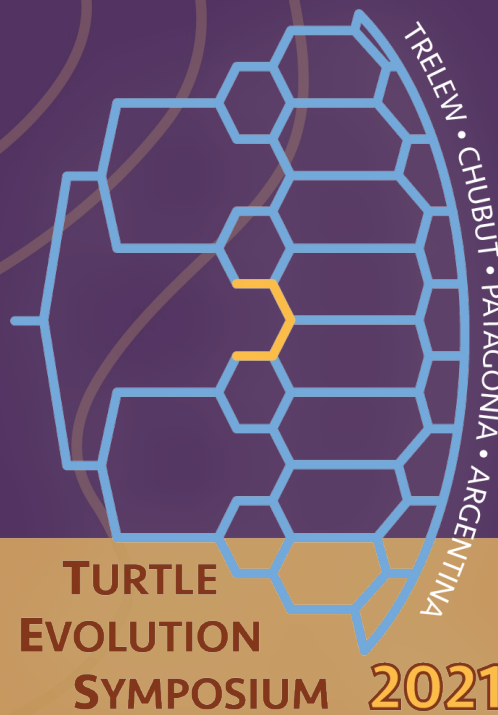




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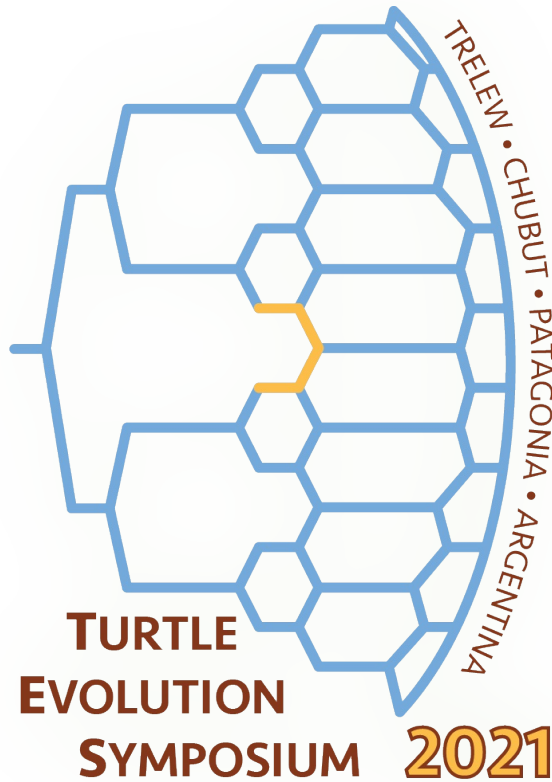
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TURTLES IN A LAND OF SHRIMP-EATERS: FOSSIL TESTUDINES OF THE POTIGUAR BASIN

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The Potiguar Basin is a sedimentary unit located in Northeastern Brazil, with strata ranging from the Lower Cretaceous to the Quaternary. Fossil finds are mostly restricted to the Albian–Cenomanian Açu Formation and the Turonian–Campanian Jandaíra Formation, both poor in tetrapod remains. We address the Testudines of the Potiguar Basin, presenting the first turtles from the Açu Formation and reanalysing the pelomedusoid *Apodichelys lucianoi*, the only tetrapod known from the Jandaíra Formation. The record from the Açu Formation consists of fragmentary shell remains collected by the team of the Laboratório de Macrofósseis over the course of several years of fieldwork in the state of Ceará. All material is deposited in the Fossil Reptiles Collection of the Departamento de Geologia, Universidade Federal do Rio de Janeiro (DEGEO/UFRJ). These fossils, considerably scarcer than the dinosaur and fish remains found at the same locality, belonged to small freshwater turtles. All specimens lack the pitted shell texture typical of araripemydids, the most abundant turtles in the Aptian–Albian of Northeastern Brazil, and some of them show prominent bridge elements. The absence of ornamentation pits and the presence of a strongly developed bridge lead us to tentatively assign some specimens to the Pan-Podocnemididae, a group known to have inhabited South America throughout the Cretaceous, and that is represented in many Cretaceous basins in Northeastern Brazil. The material from the Jandaíra Formation comprises a single specimen – MCT.R.418, the holotype of *Apodichelys lucianoi*, housed in the Fossil Reptiles Collection of the Museu de Ciências da Terra (MCT). The fossil is a steinkern with some bone fragments still preserved, but mostly concealed by matrix. Since its description in the 1950's, this turtle has received little attention, and a reappraisal is desired. We submitted the specimen to an X-ray microtomography, and preliminary results have revealed previously unknown anatomical features hidden within the carbonate concretion. The yet unprocessed images show the full extent of the axillary and inguinal processes, dorsal vertebrae, pelvic girdles and rib heads, which were previously known only partially from the few parts exposed outside of the concretion. The Testudines of the Potiguar Basin contribute to fill an important gap in our knowledge about South American turtle faunas during the Cretaceous Period. The material from the Açu Formation represents the first occurrence of Cenomanian turtles in Northeastern Brazil, and *Apodichelys* is the only fossil turtle in marine rocks from the Upper Cretaceous of the entire country.

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