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PUTS THREE MORE VOLCANOES ON MAp OF U. S. POSSESSIONS

Three more volcanoes have been added to the map of American territory, and two of the new craters rank with the giants among the fire-mountains of the world. How he explored these hitherto unknown mountains was told before a recent chapter meeting of the Society of the Sigma Xi by R. H. Sargent, topographic engineer of the U. S. Geological Survey.

The newly mapped volcanoes lie in the Aleutian peninsula, the long tongue that juts out from the mainland of Alaska, between the Bering sea and the Pacific ocean. This strip of land, which contains more active and extinct volcanoes than all the rest of North America, has as yet been very little explored.

The first of the volcanoes mapped by Mr. Sargent was a peak that had been known at a distance for some years; but it had not been learned that it was a volcano. The Geological Survey party travelled by pack train entirely around its base, a total distance of one hundred miles, mapping the slopes as they went. They ascended to the rim, the highest point of which has an altitude of 4200 feet, and investigated the immense crater, six and one-fourth miles in diameter. The volcano is apparently quite extinct, for at the bottom, in addition to one large secondary cone andseveral smaller ones, is a lake of considerable size. The waters of this lake break through a gap in the wall of the mountain and form the Aniakchak river, from which the mountain has been named Aniakchak Crater.

The second volcano discovered by Mr. Sargent lies to the west of Aniakchak Crater, and was named Purple Crater because of its peculiar color. It is the smallest volcano of the three, andis of interest chiefly for a great central mass or plug of basalt that chokes it up.

The third mountain is another giant, 6000 feet high, with a erater five miles across. It shows signs of having been active in recent times, and a record dated 1892 states that a distant and then unvisited peak, which apparently is the same mountain, was seen smoking. If it should stage a really major eruption it would probably be a terrific one, for the whole vast bowl is filled with a mass of ice and snow, through which a black secondary cone projects at one place. This frozen sea inside the crater feeds at least nine large glaciers that creep down the sides of the mountain. The Russians had seen this mountain at a distance andhad given it the name of Weniaminoff, which will probably be retained on the new maps.

Mr. Sargent stated that any one who likes to rough it in unexplored country, even if not interested in geology or any other science, would find the mountains of

the Aleutian peninsula a happy hunting ground. "It is relatively easy to get into," he said, "and fairly swarms with game. We saw fifty-two big brown bears and cari-- bou innumerable, and the streams are alive with fish."

EXPERTS FIGHT FISH EPIDEMICS

There are fish epidemics as well as human epidemics. Really serious ones due to a tiny parasite rejoicing in the name, Ichthyophthirius multifilius, have occurred from time to time in France, Germany, Holland and in various parts of the United States. This parasite attacks fresh water fish both in their natural environment andin aquaria with a resulting loss running into hundreds of dollars.

In a recent paper H. F. Prytherch, of the U. S. Bureau of Fisheries, describes various methods of controlling this disease in hatcheries, fish farms and all places where fish are kept in artificial confinement. To make clear how this problem can be attacked, he says, it is first necessary to understand something of the life history of the parasite.

The young Ichthyophthirius, according to Mr. Prytherch, goes through a free swimming stage during which it wanders around through the water in search of a host. On coming in contact with a fish it burrows into some unscaled part, especially preferring the gills or fins. Once embedded in the fish's skin it grows rapidly from the nourishment it absorbs from the tissues and soon shows on the outside as a small white spot. Badly infected fish are covered with these "polka dots" all over their bodies.

In a few days this white body leaves the fish and sinks to the bottom where it shortly undergoes a transformation into a hard shelled reproductive cyst. When reproduction is complete the cyst wall bursts and releases hundreds of young parasites of the free-swimming stage.

Mr. Prytherch states, "There ar two general methods for treating the disease --first, by killing the parasites while they are attached to the fish, and, second, by destroying them after they leave the fish and are free--swimming in the water. The first general method can be used to hold the disease in check but will not completely wipe it out."

The logical time to begin treatment, he continues, is when the first symptoms of the disease appear and the whole fight in controlling the disease should be directed against reinfection.

Direct application of alum sulphate has been found most efficacious in ridding the fish of the parasites. The healing action of the alum leaves the "patient" in a less weakened condition than any of the variousother chemicals tried so far for this purpose.

The second method which attacks the adult parasite after it has left the fish is more successful and should be utilized, says Mr. Prytherch, wherever possible. It consists simply in placingthe fish in swiftly running water where the parasites will be carried away before reproduction can take place. The overflow should be