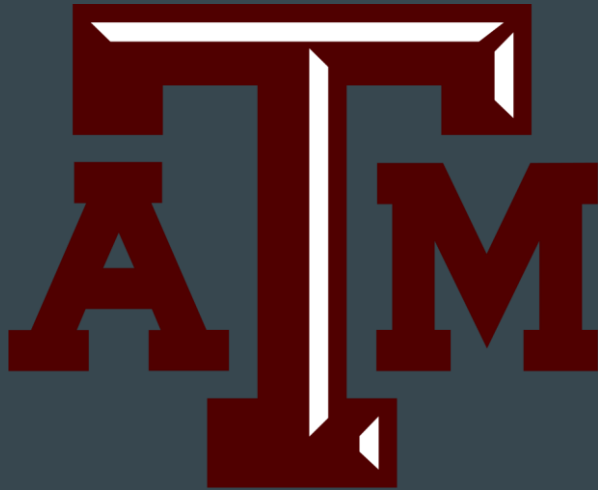


A new Mosasaur from the Turonian of Texas: discovery to description

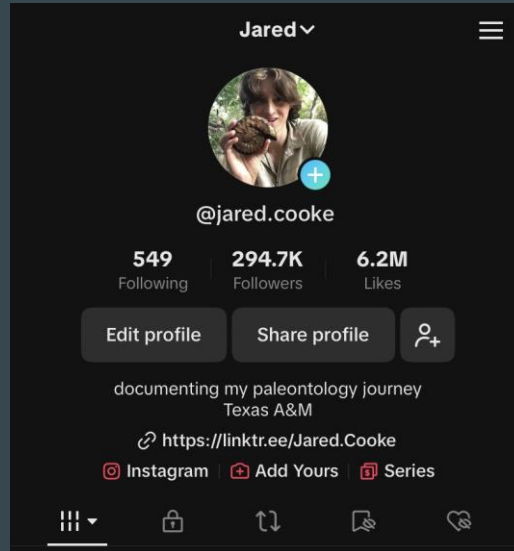
Jared Cooke
Texas A&M University
jcookepaleo@gmail.com



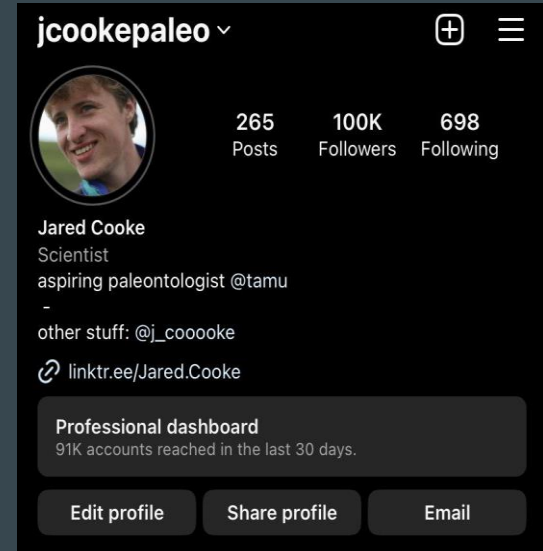
Personal Introduction:



TikTok



Instagram



Internship setting



Professor Michael J.
Polcyn

- Professor at SMU
- Vertebrate paleontologist
- leading mosasaur specialist



Mosasaur: An Introduction

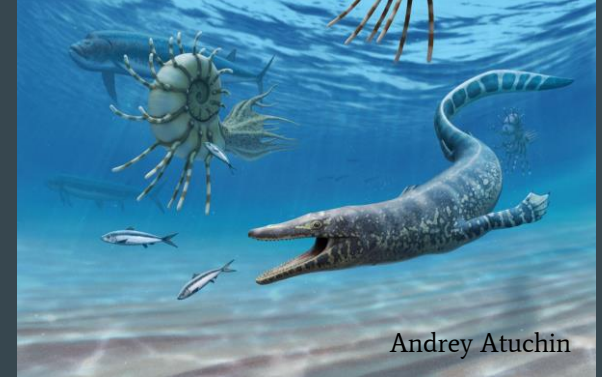
Tethysaurus nopcsai



Basal forms often smaller and plesio pedal

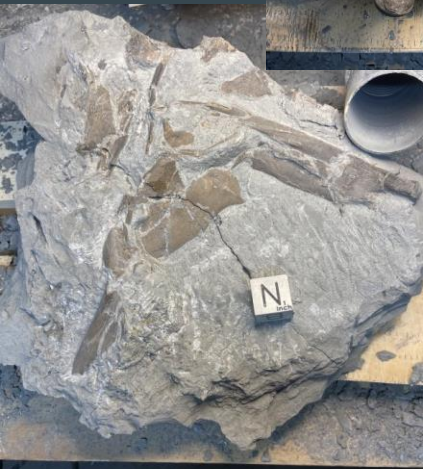
Derived forms grew larger, hydropedal

Sarabosaurus dahli



Research overview

“Olive” the Mosasaur



Major Goals:

