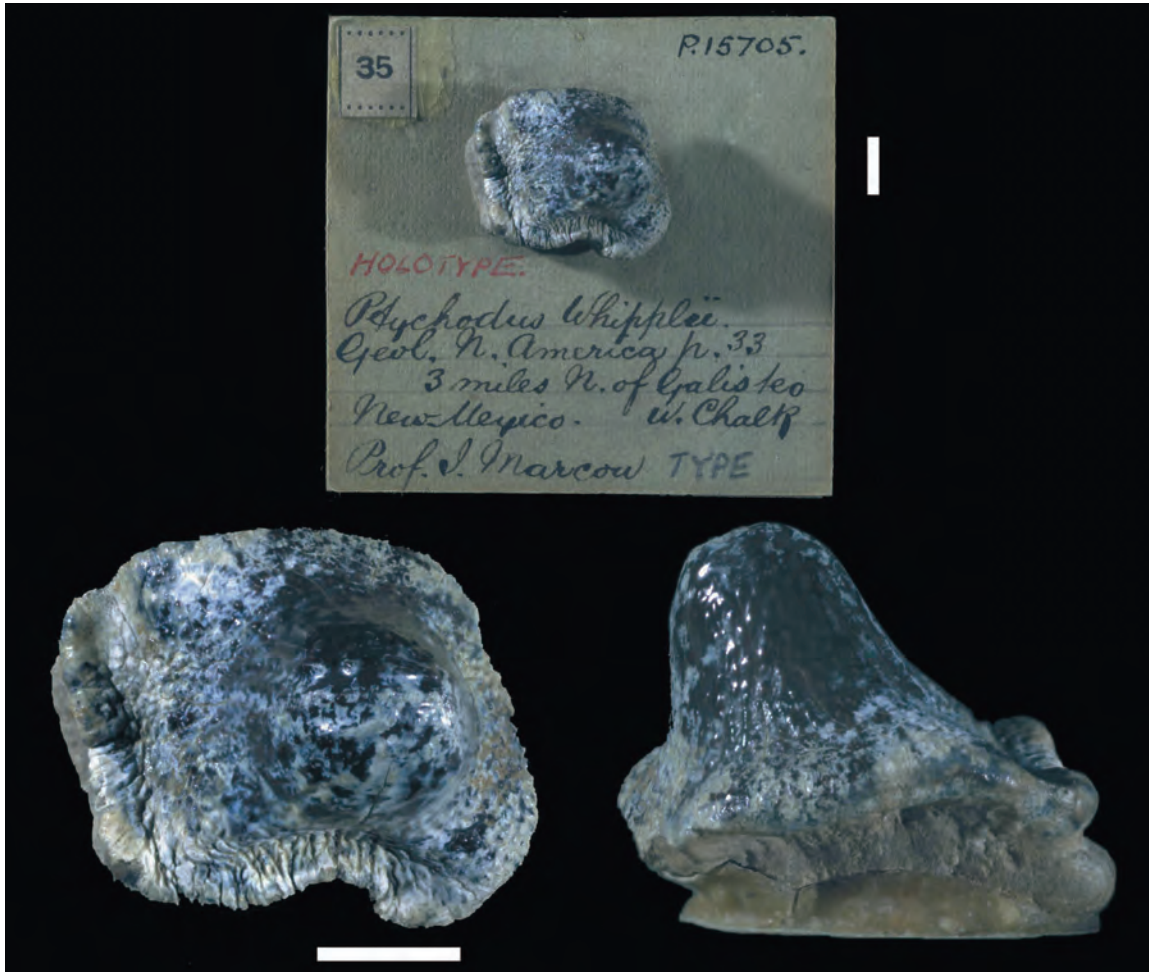


Gallery of Geology

The first vertebrate fossil described from New Mexico



In 1853 French geologist Jules Marcou (1824–1898) made the first scientific observations of the geology of New Mexico when he traveled across the territory as geologist of the Whipple expedition to determine a route for a transcontinental railroad (Lucas, 2001). Marcou collected many fossils along the expedition's route, including a shark's tooth he found in Cretaceous strata near Galisteo, in what is now Santa Fe County. Described by Marcou (1858, p. 33, pl. 1, figs. 4–4a) as *Ptychodus whipplei*, this tooth was the first vertebrate fossil from New Mexico to be published in the scientific literature.

The original tooth of *Ptychodus whipplei* is now in the paleontology collections of the Natural History Museum, London, catalogued as P. 15705. We illustrate it here against its label (above), and in crown (lower left) and lateral (lower right) views (scale bars are 1 mm, photos are courtesy of the Natural History Museum). The tooth is 14.35 mm tall x 17.7 mm wide, and it has a crown dominated by a single, conical cusp and a flat root base. Teeth of *Ptychodus whipplei* are common in New Mexico in Turonian strata of the Carlile and Juana Lopez Members of the Mancos Shale, and they are also found in the Turonian Tres Hermanos Formation (e.g., Wolberg, 1985). However, our efforts to relocate Marcou's site near Galisteo indicate he collected the type of *Ptychodus whipplei*

from lower Coniacian strata of the El Vado Member of the Mancos Shale. The distinctive teeth of *Ptychodus whipplei* are now known from middle Cenomanian—lower Coniacian strata across much of the American West, from New Mexico, Colorado, Arizona, Texas, Kansas, Wyoming, and South Dakota (e.g., Cicimurri, 1998).

References

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