

## Lanai Meteorite Crater Apparently Myth

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Abstract. A survey by air and on the ground revealed no depression at the place supposedly called Ka-imu-hoku, Hawaiian for "The Star Oven", on the island of Lanai. It had been reported as a "pit in the sand" or "the place where a meteor fell". Reasons are given for believing the name was based on native observation of a nineteenth century fireball.

The United States Geological Survey Bulletin 1220 lists 110 impact craters or suspects. Included in Category 6, "Structures for which more data are required for classification", is "Ka-imu-hoku, Hawaii" (Freeberg 1966). This listing is based on John Davis Buddhue's (1947) note "A Possible Meteorite Crater in the Hawaiian Islands". This, in turn, is based on Dr. Kenneth P. Emory's (1924) references.

As my wife and I had planned a trip to the Hawaiian Islands in the latter part of January, 1967, we arranged to investigate the reported occurrence. Charles Holt of the Theodore Davis Company put us in touch with Adolph H. Desha of the Dole Pineapple Company, which owns the island of Lanai. His generosity and thoughtfulness in making all the arrangements are gratefully acknowledged. He and Mrs. Desha were hospitality itself.

We met Dr. Emory at the Bishop Museum in Honolulu and learned from him that the names Ka-hoku-nui (The Large Star) and Ka-imu-hoku (The Star Oven) were among a hundred or so given him by Mrs. Awila Shaw, a blind native who was over seventy at the time and who had moved to Lahaina on the island of Maui. Through Mr. and Mrs. Wallace Au, who run the Lanai Inn where we spent the night, we talked to Mr. Susumu Nishimura, who came to the island in 1915 and heard many stories from a blind native lay preacher named Alika, who was also well over seventy then, but gave no such account.

Dr. Emory had been told that Ka-imu-hoku (The Star Oven) got its name because it was "a place where the meteor fell" and "a pit in the sand where a meteor fell", while Ka-hoku-nui (The Large Star) was

so named because "a meteor fell nearby" (Buddhue 1947, Emory 1924). His map locates them on a beach on the northeast shore of the island, some 500 and 200 yards respectively west of the delta of the stream issuing from the great Maunelai gorge.

The 1923 Geological Survey Map (scale 1/62500, 50-ft contour intervals), the 1936 Geologic and Topographic map of Harold T. Stearns (1940) and a current road map all show Ka-hoku-nui at this spot, but none show Ka-imu-hoku or any feature where it was supposed to be. Mr. Nishimura had never heard the name. Any legend about "a pit in the sand" has evidently died. A 1925 Geology of Lanai (Wentworth 1925) makes no mention of it.

We flew to Lanai from Honolulu on January 31, 1967, in a small single-engine Cessna of the Royal Hawaiian Air Service. The pilot flew low over the beach on which Ka-hoku-nui is located, and we could see no trace of a circular formation anywhere in the reported vicinity of Ka-imu-hoku. Later, we drove near the beach on a good road and covered its three-fourths of a mile carefully on foot. At Ka-hoku-nui, which seems to refer to a point rather than to the whole beach, there is a large Geodetic Survey marker. Twenty to thirty yards behind the beach from this marker to beyond the mouth of the Halulu gorge, 500 yards to the west, there is a dirt road.

The fact that we found no meteoric material nor any sign of impact may not be conclusive. The fact that none was found in constructing this road directly through the supposed location of the "crater" would seem at least very significant. So is, I feel, the naming of the beach or point for a "large star". A meteorite would hardly be associated with a star by the natives. It seems likely that the locality and the imagined depression got their names from a fireball thought to have been seen to fall there in the nineteenth century, but which actually fell, if it reached the surface of the earth, scores of miles to the north in the Pacific Ocean.

Our hope of promoting this "crater" from suspected to proven impact origin was obviously disappointed. On the contrary, it should, we feel, be eliminated from any list of suspects.

#### REFERENCES

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