Lower Cretaceous (Upper Albian) Nautiloids From Cerro De Cristo Rey, Doña Ana County, New Mexico

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At Cerro de Cristo Rey in Doña Ana County, southern New Mexico, an ~ 350 m thick section of Cretaceous strata ranges in age from late Albian to middle Cenomanian. Nautiloids are rare in these strata and were collected from the upper Albian Smeltertown and Muleros formations. Five nautiloids, all assigned to Cymatoceras cf. C. loeblichi, are in the collections of the New Mexico Museum of Natural History (NMMNH). NMMNH P-50940 (179 mm in diameter), from the Smeltertown Formation, is a complete, somewhat dorso-ventrally crushed adult mold that has a large and broadly rounded conch with prominent ribs that are slightly sigmoidal on the flanks and that form fairly deep ventral sinuses, as in Cymatoceras (Miller and Harris, 1945, p. 3). The ribs bifurcate on the flanks and are low, flattened, closely-spaced and separated by narrow interspaces. The ventral sinus is almost V-shaped. The shell is wider than high and involute. The suture is simple and has a shallow lateral lobe. Cymatoceras hilli (Shattuck) and Paracymatoceras texanum (Shumard), both of which occur in association with C. loeblichi, have more strongly sinuous sutures and narrower conchs (Miller and Harris, 1945, p. 7). P-50973 (136 mm in diameter), from the Muleros Formation, is a mold of an uncrushed, adult phragmocone that has features similar to P-50940, but the conch is not as broad. P-50974, also from the Muleros Formation, encompasses three moderately-preserved specimens. The smallest (56 mm in diameter), which is an inner whorl, has the narrowest conch. The largest (119 mm in diameter), which is a laterally crushed whorl, exhibits some of the above features, including some preserved ribbing. The third specimen (79 mm in diameter), a juvenile whorl, has the broadest conch. The NMMNH specimens are tentatively assigned to Cymatoceras loeblichi on the basis of their relatively broad conchs and only slightly sinuous sutures. Miller and Harris (1945, p. 6) state that the ornamentation on the type specimens is not too well preserved, “but the sinuous transverse ribs do not seem to be increased in number by bifurcation or implantation.” However, they further mention that C. loeblichi rather closely resembles C. neohispanicum (Burckhardt), from the middle Aptian of Mexico and lower Albian of New Mexico, in size, shape and ornamentation of conch (Miller and Harris, 1945, p. 7). C. neohispanicum and two of the Cristo Rey specimens of C. cf. C. loeblichi that preserve sufficient ribbing, demonstrate bifurcating ribs. The nautiloid from the Smeltertown is in the Mortoniceras equidistans Zone and the nautiloids from the Muleros are in the Drakeoceras lasswitzi Zone. Both zones are late Albian in age. The type specimens of Cymatoceras loeblichi came from the Albian-Cenomanian Washita Group of north-central Texas. This is the first report of the rare nautiloid C. loeblichi from New Mexico.

References:

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Nautiloids, Albian, Cretaceous, New Mexico, Cymatoceras,