

in which the reflexes mediated by the autonomic nervous system are not as well developed at birth as those of the lamb.

R. S. COMLINE
MARIAN SILVER

Physiological Laboratory,
Cambridge.

- ¹ Barcroft, J., "Researches in Prenatal Life" (Blackwell, Oxford, 1946).
² Reynolds, S. R. M., *Amer. J. Physiol.*, **176**, 162 (1954).
³ Reynolds, S. R. M., *Amer. J. Physiol.*, **176**, 169 (1954).
⁴ Born, G. V. R., Dawes, G. S., Mott, J. C., and Renwick, B. R., *J. Physiol.*, **132**, 304 (1956).
⁵ Born, G. V. R., Dawes, G. S., and Mott, J. C., *J. Physiol.*, **134**, 149 (1956).
⁶ Vogt, M., *Brit. J. Pharmacol.*, **7**, 325 (1952).
⁷ von Euler, U. S., and Folkow, B., *Arch. Exp. Path. Pharmacol.*, **219**, 242 (1953).
⁸ Rapela, C. F., *Acta Physiol. Lat. Amer.*, **6**, 1 (1956).
⁹ Clark, G. A., *J. Physiol.*, **74**, 391 (1932).
¹⁰ Clark, G. A., *J. Physiol.*, **83**, 229 (1935).
¹¹ Bauer, D. J., *J. Physiol.*, **93**, 90 (1938).

Effect of Two Extreme Temperatures on Growth and Tail-length of Mice

EACH of six mouse litters (taken from mice that had spent their pregnancy period in the cold environment of $50^{\circ} \pm 5^{\circ}$ F.) was divided into two nearly equal groups *A* and *B* at weaning time. Group *A* was kept in the original cold environment and the other group, *B*, was transferred to the hot environment of $92^{\circ} \pm 1^{\circ}$ F.

At the age of 7 weeks, that is, after four weeks in the hot room, all mice were weighed and the length of tail was measured between the tip of the tail and the point where the hair on the body ends, that is, the naked more or less hairless tail which was completely exposed to the environmental conditions.

Table 1 shows the mean body-weights of mice at weaning time and at 49 days old.

Table 1

Mice	Sex	Mean weight (gm.)	Max.	Min.
At 21 days	Males (19)	7.33 \pm 1.60		
	Females (21)	7.47 \pm 1.40		
Group A*	Males (8)	20.33	24	13
	Females (11)	20.54	24	14
Group B†	Males (10)	15.10	20	11
	Females (8)	14.40	19	10

* After seven weeks in the cold environment.

† Three weeks in the cold environment, followed by four weeks in the hot environment.

At 49 days, the mean lengths of tail were: Group *A* (20 mice), 6.75 ± 0.65 cm.; Group *B* (18 mice), 7.92 ± 0.55 cm.

The results obtained showed that mice when raised in a cold environment grew normally, but when the environment was changed from the cold to a hot one, this growth was retarded. With regard to the effect on length of tail, it is obvious that the high temperature caused an increase in the length of tail as compared with the cold environment although both groups of mice were brothers and sisters from the same litters. This appears to be a reaction for increasing or decreasing the body surface area to facilitate either heat loss or heat conservation respectively.

M. A. EL-R. ASHOUB

Veterinary Hygiene Department,
Faculty of Veterinary Medicine,
University of Cairo,
Giza. Oct. 29.

An Acid-fast Bacillus isolated from the Lungs of the Cape Hyrax, *Procavia capensis* (Pallas)

IN August 1954 a large epitheloid granuloma containing acid-fast bacilli was observed in a lung from Cape hyrax (locally known as 'dassie'). This particular animal had been received from New Bethesda, a small village in the north-eastern region of the Cape Province.

A further 86 'dassies' from the New Bethesda district were examined, and granulomatous lesions were found in the lungs of four animals. The infected animals all came from the same farm. Material from these lungs was injected intraperitoneally and subcutaneously into further 'dassies'. One of these animals developed a caseous inguinal lymph gland containing numerous acid-fast bacilli. This caseous material was planted on various culture media, and after four months one of us (G. B.) succeeded in isolating an acid-fast organism in pure culture on Dorset's egg medium.

Morphology and cultural characteristics. The isolated organism is a Gram-positive, acid-fast, non-motile, slender, straight or slightly curved rod, measuring approximately $1.5-2\mu \times 0.3-0.5\mu$. Much's granules are often observed. It is usually possible to differentiate microscopically the 'dassie bacillus' from the vole bacillus, particularly in artificial culture.

The organism grows slowly on ordinary mycobacterium media, although Dorset's egg medium is superior. The addition of 5 per cent glycerin does not benefit the organism. It grows better at 37° C. than at 26° C. Visible growth in primary culture usually occurs after 3-4 weeks incubation, whereas in subculture it may develop in approximately a week.

The colonies are of two types; one is small, round, raised, matt, regular, almost white; the other type is considerably larger, flat, irregular and with a raised centre. The differentiation is particularly marked after 2-3 months of incubation.

It survives without subculturing for at least a year. It is sensitive to streptomycin, rimifon and *p*-amino-salicylic acid.

Biological features. Saline suspensions of the culture were inoculated into 'dassies', rabbits, guinea pigs, white rats, white mice, and several varieties of veldt rodents. The lesions produced in these animals were very similar to those produced by the vole bacillus¹ (*Mycobacterium muris*, Wells, 1937). In view of this², series of *Mystromys albicandatus*, guinea pigs and white mice were inoculated with comparable doses of vole bacillus and 'dassie bacillus' respectively. The lesions, after intramuscular inoculation into *Mystromys* and guinea pigs, were of two types: local abscess formation and generalization. The lesions produced by the vole bacillus were far more severe than those produced by the 'dassie bacillus', but the animals invariably recovered. In white mice, however, the vole bacillus on intravenous inoculation produced a progressive fatal pneumonia. In contrast, those inoculated with 'dassie bacillus' developed an early generalized military infection which regressed. The animals still appeared healthy five months later.

In conclusion, the 'dassie' bacillus shares morphological, cultural and biological characteristics with the vole bacillus. Further studies are being undertaken to determine whether the 'dassie' bacillus should be classified as an almost non-virulent variant