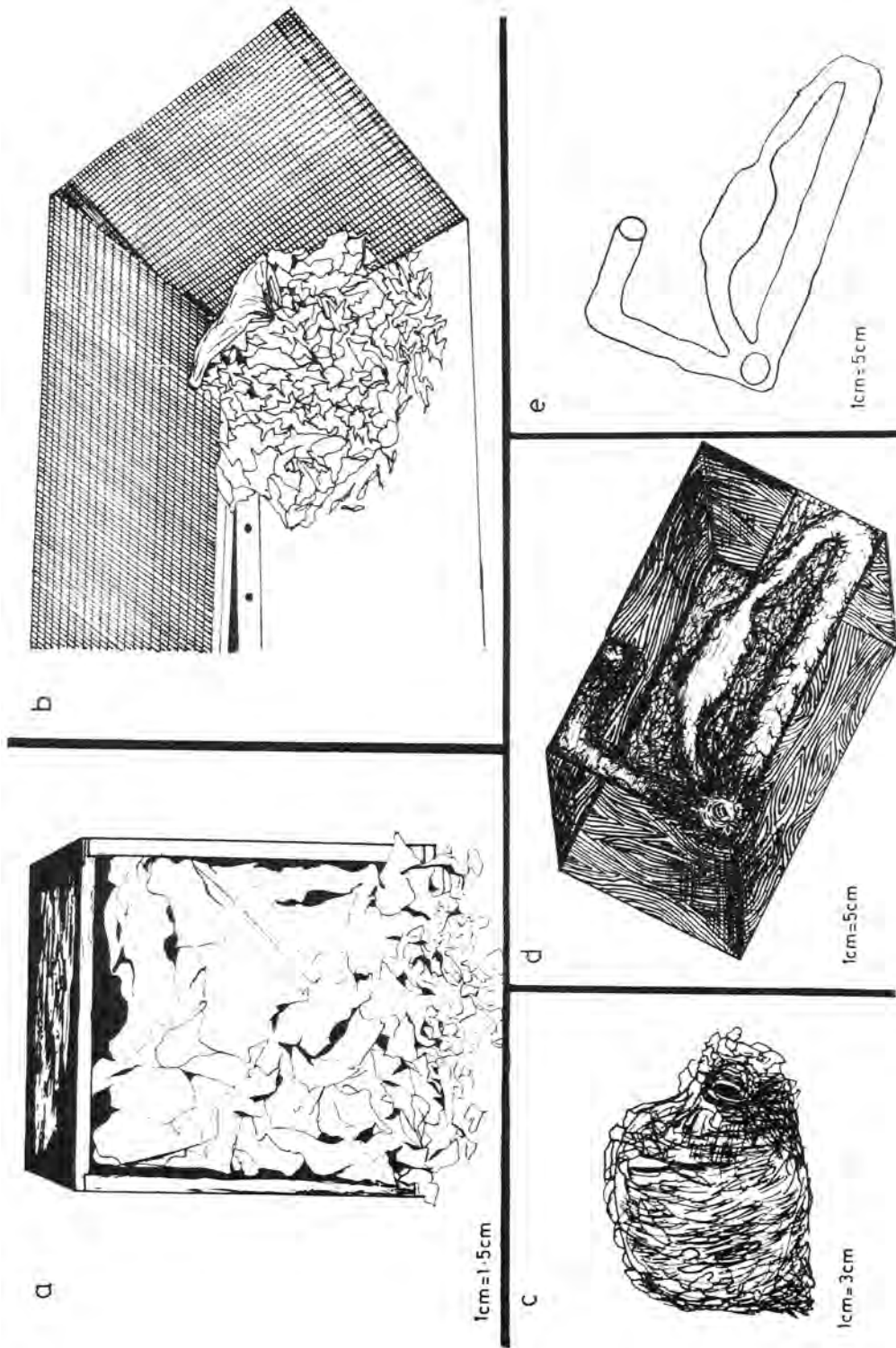


Figure 3 a-d "Brood" nests are made from all kinds of nesting materials. That made of paper are 'dome' like (a,b) or round (c). Brood nests made in packings of grass and straw are similar to "sleeping" nests made in such materials, but of larger dimensions. (d,e)

♂, 2 ♀; 1 pair). Paper was subsequently shredded and scattered widely in the cage; grass and straw heaps were not touched.

Grass and straw bundles were cut and fluffed out by Metads at different positions (5 ♂, 5 ♀; 2 pairs). The spaces made were used for nesting (figure 1).

Construction of "Sleeping" Nests

"Sleeping" nests were constructed by Metads (2 ♂, 2 ♀; 2 pairs) when grass or straw, but not paper, were widely scattered in their cages. The material was picked up and arranged in rows and layers to make saucer-shaped nests (diameter = 14-17 cm) with a central cavity (diameter = 8-10 cm, depth = 2.5 cm) (figure 2). The nests weighed 12-15 g. In pairs, two nests were made at different positions (figure 2).

Packings of grass and straw were tunneled by Metads to make "sleeping" nests of very characteristic type (3 ♂, 3 ♀; 3 pairs). It consisted of two or three rounded passages excavated at an angle and connected to a chamber below (figure 2). Nests measured - diameter openings = 4-5 cm; length of passages = 30-40 cm; diameter passages = 4.5-5.5 cm; diameter of sleeping chambers = 10 cm. Metads housed in pairs, made two sleeping chambers; but shared the passages and openings (figure 2).

Construction of "Brood" Nests

Unlike sleeping nests, "brood" nests were constructed by Metads from all kinds of nesting materials including paper. Paper was shredded; the larger pieces were used in lining the nest box while finely shredded material was collected at the base (2 ♀; figure 3). Without nest box, "dome" like "brood" nests of paper were made using cage wall as supports (3 ♀; height of nests = 12-20 cm; inner diameter = 10-12 cm; figure 3). Paper sheets were also enlarged from within into round "brood" nests with an opening at level surface (3 ♀; figure 3).

"Brood" nests elaborated in packings of grass and straw were similar to "sleeping" nests made in it (3 ♀; figure 3); though some passages were made longer (diameter openings = 5 cm; length of passages = 25-45 cm; diameter of nest chamber = 10 cm).

Discussion

Metads show varied nesting habits in laboratory enclosures. Nest boxes are used for sleeping, but without lining it or making a bedding of nesting materials in it (Kumari & Khan 1980, 1984). Apparently, finding cover or hiding may be a regular habit with Metads as alluded to by Jerdon (1874). The way cavities are cut or spaces fluffed out in bundles of grass and straw, reinforces this conclusion.

However, saucer-shaped "sleeping" nests are also made by Metads. But its "sleeping" nest and "Brood" nest are not different from such nests made by other rodent species as Indian gerbil, *Tatera indica, indica* Hardwicke (Kumari & Khan 1984). Obviously, the nests of Metads are smaller and lighter than that of these larger species (Adult body weights: Metads = 60 g; Indian gerbil = 150 g). Yet, the round "brood" nests made by Metads have not been reported of any other wild rodent species.

Unlike other rodent species, Metads also tunnel both "sleeping" and "brood" nests in packings of grass and straw (figures 2, 3). It appears that in natural environment too, similar deposits of grass or litter favourably sighted as under hedges or bushes, may be selected by Metads for nesting. An indication of this is also found in earlier observations of Jerdon (1874). This may be advantageous as well, as "sleeping" nests can be changed into "brood" nests without much effort.

Thus, although nesting behaviour of Metads is basically similar to that of other rodent species, ability to nest in diverse ways as in deposits of grass (litter) is unique.

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