

	1896.	1897.
Ketavie	109	205
Lukamon	205	251
Lagoon	78	70
Zapadnië Reef	304	70
Ardiguen	2	10
Tolstoi, sand-flat and beach	1,493	591
Zapadnië, gully and beach adjacent	1,151	682
Total	3,444	1,881

The most important point indicated in this Table is the falling off in the great mortality observed last year on the sandy flats and gullies of Tolstoi and Zapadnië, which spots came last year to be called the "death-traps." In the case of Tolstoi it is certain that the immediate neighbourhood of the sandy area under consideration was this year sparsely inhabited as compared with last year; the difference was plain even at the date of my visit, and is indicated in the photographs. For Zapadnië I cannot speak positively to the same effect, as neither my memory nor the photographs record very precisely the distribution of the breeding seals on these small areas last year. The main facts are that in these two localities a loss was suffered still great, though, especially on Tolstoi, much less than last year; but that on the whole a heavy mortality of pups was witnessed, which as before was plainly independent of and antecedent to any effects of pelagic sealing.

A very important result of this summer's work has been the discovery of a cause hitherto unsuspected, contributing in large measure to this mortality.

During last winter Dr. Stiles, a well-known American helminthologist, reasoning from the very high mortality of the pups on sandy as compared with that on the rocky areas, suggested to the American Commissioners that a cause of the mortality might be found in a parasitic worm of the genus *Uncinaria* (*Dachninus*), which passes a portion of its life-history in sand, and of which one species is known to be a common and fatal parasite of young puppy-dogs. This fruitful and ingenious suggestion has been found correct. The worm is exceedingly minute, and I do not wonder that neither it nor its attendant symptoms were discovered last year by Mr. Lucas and me, who are neither of us skilled in the matter of parasitic diseases. This year Mr. Lucas devoted himself in particular to a study of the animal, and has preserved material for a full investigation of its structure and of the tissues affected. The worm inhabits the small intestine, where it lives, not on the food-material contained in the gut, but by sucking blood from the intestinal walls. Its presence is marked by small clots and extravasations of blood in the walls of the intestine, while attendant symptoms are emaciation of the body and a pale anemic condition of the muscles. On Tolstoi in particular, and also on Zapadnië, I saw this year one case after another where, on dissection, these symptoms were present and the worms found. Many such cases we undoubtedly mistook last year for cases of starvation, and many deaths, whose immediate cause is injury by crushing, probably take place when the pup is weakened by the parasite.

The main point of which we are thus made aware is that there exists a disease of an epidemic character, of which we can only say as yet vaguely that it at least constitutes a heavy check on the increase of the herd. As it is certain that the seals prefer the rocky to the sandy areas, and only overflow on to the latter for want of space elsewhere, it is reasonable to assume that this check operates with rapidly increasing force in those times when the herd is most prosperous and dense. And it is more than probable that, like other epidemics, this one is of a fluctuating character, and, under certain conditions of temperature, or of moisture, or combination of circumstances of which we know nothing, may at times result in loss still more serious than that we have witnessed. The fact that in 1892 Mr. Macoun saw about 4,000 dead pups on the spot where last year we saw 1,493 and this year 593, is very suggestive.

And, furthermore, the existence of this cause of death gives us the right, though in what measure we do not know, to deduct to a very considerable extent from the number of pups that die in the latter part of the season when we seek to estimate the loss due to starvation as a result of pelagic slaughter of the cows. It was shown last year that one-half of the mortality of pups occurred before pelagic sealing could exert its influence, but we do not know at what period, if at any period, of infancy the parasite ceases to be fatal to the pup. The presumption is certainly strong that to the epidemic cause is due