The Nautiloid *eutrephoceras* Sp. From the Cretaceous of New Mexico Likely Represents Multiple Species

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Compared to ammonites, Cretaceous nautiloids are relatively rare in New Mexico, and *Eutrephoceras* sp. is the most common nautiloid of that age in the state. The genus *Eutrephoceras* ranges from the Late Jurassic to the Middle Miocene worldwide. In New Mexico, *Eutrephoceras* sp. has been reported from the Turonian and Campanian (e.g. Scott et al., 1986), Santonian and Campanian (Sealey and Lucas, 2019, 2022), *E. alicesense* Reeside has been reported from the Santonian, and *E. montanaensis* (Meek) from the lowermost Maastrichtian (Sealey and Lucas, 2019, 2022). Morphological features of many New Mexico specimens of *Eutrephoceras* sp. are similar to *Eutrephoceras dekayi*. However, Landman et al. (2018) stated that the lowest occurrence of *E. montanaensis* from the Cedar Creek Anticline in Montana—the uppermost Campanian *Baculites eliasi* Zone or the lower part of the lowermost Maastrichtian *B. baculus* Zone—is below that of *E. dekayi*, and that their ranges may overlap. Given that the stratigraphically highest known specimen of *Eutrephoceras* sp. in New Mexico is from the middle upper Campanian *B. compressus* Zone, specimens from the state are best not assigned to *E. dekayi*. Furthermore, *E. dekayi* has been a “wastebasket” taxon for North American Cretaceous nautiloids (Neal Larson, written communication, 2018).

*Eutrephoceras* sp. is present in the D-Cross Member of the Mancos Shale and Gallup Sandstone in Socorro County, the Satan Tongue of the Mancos Shale in Sandoval County, the Lewis Shale in Rio Arriba and San Juan counties and the Fort Hays Limestone Member of the Niobrara Formation and the Pierre Shale in Colfax County. In New Mexico, *Eutrephoceras* sp. has been found in the upper Turonian *Scaphites ferronensis* and *Prionocyclus quadratus* zones, the lower Campanian *S. hippocrepis* II Zone, the middle Campanian *Baculites gregoryensis* Zone, the upper Campanian *Didymoceras nebrascense*, *Exiteloceras jenneyi*, *D. cheyennense* and *B. compressus* zones and unknown zones. The Satan Tongue occurrences are Santonian in age. These Turonian, Santonian and Campanian occurrences of *Eutrephoceras* sp. from many different ammonite zones in New Mexico likely represent multiple species, and we propose that further study is needed.

References:


Sealey, P. L. and Lucas, S. G., 2019, Late Cretaceous (Cenomanian-Campanian) ammonite systematic paleontology and biostratigraphy, southeastern San Juan Basin, Sandoval County, New Mexico: New Mexico Museum of Natural History and Science Bulletin 80, 245 p.


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