ANATOMICAL PECULIARITIES OF THE GIANT PTEROSAUR *THANATOSDRAKON AMARU* (AZHDARCHIDAE, PTERODACTYLOIDEA) FROM UPPER CRETACEOUS DEPOSITS OF MENDOZA, ARGENTINA

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The largest South American pterosaur, *Thanatosdrakon amaru*, represents an excellent case study to analyze the importance of expanding phylogenetic matrices with appendicular characters. Several phylogenetic results recover *Thanatosdrakon* deeply nested in the Azhdarchidae clade, as it presents numerous characters in the humeri that are decisive in achieving these results. However, *Thanatosdrakon* presents unique characters that evidence a greater diversity in the classic morphologies described for azhdarchids. The preserved axial sequence shows a remarkable development of neural arches and very reduced vertebral centers. This structure is maintained from the posterior cervical vertebra to the dorsosacral vertebrae. The proximal syncarpal has a morphology similar to those described for azhdarchids, however, it presents a developed posterodistal process. Finally, the characteristics of the wing phalanges are singular, lacking the ventral ridge observed in many azhdarchids. Preliminary histological analyses indicate that the smallest specimen (UNCUYO-LD 307) is a juvenile-subadult, and these characteristics could be due, in part, to the ontogenetic stage of the specimen. In azhdarchids, the characters related to the skull and middle cervical vertebrae are crucial for phylogenetic resolutions. Taxa lacking these structures are shown to be unstable in topologies. Detailed characterizations on other elements, such as the humerus, have partly solved these problems. However, there is a need to expand the number of characters in appendicular elements that would allow improved resolutions in less inclusive clades.

Preparators' Session (Thursday, November 3, 2022, 8:00 AM)

EXAMINING DATA COLLECTION, ARCHIVING PROTOCOLS, AND DATA ACCESSIBILITY IN FOSSIL PREPARATION LABS

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Over the past five years, improvements to the Sternberg Museum of Natural History paleontology department have resulted in a renovated fossil preparation lab and a new database for specimen data storage. Collection staff also developed workflows to assist staff, students, and volunteers with data and metadata collection and archiving. However, these improvements have highlighted areas where we are still struggling with data acquisition, transfer, and archiving. One such area in need of improvement is the transfer of preparation-related information from the prep lab to the collections database. The purpose of this study is to bridge the gap in communication to ensure all data collected in preparation labs are properly archived and made available to those who need it. To find ways to improve our protocols, we constructed and sent a survey to various institutions across the international paleontology community to determine how others handled prep data collection and transfer, with the hope that we could use already established best practices to mitigate our issues. The survey included questions that address what data are collected during fossil preparation, how data are collected, how data are stored, who can access data, and improvements needed in current protocols. Survey results show that the Sternberg Museum is not alone in our struggle with lack of standard protocol for data communication between the prep lab and collections. Specifically, survey responses illuminate gaps in data collection and archiving protocols that cause data to be uncollected, lost, or unarchived. Results also show that a large portion of institutions do not have a formal workflow or data collection protocol in place to ensure that data collected in the preparation lab are archived properly, resulting in confusion or data being lost. Almost all institutions surveyed agreed that there is room for improvement in their current processes where data are being lost or uncollected. These results are significant because it is important to know the complete history of a fossil, such as which chemicals have been applied or any marks made to the specimen during preparation, prior to long-term storage in collections. Ultimately, we hope to use the information gathered in this study in collaboration with other institutions to create a best practices protocol that can be implemented in fossil preparation labs and collections regardless of institution size.

Regular Poster Session 2 (Thursday, November 3, 2022, 4:30 - 6:30 PM)

SIGNIFICANT VERTEBRATE FOSSIL LOCALITIES DISCOVERED DURING PALEONTOLOGICAL RESOURCE INVENTORY OF THE TRIASSIC MOENKOPI AND CHINLE FORMATIONS AT CANYONLANDS NATIONAL PARK