Phocids, the pup would have a weight of about 125 lb. at weaning.

Apart from rate of fœtal growth, many other investigations were carried out. The milk dentition, which it reabsorbed before birth, was ascertained by taking X-rays of fœtuses. More than a hundred animals were branded and their movements studied for migration, etc. All the information is now being prepared for a comprehensive paper on the biology of the leopard seal.

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Terramycin in the Treatment of Experimental Rabies in Mice

The following experiment was carried out to test the value of terramycin[1] in the treatment of experimental rabies in mice.

The strain of rabies virus used in this experiment was Paris fixed strain. It was obtained in 1935 from the Public Health Laboratories in Jerusalem. Since that time it has been maintained in rabbits and sheep and used in these laboratories for the routine preparation of antirabic vaccine. It never failed to produce paralytic rabies in sheep, rabbits and mice in 6–7 days. Its potency is such that the L.D.50 for mice, calculated by the method of Reed and Muench, is 0·03 ml. $\times$ 10^{-5} brain emulsion[2].

The mice used were albino Swiss mice which were originally obtained from Dr. Mahaffy, of the Virus Reference Laboratory, Entebbe, and bred locally in Khartoum for the past twelve years. The average age of the mice used in this experiment was three weeks. Each mouse was weighed and the dose of terramycin required was calculated. Each mouse received 150 mgm. of terramycin per kgm. body-weight twice daily with an interval of four hours between the two doses.

Crystalline terramycin hydrochloride in capsules manufactured by Chas. Pfizer and Co., Inc., was used. The contents of one capsule (250 mgm.) were put in a 100-ml. conical flask and 25 ml. of McIlvaine's phosphate–citric acid buffer solution, *p*H 7·0, added. The flask was then shaken thoroughly until a fine emulsion was obtained. A fresh preparation was made daily and kept at 4° C. in the refrigerator until required.

Three groups of mice each consisting of ten mice were used. Each mouse was lightly anæsthetized with ether and then injected intracerebrally with 0·03 ml. of 1 per cent brain material emulsified in normal saline. Group 1 was left without further interference to serve as controls. Group 2 was treated with intramuscular injections (150 mgm. per kgm. body-weight) of terramycin twice daily. Treatment was started half an hour after the intracerebral injection, repeated four hours later and continued twice daily for six days. Group 3 was similarly treated with terramycin for six days, but the intraperitoneal route was used in this group.

On the sixth day of injection, all the thirty mice in the three groups developed paralysis, which started in the hind legs and then became generalized. The mice died of typical paralytic rabies on the sixth or seventh day. No difference whatsoever was noted between the mice treated with terramycin and the untreated control mice, either in the incubation period or in any other feature of the disease. Hence we conclude that terramycin has no value in the treatment of experimental rabies in mice.

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[1] Finlay, A. C., *et al.*, *Science*, **111**, 85 (1950).
[2] Kirk, R., Haseeb, M. A., and Davis, A. T., *Trop. Med. and Hyg.*, **73**, 167 (1950).

A New Early-Morning Ionospheric Phenomenon

Early in January 1952, when ionospheric observations were started at Kodaikanal (10° 14′ N., 77° 28′ E.), an interesting phenomenon, which, to my knowledge, has not hitherto been reported, was observed in the vertical-incidence virtual height/critical frequency records. It was found that on most of the mornings ionospheric echoes ceased to return some minutes to several hours before sunrise and reappeared at about ground sunrise time. Systematic daily observations were started early in March and *h′f* records taken at short intervals beginning about an hour before sunrise daily with the view of examining the frequency of occurrence and any possible seasonal characteristics of this 'no echo' phenomenon.

The observations consisted in photographing the *h′f* patterns at 1- or 2-min. intervals with the *C.R.P.L.* type *C*-3 recorder of the Kodaikanal Observatory covering 1–25 Mc./s. and with peak pulse power of approximately 10 kW. The antenna system consisted of two multiple-wire deltas having reasonably flat impedance over the operating frequency-range and the desired vertical direction of maximum radiation. The records thus made cover a period of five months (March–July 1952) and on examination indicate that on about 60 per cent of the days during these five months ionospheric echoes ceased for some time during the pre-dawn period. The overnight stratum in the *F*-region present at virtual heights of 200–300 km. disappeared gradually without showing any appreciable sharp drop in critical frequency (which is of the order of 1–3 Mc./s. during early mornings). The 'no echo' condition lasted until about the ground sunrise time, when reflexions began to be received from markedly greater virtual heights of 300–500 km. Records taken at 15-min. intervals on the morning of April 30, 1952, show that pulse returns ceased between 0500 and 0515 hr. and did not begin again until shortly before 0545 hr. (All times are given in Indian Standard Time, which is 5 hr. 30 min. ahead of G.M.T.)

On other mornings when ionospheric echoes were received throughout, high-speed ionospheric soundings showed remarkably characteristic sunrise effects in the *F*-region. Almost simultaneously with the ground sunrise, a stratum formed somewhere between 300 and 600 km. The virtual height of the new stratum decreased rapidly until it merged with the overnight layer, usually present at a virtual height of about 200–250 km. The accompanying photographs are of a sequence of *h′f* records obtained on one such morning; they were taken at 2-min. intervals on March 9, 1952, and illustrate the characteristic sunrise effect observed at this location.