

January 14, 1964

Dr. Claude W. Hibbard
Curator of Vertebrates
The University of Michigan
Museum of Paleontology
Ann Arbor, Michigan

Dear Dr. Hibbard:

In response to your letter of January 5, 1964, I shall tell you all I know about the problematic tooth remains. Hesse, Turner and I did all the field work together in the vicinity of Burkeville, Texas. Hesse had studied at California and there had become familiar with Desmostylus remains. He certainly was well prepared to identify Desmostylus. Curt discovered the fragments and immediately identified them right at the outcrop. He began collecting systematically and collected great amounts of the matrix, perhaps 80 to 100 lbs. of it. This matrix material he washed and sifted at Texas A. & M. In that fashion, he obtained several more fragments. Some of these fragments fitted together and formed a slender cylinder like a little factory chimney. The central axis was hollow. The taper was rather slight. The wall material was brown and radially fibrous.

I talked to Chester Stock about this material after Curt died and persuaded him to look at it. I obtained the fragments from the A. & M. Museum and lent them to Chester. Chester did not live to examine them and must have left them behind at his museum in Pasadena.

Since then, Ernest Lundelius has been at Cal Tech and has gone through the collections there searching for the material. He did not find it. More recently, all the vertebrate material of Cal Tech was sold and transferred to the Los Angeles Museum. I wrote to the man in charge to look for the remains.

Under these circumstances, the best thing to do would be to go back to Burkeville, to collect about 100 - 200 lbs. of the matrix from the oyster bed, and to start afresh. A search in Los Angeles or Pasadena might be fruitful. However, I trust that Ernest Lundelius made a thorough search.

The locality at Burkeville is easily found and reached by automobile and collecting there is not difficult. The paper by Stenzel, Turner and Hesse (A.A.P.G. bull.) gives a reliable map of the localities.

As to doubts expressed by vertebrate paleontologists concerning the correct identification of the fragments from Burkeville, I shall not go so far as to insist on absolute correctness of the record. Anyone can make errors of identification. However, I saw the specimens myself; they definitely existed and were to my untrained eye very similar to published figures of Desmostylus from the West Coast. Curt Hesse showed the literature to me. Curt was thoroughly familiar with Desmostylus, and it is highly unlikely that he erred.

As to the fact that Desmostylus is a Pacific genus and had not been found on the Gulf and Atlantic side of the continent before it was found at Burkeville, this argument against the Burkeville does not impress me at all. This situation reminds me of the at one time widely accepted hypothesis that the toothed whales originated in Egypt and appeared in North America only in Late Eocene time. This hypothesis rested on the same faulty assumption as the hypothesis that Desmostylus is strictly a Pacific genus. I never believed the hypothesis on toothed whales and after much work and collecting finally found the Protocetus vertebra in the Hurricane Lentil of the Cook Mountain Formation (~~Middle~~ Eocene).

The Panama gap was open in Miocene time, if I recollect correctly. There were no great climatic barriers at that time in the Panamic and Gulf regions. Certain genera of oysters (Agerostrea and Pycrodonte) were able to migrate through the gap at about that time. Why not Desmostylus?

You might write to Dr. F. E. Turner, Union Oil Company of California, Los Angeles, California, and question him.

With my warmest wishes to you.

Sincerely,

H. B. Stenzel

HBS:ss

cc: Dr. F. E. Turner
Union Oil Company of California
Los Angeles, California

SHELL DEVELOPMENT COMPANY
Exploration and Production Research Division