their very poor condition. A few other sea-run sockeye are recorded as having been taken in the Hakataramea and Twizel Rivers, but reports of captures ceased in a few years and the fish was regarded as having adopted a freshwater existence in Lake Ohau. In 1929 three specimens of these lake-dwelling fish were obtained from Mr. C. L. Ayson, manager of the Hakataramea hatchery. They ranged in length from 7.25 inches to 8.25 inches and all were males almost ripe for spawning. Brief specifications of these fish are: Branchiostegals 11–15, Dorsal fin (developed rays) 11, Anal fin (developed rays) 13–15, gill rakers on anterior arch 33–36, pyloric caeca 88–92. In colour they were whitish below, pale greyish on the sides and greenish grey with small scattered black spots on the back. While the counts confirmed the identity of the fish as *Oncorhynchus nerka* the other circumstances seemed to lay the hypothesis of permanent freshwater existence open to question. These fish agreed closely in size, colour and the preponderance of males with the aberrant offspring of sea-run parents recorded by Ricker (1938) as remaining in North American lakes when the majority of the young fish migrate to sea. It is further to be noted that the Lake Ohau specimens differed from the lacustrine form known as kokanee, and sometimes regarded as the subspecies *Oncorhynchus nerka kennerlyi*, which has equal representation of the sexes, produces successive generations in fresh water, and assumes a bright red colouring at spawning time. The circumstances were consistent with the occurrence of an undetected run of sea-grown sockeye in the Waitaki at the time, but whether this existed or not is not likely to be ascertained now.

In 1934 the lakes and tributary streams in the Waitaki basin above the Hakataramea were cut off from communication with the sea by the construction of a power dam at Kurow. A fish pass was incorporated in the structure but it was of unsuitable design, and it was demolished in 1954 when alterations to the dam were being made. Reports of small sockeye in Lake Ohau and in the ponded water above the dam were current for many years, but specimens received from time to time proved to be *Oncorhynchus tshawytscha* or *Salmo trutta*; and these two species and *Salmo gairdneri* were the only introduced fishes obtained during several collecting expeditions to Lake Ohau. It was April, 1955, before any further evidence of the existence of another salmonoid in these waters was obtained. At that time while I was collecting with Mr P. Bayn, manager of Huxley Station, in small streams about seven miles above Lake Ohau, bones and other fragments of small fishes were obtained under conditions suggesting that the fish had been hauled out of the water and partly eaten by hawks or other birds. These fragments included a gill arch with 33 gill rakers and a vomer with the body carrying teeth, three wide in one place. On March 23, 1961, I obtained from Mr H. B. L. Johnstone, president of the Waitaki Acclimatisation Society, two frozen specimens which had been taken by Mr Bayn in head tributaries of Lake Ohau about a week previously and sent down for transmission to me. Particulars of these fish are given in Table 5, all dimensions being recorded in millimeters. The caeca were in bad condition, and it is certain that a few extra had existed in each specimen, and the scale counts are doubtful as a result of severe erosion and a considerable development of tough spongy skin. No. 1 specimen is a fully mature male and No. 2 a female carrying fully developed eggs 5.70 to 6.50 mm in diameter. No distortion of the jaws was present and there was no enlargement of the teeth in them. In each specimen the vomer carried teeth along about three-quarters of the body, but none on the head. They exhibited no difference in colouring, both being whitish below, pale grey on the sides and greenish grey with a few small black spots posteriorly on the back.