dentisulcatus, as well as one of the largest and one of the smallest specimens of *C. nasicornis*. Both limbs and ribs have abundant plexiform and reticular vascularity pervading woven- and parallel-fibered tissue. There are low amounts of secondary remodeling in the limbs, whereas there are high amounts of secondary remodeling in the ribs. Three of the four specimens have cortical growth marks restricted almost exclusively in the outer cortex, whereas the smallest specimen preserves no cortical growth marks. Comparing the fit of various growth models using mixed effects modeling and AICc values finds a best fit for the monomolecular growth model, though data from earlier in ontogeny is needed to firmly establish a growth curve for the taxon. Regardless of its precise growth curve, *Ceratosaurus* was an exceptionally fast-growing non-avian theropod, with a maximum growth rate of several hundred kg/yr. Similarly sized representatives of all three proposed *Ceratosaurus* species preserve external fundamental systems, which indicates that they had achieved somatic maturity. Osteohistology supports the presence of a single species within the genus *Ceratosaurus*.

Funding Sources US National Science Foundation (EAR1525915).

Colbert Poster Prize Session

A CERATOPSIAN MANDIBLE FROM THE 'MID'-CRETACEOUS OF SOUTH KOREA

Son, Minyoung[1], Makovicky, Peter[1], Lee, Yuong-Nam[2], Kim, Hyun Joo[3], Paik, In Sung[3], Jung, Seung-Ho[4], Kong, Dal-Yong[5], Lee, Sungjin[2], Yoon, Han Sang[2]

[1]Department of Earth and Environmental Sciences, University of Minnesota Twin Cities, Minneapolis, Minnesota, United States, [2]School of Earth and Environmental Sciences, Seoul National University, Seoul, Korea (the Republic of), [3]Division of Earth and Environmental System Sciences, Pukyong National University, Busan, Korea (the Republic of), [4]National Research Institute of Cultural Heritage, CHA, Daejeon, Korea (the Republic of), [5]Cultural Heritage Administration, Daejeon, Korea (the Republic of)

Ceratopsia is a diverse clade of small- to large-bodied, bipedal to quadrupedal dinosaurs from the Late Jurassic to the end of the Cretaceous. Major transformations in ceratopsian dinosaurs include the development of elaborate cranial ornamentation and complex masticatory apparatus seen in the Late Cretaceous taxa. The 'mid'-Cretaceous was a pivotal time in ceratopsian diversification. Early to 'mid'-Cretaceous divergence of major predominantly Late Cretaceous clades (leptoceratopsids, protoceratopsids, ceratopsoids) is inferred, with tantalizing evidence from Central Asia and North America.

A dinosaur mandible was discovered in 2008 from the Turonian ('mid'-Cretaceous) Goseong Formation of Goseong County, Gyeongsangnam-do of South Korea. It was initially reported as belonging to a "hypsilophodontid" euornithopod in 2009. The partial left mandible comprises the articulated dentary, angular, splenial, and seven erupted teeth. Further examination and phylogenetic analyses recovered the mandible as belonging to a basal neoceratopsian. The new ceratopsian can be diagnosed based on unique features, including a prominent dentary ridge that extends anteriorly from the lateral surangular ridge to the base of the coronoid process (shared with *Mosaiceratops*) and the ventral edge of the angular strongly curved posteroventrally in lateral view (autapomorphy; angled in *Udanoceratops* and *Zhuchengceratops*). Micro-CT scan data revealed up to three generations in a tooth family, with the tooth replacement pattern intermediate between the earlier-diverging *Liaoceratops* and later-diverging *Protoceratops*. While the residual roots contribute to the grinding surface as in *Protoceratops* and unlike in *Liaoceratops*, where extensive resorption of roots occurs, the adjacent tooth crowns are not as tightly packed as in *Protoceratops*. Parsimony-based cladistic analyses using two character matrices for ornithischian and basal ceratopsian interrelationships both recovered the new ceratopsian as a sister taxon to Euceratopsia (Leptoceratopsidae + Protoceratopsidae + Ceratopsoidea). The ceratopsian mandible from Korea adds to the ceratopsian diversity from the 'mid'-Cretaceous and provides information on ceratopsian dental evolution.

Funding Sources Basic Science Research Program, NRF Korea (#2022R1I1A2060919) to Y.-N.L.; National Science Foundation award FRES (#1925884) to P.J.M.; Jurassic Foundation grant to M.S.

Technical Session 11: Archosaurs (Friday, October 20, 2023, 8:00 AM)