

3. NOTE ON THE AUTOPSY AND CAUSES OF DEATH OF A PANTHER

The carcass was in an emaciated and putrified condition.

Throughout its length the intestine showed numerous pea-sized fibrous nodules visible through the outer surface of the intestine. Each nodule communicated with the lumen of the intestine by 2 or 3 openings and contained one to three nematode parasites 10-15 mm. long. The cavity of the nodule and also the intestine of the living worm were full of blood. They have been identified as *Galunchus* sp. of the "Hook worm" family which worms are well known as voracious blood suckers. Baylis and Daubney recorded a single specimen from a leopard in Calcutta in 1922. The present finding is the first occasion when such large numbers are found in a single panther in India.

The eggs of these worms pass through the faeces of the panthers and develop into infective stages in moist localities. The carnivora generally acquire the infection by the entry of the worms in their soil-stages through their foot pads in moist localities.

The presence of numerous fibrinous nodules in a large portion of the intestine rendered it

incapable of absorbing the digested food which resulted in emaciation and loss of vitality. The loss of blood led to anaemia and finally death.

In addition, the lungs revealed two hard nodules of the size of a groundnut. After careful dissection it was observed that each nodule contained a pair of flukes identified as *Paragonimus westermanii* (Lung flukes). They were 8-12 mm. long, 4-6 mm. broad and 3-5 mm. thick. This parasite was first discovered by Westerman in 1877 from the lungs of two tigers which died in the Amsterdam Zoo. Man is an important definitive host of this fluke as are other carnivorous animals. The panther may have acquired the flukes by eating crabs or cray fish containing the early stages of the flukes or by drinking water containing the larval stages detached from dead crabs. Schaller 1967, in 'The Deer and the Tiger', page 236, refers to these matters and adds that though in his experience no crab remains were found in the faeces, Burton (1936) and Perry (1964) listed crabs as being part of the tiger's diet.

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4. TRANSPORTATION OF YOUNG BY RATEL (*MELLIVORA CAPENSIS*)

While going through my old field notes I came across an entry which may be of interest to the readers of the *Journal*.

In Sagar district of Madhya Pradesh in 1963 we saw a ratel (*Mellivora capensis*)

running on the road in front of the vehicle on a winter evening. A hunter shot the animal, which turned out to be a female. On going upto it we found that a male cub which was unscathed, had fallen off its mother's back.

I kept the cub for a couple of weeks and it was doing quite well on a mixture of minced meat and milk, laced with vitamins. It had already been weaned. The body emanated a very strong, musky and pungent unpleasant scent which was not related to food or upkeep, as it was always given fresh food and kept clean. Whilst away on tour the carelessness on the part of my servant allowed it to

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contract disease and it died 3 days later. Autopsy revealed it to be Pneumonia.

Carrying of juveniles and young on the back is a well recorded fact among the bear family (Ursidae) to which, of course, the ratel is related. But this behaviour does not appear to have been yet recorded in the ratel of which, in fact, so little is known.

M. K. RANJITSINH

5. BURROWING PATTERNS OF SAND-COLOURED RAT, *RATTUS GLEADOWI*

(With a text-figure)

The Sand coloured rat, *Rattus gleadowi* (Murray, 1885) has a localised distribution in the Indian desert. A highly specialised species, it is nearer the genus *Acomys* and possesses characteristics of Gerbillinae (second palatal foramina and hypertrophied bullae tympanicae). In western Rajasthan, it occurs in very low numbers, 0.6 per cent of total rodent fauna and prefers sandy (66.6%) and gravel (33.3%) habitats in the desert biome (Prakash *et al.* 1971). Their burrows are found scattered in open sandy or gravel plains, but are also seen under the thickets of *Zizyphus nummularia*. In Sind, this rat has been reported to live near the roots of salt wort plant (*Chenopodiaceae*) (Roberts 1980).

The rat does not excavate very large and extensive burrow systems (Figure 1) as found in case of the predominant rodent species of the desert, *Meriones hurrianae* (Fitzwater & Prakash 1969). Most of the burrows are simple and short and it appears that such burrows are excavated for temporary shelter, feeding or escaping from predators. The burrow open-

ings are of 3.5 x 5 x 5 x 4 cm dimension. About 50% burrows are 'L' shaped, 30% 'V' and 'D' shaped, 10% long tunnels, 8% burrows small tunnels with a blind end and only 2% are complete burrows. A complete burrow system possesses 4 to 6 external openings in addition to a plugged one, possibly for emergency escape. Burrow depth ranged from 9 to 21 cms. The largest burrow length recorded was 130 cms (range 7 cms to 130 cms) which is quite long as compared to the records from west Sind (45-61 cms; Roberts, loc. cit.). Perhaps, the burrow systems in Pakistan were excavated in the non-breeding season, while in present report these were dug at the end of breeding season (in November) August to October (Prakash 1971).

In some burrows, gryllids and carabid beetles were found to inhabit the burrows as associates. Seeds of *Cenchrus biflorus*, *C. ciliaris*, *C. setigerus* and *Tribulus terrestris* were found in nest chambers, indicating that this species may be damaging the rangeland in the Indian desert.



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