

ALASKA KING CRAB INVESTIGATIONS, 1940

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Many of us have relished the "fancy deep-sea crab meat" packed by the Japanese, but few of us are aware that much of it is said to come from water adjacent to our own Alaskan Bering Sea coast. The crustacean from which this delectable crab meat is derived is the king crab (*Paralithodes camtschaticus*). It represents a potentially valuable resource of the sea as yet unexploited by American fishing interests. For this reason the United States Fish and Wildlife Service sent out an expedition to Alaska to investigate the biology of the king crab and its commercial fishing prospects.

A small floating cannery, the *M. S. Tondeleyo*, and a trawl boat, the *Dorothy*, were chartered and provided with necessary equipment, crew, and scientific staff, including Joseph Puncocar, technologist and canning expert in charge of canning methods and allied experimental work; Roy Christey, economist, to study costs of operations in all their phases; Carl Carlson, fishery expert, in charge of commercial gear and studies regarding the relative efficiency of the various types of gear employed in catching crabs; C. J. Pertuit, graduate student of the University of Washington, assistant biologist; and the writer, representing the United States National Museum, biologist and leader of the field party; master of the *Dorothy*, Capt. Ellsworth F. Trafton; and master of the *Tondeleyo*, Capt. A. V. Nelsen, who also acted as superintendent of cannery and commercial fishing operations.

The area designated for investigation this year lay south of the Alaska Peninsula and extended from Ikaton Bay on the west to Shelikof Strait between Kodiak Island and the mainland in the east, from the shallower waters inshore out to the effective range of the gear with which we were furnished—about 90 fathoms of water.

We left Seattle on August 28, and the cruise up the Inside Passage was warm and sunny. Several brief stops formed enjoyable breaks in the trip.

At Ketchikan we consulted with the Assistant Director of the Fish and Wildlife Service, Charles E. Jackson, and R. W. Harrison of the Service's technological laboratory in Seattle, who has direct charge of the king crab investigation in its entirety. Petersburg, which I

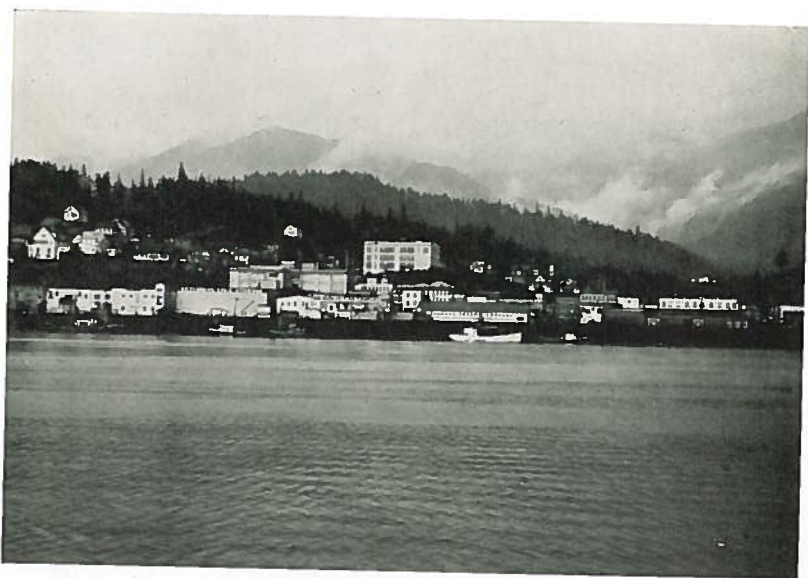


FIG. 42.—Rain clouds drifting across the wooded valley in which is located Ketchikan, the busy metropolis of southeastern Alaska. There is no lack of rain here; rather, there is a dearth of sunshine. Nevertheless, it is a picturesque place.



FIG. 43.—Two of our good friends at Petersburg, Alaska: Earl Ohmer, best known as the shrimp king, to the right, and, beside him, Fred Porter, who in years past has given the National Museum a number of interesting specimens.



FIG. 44.—Looking toward Pavlof Volcano from Tolstoi Point as we enter the bay named for the volcano. The volcano is an active one, and every little while it emits a sizable puff of smoke. The companion peak to the right is inactive. We called the pair "old Pavlof and his wife."



FIG. 45.—A boatload of king crabs taken with a tangle net. The fisherman is holding up a large male about 8 inches in width of carapace or shell.

had long wanted to visit because of my interest in shrimps and crabs and all that pertains to them, claims to produce more shrimps than any port in the world. Here I made the acquaintance of Earl Ohmer, shrimp king of Alaska, and his packing plant foreman, Fred Porter. Ohmer befriended the Hancocks, with whom I have made several trips to the Galápagos Islands, when they were shipwrecked in Wrangell Narrows in 1928. Fred Porter was an old friend of the Museum who 5 years earlier, in 1923, had presented the Institution with a large treelike alcyonarian or fleshy coral, the largest in the National Museum's collections, where it is now on exhibit.

