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Seal Tracks in the Taylor Dry Valley

THE mummified carcasses of the crab-eater seal (*Lobodon carcinophagus*) are found in many places in the ice-free regions around McMurdo Sound in the Ross Dependency, Antarctica¹. All these carcasses appear to be old. Some have only fragments of tissue on the bones, but others, although desiccated and wind blasted, are well preserved. One carcass has been dated² giving an age of 1,600–2,600 yr.

During a soil survey in the summer of 1959 of the Taylor Dry Valley I observed many carcasses, probably including a number of those observed by Scott³, Griffith Taylor³ and Péwé's party⁴. Most of these carcasses also appeared to be old, wind blasted and in some cases only scattered bones were observed. Three carcasses were observed on the ice of Lake Bonney at the western end of the Dry Valley although more were observed on the ice of other lakes in the Valley. It is difficult to estimate the age of the carcasses, because of the very low rate of organic decomposition in the arid, cold climate of the valley, but casual observation leads to the conclusion that most of the carcasses are of similar age—probably as old as the carcass the age of which was determined by Péwé *et al.*⁴. However, on a small alluvial plain at the eastern end of a large lake in the Taylor Valley, the track of a seal was observed. This was a furrow in the sand, about 1 in. deep and 6 in. wide, following an irregular course across the plain. It showed flipper marks and places where the seal had rested, and changed direction. Similar tracks were observed on beaches at Cape Evans and Cape Royds. The track disappeared under snow-drifts at either end, so that it must have been made before the winter of 1959. The Valley has been visited many times in the past few years, and footprints, helicopter wheel impressions and other traces of human activity are quite common, including some that must have been made during the autumn of 1956, when a meteorological station in the Valley was occupied. This means that such minor impressions are not removed rapidly by climatic influences and persist for at least 5 yr. Judging by the state of preservation of the track and comparing it with footprints in the neighbourhood, the track appears to be less than 5 yr. old. A search was made for the seal, but it was

not found. A lake was not far distant, and the seal could have reached it and entered the water at the thaw-moat that appears during the summer.

The site where the tracks were observed lies about 6 miles from the coast, and the intervening country is covered with ridges of moraine several hundred feet high. During the summer period the ground was bare except for occasional small patches of snow.

No seals have been observed in the act of crawling inland. If all the carcasses are of similar age, as they appear to be, then the conditions that cause seals to move inland may have existed at some time about 2,000 yr. ago and the presence of seals on any land surface must mean that the surface is older than about 2,000 yr. However, if the track observed indicates that seals do still travel inland occasionally, then the age of each carcass must be measured to determine a minimum age for the land-form. Observations in the Taylor Valley seem to indicate a rather complicated history of ice-movements. Some figures on the age of land-forms may help to sort out this history.

If the twenty or so carcasses observed in the Taylor Valley represent all the seals that have travelled up the Valley in the past 2,000 yr. and that there has been the same tendency to wander inland during this period, then the rate is approximately one every hundred years. Even if more carcasses are present, but not observed, and if others have crawled into moats at the edges of frozen lakes, then the rate is still very low. The carcass dated by Péwé *et al.* may not be the oldest in the Valley and the rate would then be still slower. It is possible that carcasses of seals dehydrate rapidly in the arid climate and after a short period reach a stage of decay which does not proceed further, and thus all observed carcasses appear of similar age.

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ENTOMOLOGY

Resistance to Dieldrin in *Anopheles* in Trinidad

DIELDRIN has been in use as a larvicide against *Anopheles neomaculipalpus* Curry for several years in the Piarco Airport area of Trinidad. This species is of secondary importance to *Anopheles aquasalis* as a vector of malaria in the coastal areas of the Colony.

Lack of proper control recently in the Piarco area raised suspicions that the species was showing some degree of resistance to dieldrin. Susceptibility tests with the standard World Health Organization mosquito adult test kit using freshly blooded wild-caught specimens taken from calf-baited Shannon dawn traps gave the results with DDT and dieldrin shown in Table 1.

It is to be noted that about 27 per cent of the mosquitoes tested survived 1.6 per cent dieldrin papers for 8 hr. and there was a 5 per cent survival