

First discovery of a fossil sirenid in the Mexican Republic*

By Federico K. G. Mullerried, from the Biology Institute

The Sirenia, mammals of the littoral and of rivers close to the sea, are rare in the world, similar to their predecessors. In America they are also scarce, because we only know a few genera, recent and fossil.

In 1927 the author found fossil remains of a sirenid for the first time in Mexico. The place is in the state of Chiapas between Tumbalá and Yajalón, approximately halfway between the two towns, south of the Hidalgo River. It is on the ascending part to the southwest at a height of 600 m above sea level, approximately close to the river. There at the surface are quite well-stratified layers of chalky sand with some muscovite. The rock is of fine grain from a light gray to a dirty gray color. On the surface it is brown due to decomposition of the layers. In these I found remains of a fossil animal in the midst of the road: two fragmented ribs (figures 1 and 2) that can be distinguished very well from the rock by their dark brown color.

The surface of the bones is smooth but in small parts it has a thin deposit of calcite, crystalline in one part, crystallized in another. The ribs do not show any secondary roundness and are parallel to each other at a distance of one and a half cm. This shows that the ribs were not moved after the death of the animal. On a reduced portion of the surface of one of the ribs is adhered fossil bryozoan (belonging to the Cheilostomata according the shape of the cells) and some small specimens of *Serpula* sp., which indicates clearly that the corpse of the sirenid was not covered immediately by marine mud, but that the skeleton remained for some time in the waters of the sea. The ribs are slightly curved, have a oval cross-section, and their diameters are 3.5 and 2.5 cm, respectively. The exterior side is quite convex, the interior very little. The longest fragmentary rib is 40 cm. Both are fractured transversely and at a distance of part of a millimeter to two millimeters. In some fractures there is a fill of calcium carbonate or calcite in parts crystalline and small crystals, respectively. In spite of these fractures, the parts of the ribs have not lost their coherence. The ribs are composed of calcium carbonate, the surface layer is of

* Original Citation: Mullerried, Federico K. G. 1932. Primer hallazgo de un sirénido fósil en la Republica Mexicana. *Anales del Instituto de Biología* 3 (1):71–73. Unknown translator. [Transferred to electronic copy and edited by Mark Uhen, Michell Kwon, and Matthew Carrano, Smithsonian Institution, 2008–2014.](#)

a dark color, the deeper bone is gray. To the naked eye the mass of the ribs has a dense texture but observed with a good lens many longitudinal furrows can be seen, more or less parallel, each having a diameter of 1/20 of a millimeter. These furrows or channels are frequently filled with calcium carbonate and being so small and with the considerable weight of the ribs indicates clearly that they belong to a sirenid because of all the vertebrates, only this suborder of Subungulata has such dense and heavy bones. The length of the fragmentary ribs proves that the fossil Sirenia of Chiapas was 5 m long. In any case, the reduced remains of the animal do not permit specific determination, nor the genus or family to which it belonged. Perhaps future excavations in the place of the discovery will uncover more bones or the skull, and with that an exact determination will be feasible. Stratigraphically, it is of interest that in the layers in which the fossil was found, *Pecten* sp., Foraminifera, etc. belonging to the Eocene are also found. This makes us suppose that the layer in which the fossils to which we have been referring were found belonged to the Oligocene. Probably it is a marine littoral facies, according to the fossil and by the sandy character of the strata; the layers contain especially the Sirenia.

Figure 1) Fragmentary rib of a fossil sirenid joined to a piece of rock from the Hidalgo River between Tumbalá and Yajaló, State of Chiapas.

Figure 2) Specimen of figure 1 seen from behind (related to the figure) in which can be seen another fragment of the rib parallel to the first. (Half original size.)