Off Perryville, the village established by our Government for the survivors of the destructive eruptions of Mount Katmai in 1912—Katmai of the "Valley of 10,000 Smokes"—we anchored in order to make a few needed repairs to our main engine. With a sizable party of natives, Leslie Melvin, the local Indian-school teacher, put out through the surf to welcome us ashore. On the way in the native boatmen apparently were so much interested in us strangers, or in what we had to say, that they paid no heed to the surf. Just as we were about to land we were overtaken by a huge breaker. Boots were filled with water and we were thoroughly soaked waist high. Too late to escape, we saw the comber breaking over the stern and rose to our feet to meet the rush of water. This alone saved our cameras; otherwise our pictorial record of the cruise would have ended at Perryville before the first crab had been caught. I asked Leslie later, "Was that an accident, or did the natives want to see if we newcomers on the Alaskan scene could take it?" He hastened to assure me that it was not intentional; but those natives certainly had the laugh of their lives.

The evening of September 12 saw us safely anchored at our headquarters for the next 5 weeks—Canoe Bay, off the northwest corner at Pavlof Bay. Our first task was the installation of the "water-works." In a suitable steep stream, preferably under a small waterfall, a barrel was installed high enough on the mountainside to provide sufficient pressure to carry the water through a series of pipes or a hose. This pipe line was carried out some little distance into the water, where it was secured to a line and marker buoy so that the end of the hose might be lifted into the large lifeboat which was used to ferry the fresh water back to the ship.

The *Dorothy*, on her arrival some days after the *Tondleco*, went actively to work with her omniverous otter trawl. This had an effective fishing opening approximately 85 feet wide by some 10 or 12 feet high. As many as 500 king crabs were caught in a single day



FIG. 46.—A hundred or more Canoe Bay king crabs, taken with the *Dorothy's* otter trawl. The bucket in the background gives one some idea of the size of these large crustaceans.

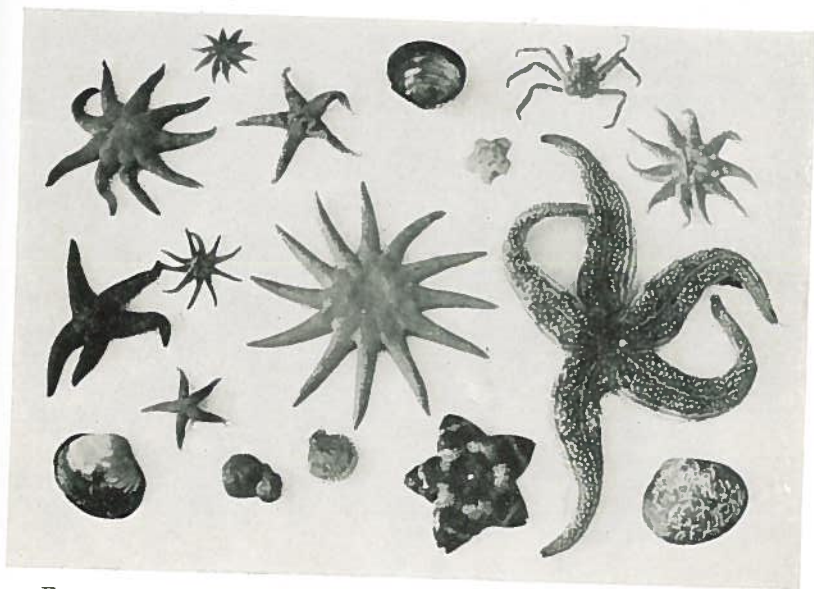


FIG. 47.—A few of the shells and starfish taken with otter trawl in Canoe Bay. Most of them are brilliant red sun stars. At upper right is a baby king crab about 2 inches in width of body.

in Canoe Bay, but not every day was so successful. In the course of the season's operations we caught several thousand crabs.

From Canoe Bay we moved over to Dolgoi Harbor, in the Pavlof Island group, and a week later over to Mist Harbor, Nagai Island in the Shumagins, for a similar length of time. From these bases fishing trials were made in all directions out to sea, among the islands, and up into all promising bays on various types of bottom and in varying depths, but no king crabs were discovered in these areas at this time of the year except for a few isolated individuals in Cold Bay and adjacent Lenard Harbor. Therefore on November 28 operations were transferred to Alitak, west end of Kodiak, where several hundred cases of king crabs had been canned by an earlier though unsuccessful venture during the first half of 1933. Except for Olga Bay, which is tributary to Alitak Bay, our luck was no better than that encountered elsewhere since leaving Canoe Bay. In Olga Bay we not only got several hundred king crabs of the familiar reddish species (*P. camtschaticus*) taken so far, but also between three and four dozen deep blue ones representing a second species of *Paralithodes*, *P. platypus*. The meat of the latter when canned is indistinguishable from that of the former, in either appearance or taste.

