

SHORT NOTE

**A COMPARISON OF MORPHOLOGICAL CHARACTERS OF
A YELLOW-BROWN AND NORMAL COLOURED
RATTUS ARGENTIVENTER (ROBINSON & KLOSS)**

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RINGKASAN

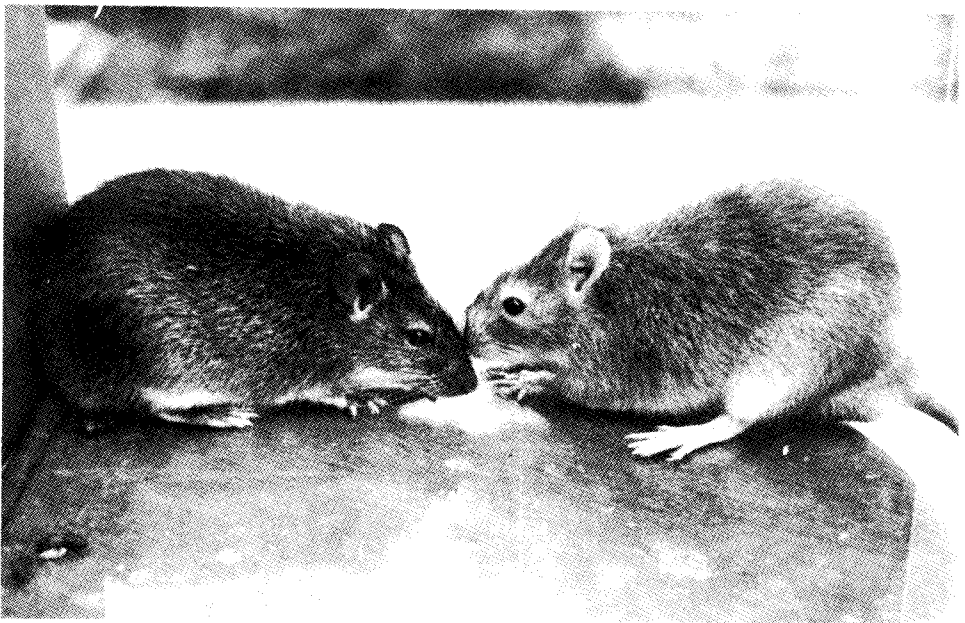
Seekor tikus jantan *R. argentiventer* muda yang separuh albino (choklat kekuningan) telah ditangkap di dalam sawah padi di Bumbong Lima dan dikaji di dalam makmal. Ia didapati subur bila ia dingawankan dengan tikus betina yang berwarna normal. Sifat-sifat morfologi tikus separuh albino ini telah dibandingkan dengan tikus-tikus yang berwarna normal.

INTRODUCTION

In a recent field collection of the rice field rat, *Rattus argentiventer*, a young partial albinistic (yellow-brown) male was caught in Bumbong Lima, Province Wellesley. This was the only specimen obtained from a total of 6870 animals in which 3187 were males.

Similar occurrence of albinism in *Rattus cremoriventer* (HARRISON and LIM, 1951), *Calloscuius notatus* (TAN, 1965) and *Rattus sabanus* (YONG, 1967) have been recorded.

The albinistic animal (*Plate 1*) was mated to a normal female *R. argentiventer*. The mating was fertile giving rise to normal



*Plate 1. On the right is the albinistic male **R. argentiventer** and on the left is a normal coloured animal.*

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animals. Two litters were born, the first consisted of five males and three females and the second consisted of three females. Litter sizes fell within the observed range of normal litter sizes of the laboratory colony which have an average litter size of 7.1 and a range of 1–18 young per litter. The breeding animals were fed with laboratory pellets (Gold Coin Sdn. Bhd.), rice grains and water *ad libitum*.

Live measurements of the albinistic male and that of normal coloured rats (head and body length class 201–220 mm) are as given in *Table 1*.

This albinistic rat differed markedly from the normal rat in the following physical characters (*Table 2*).

The rat was a partial albino as the yellowish brown dorsal hairs were present.

TABLE 1. LIVE MEASUREMENTS OF THE ALBINISTIC SPECIMEN AND NORMAL COLOURED ANIMALS OF HEAD AND BODY LENGTH CLASS 201–220 MM.

Animal	Weight (g)	Length measurements (mm)				Tail/head & body
		Head & body	Tail	Hindfoot	Ear	
Albino	254	209	186	38	23	89%
Normal*	250.3 + 6.0	207.9 + 0.8	202.7 + 3.1	37.6 + 0.4	22.3 + 0.3	97.5% (83–113%)

*Data given include mean ± one standard error for a sample of 30 males. Figures in parenthesis denotes range. The range for *R. argentiventer* as given by HARRISON (1966) were as follows:- head and body length 110–220 mm; hindfoot length 28–38 mm and tail/head and body 80–110%.

TABLE 2. COMPARISON OF PHYSICAL CHARACTERS OF ALBINISTIC (YELLOW-BROWN) and NORMAL COLOURED *R. ARGENTIVENTER*

Characters	Albinistic	Normal
Dorsum	Overall colour pale yellowish brown; guard hairs white or pale brown; fur pale yellowish brown.	Overall colour yellowish brown speckled with black; guard hairs black; fur rich yellowish brown.
Venter	White, midventral region pale yellowish.	Silvery white, midventral region and throat area in some have buffy brown or grey.
Flank	Line of demarcation distinct but not as sharp as normal animals.	Line of demarcation sharp.
Fore & Hindfoot	Pale or white, with silvery white hairs, hindfoot pad unpigmented.	Wrist and tarsals pigmented; with silvery white hairs, hindfoot pad pigmented.
Ear	White with short unpigmented hairs, blood vessels distinct.	Dark brown, with short black hairs.
Tail	White, unpigmented.	Uniformly dark.
Eye colour	Pinkish red	Dark
Vibrissae	Pale brown	Black

The absence of black pigments on the skin and guard hairs indicated a complete blockage of the synthesis of black pigments. The eyes were pinkish red in colour and were sensitive to bright light.

Albinism in this case does not affect the fertility of the male but is a disadvantage to the rat. The lighter colour of the animal probably cause it to be more vulnerable to predation as was reported in the deer mouse *Peromyscus maniculatus* (DICE, 1947). This possibly explains the scarcity of albinistic *R. argentiventer* in rice fields in which quite a number of predators were present. Predators of *R. argentiventer* include the small Indian mongoose (*Herpestes auropunctatus*), the

common cobra (*Naja naja*), the reticulated python (*Python reticulatus*), the barn owl (*Tyto alba*), the black-winged kite (*Elanus caeruleus*), the Brahminy kite (*Haliastur indus*) and the large-billed crows (*Corvus macrorhynchos*).

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SUMMARY

A young partial albino (yellow-brown) male *R. argentiventer* was caught in the rice field in Bumbong Lima and was studied in the laboratory. It was found to be fertile when mated with a normal coloured female. Morphological characters of the partial albino rat was compared with the normal coloured rats.

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