So that we might discover something regarding the movements of the crabs, or at least the date of the arrival of a considerable body of them here at Alitak, while the expedition as a whole worked farther to the eastward, Pat Pertuit, and Jim Scrivner of the *Tondlevo's* crew were left behind. Quarters were made available at Alitak and at Olga Bay by the Pacific American Fisheries and the Alaska Packers Association, respectively.

Our last fishing trials of the current season, which was to terminate on December 1, were made over on the north side of Shelikof Strait, east of Kukak Bay, our last base, between November 15 and 20. They returned about 70 crabs, including in the very last haul the largest and heaviest crab taken, a 16-pounder, just about 10 inches in width of shell, or carapace, and approximately 56 inches wide over the laterally extended legs.

The wealth of bottom life picked up by a commercial otter trawl is a revelation to those who have never seen one in operation. On more than one occasion, Canoe Bay, Pavlof Bay, and elsewhere, we picked up close to a ton or more of marketable sole and flounder; at other times, in Olga Bay, all of a thousand pounds or more of good-sized shrimp, chiefly species of *Pandalus*. Now and then we would get a solid haul of purple starfish, and once in Shelikof Strait over 300 7-inch ocean scallops (*Pecten caurinus*), which furnished us a memor-

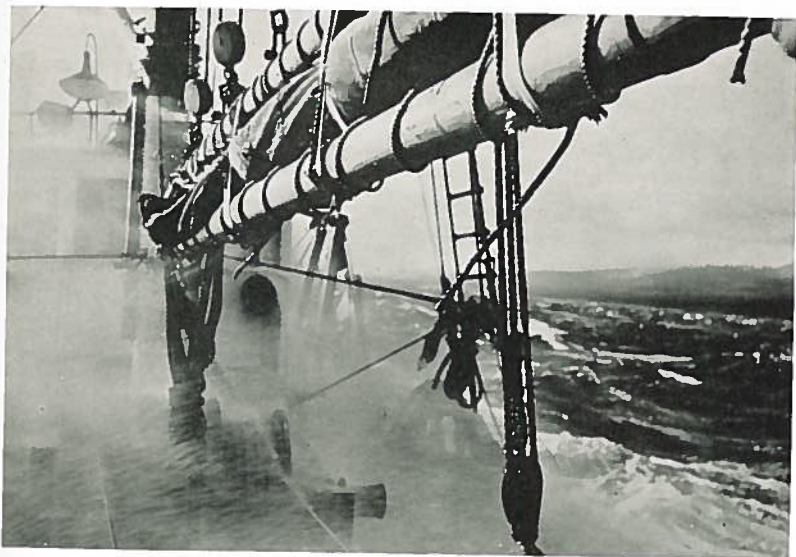


FIG. 48.—A windy day in lower Pavlof Bay; spray blowing over the deck, almost obscuring the *Dorothy's* pilot house.



FIG. 49.—Taking the temperature and sampling the water at Stepovak Bay. This snow-rimmed body of water was not as cold as one might think. At 7 o'clock in the morning, October 25, the surface registered 5°41 C. (41°74 F.). Near the bottom, 22 fathoms down, the water was warmer, 9°90 C. (49°64 F.).

able sea-food treat. The host of marine animals of all kinds that came to hand is almost indescribable. It was not long before we were pressed for suitable containers and preservatives, so many were the kinds of fish and shells and other invertebrates that were of interest to the Museum. The king crabs were difficult to preserve because of their large size and spidery habitus.

On the whole we had remarkably good weather the greater part of our 3 months in the field, with very little freezing weather. One night in Olga Bay it went down to 29° F.; in Kukak Bay, toward the middle of November, the thermometer registered 26° F. at 7 in the morning. We had a windy session both times that we passed the Barren Islands, on our way into Alitak on the *Dorothy* on October 30, and again on one of our crossings of Shelikof Strait; but the blow I shall remember longest was a fierce sou'easter we rode out at anchor aboard the *Dorothy* in Lenard Harbor on October 11.

That afternoon the increasing force of the wind warned us that we had better give up our fishing trials in Cold Bay and make for the nearest shelter, Lenard Harbor. The gale must have reached its peak about 5 p.m., for the *Dorothy* started dragging her anchors. Both were out with all the chain and cable we had for them. Had not the wind fallen off more rapidly in the next 30 minutes than it made up during the several hours preceding, we might not have been here to tell the tale.

Homeward bound from Kukak Bay we lost little time. Two days after the *Dorothy*, the *Tondcleyo* tied up at the Fish and Wildlife Service dock in Seattle at 4 p.m., December 11, officially marking the end of the 1940 field work of the Alaska king crab investigation.