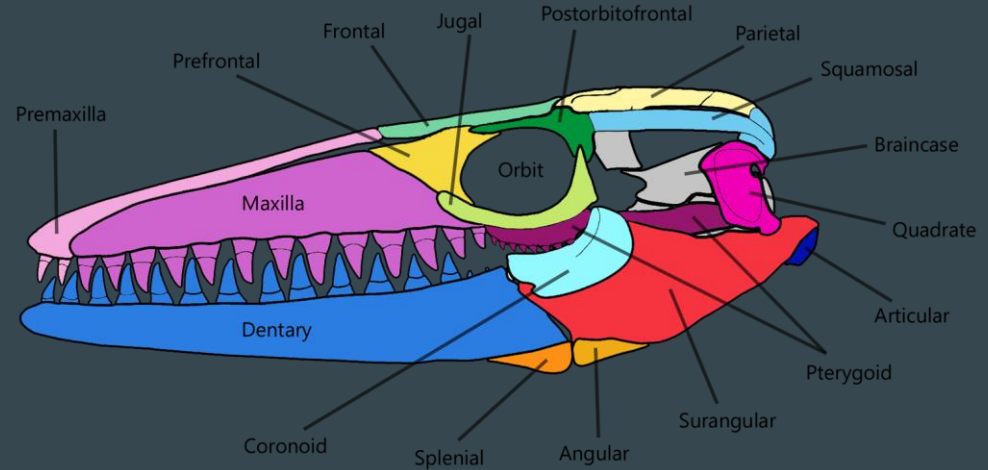
- Describe its Osteology
- Document geological age
(Forams, Ammonite Zones, and bentonitic Zircons)
- Infer phylogenetic position
Possible relationships within *Plioplatecarpinae* and *Tylosaurinae*

Methods and Procedures

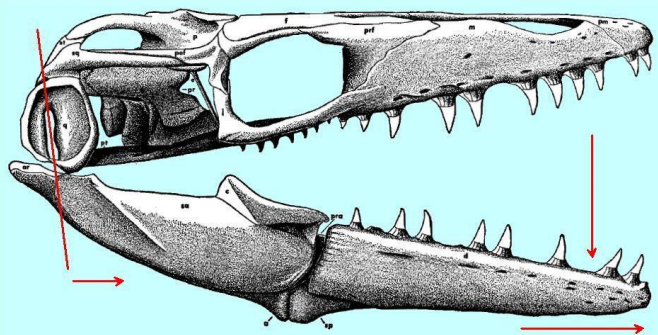
Prep work



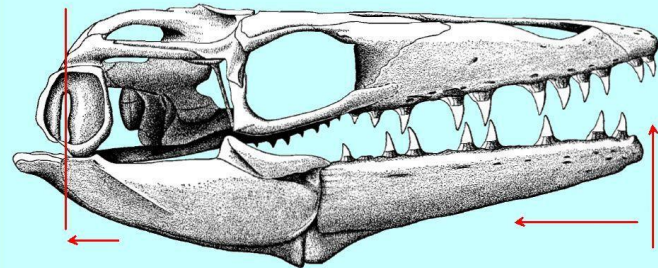
Comparative anatomy & Phylogenetic analysis



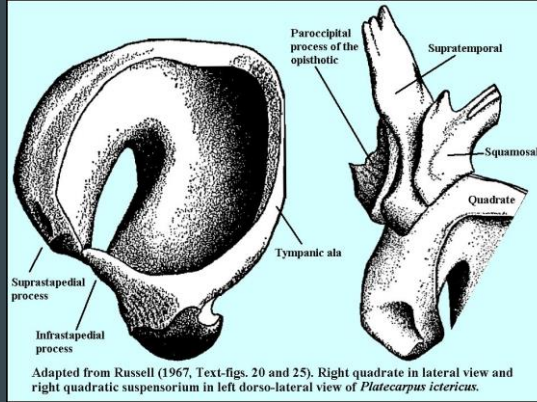
The Quadrate



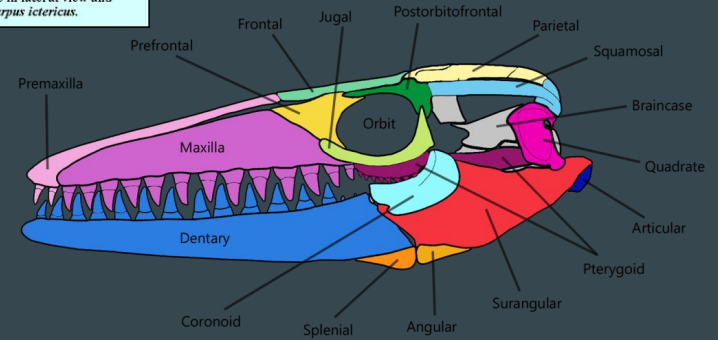
Russell's (1967) Text-fig. 37. Skull showing the jaws opened, the muzzle and anterior mandibular units abducted, and the jaws protracted. Note angle of quadrate.



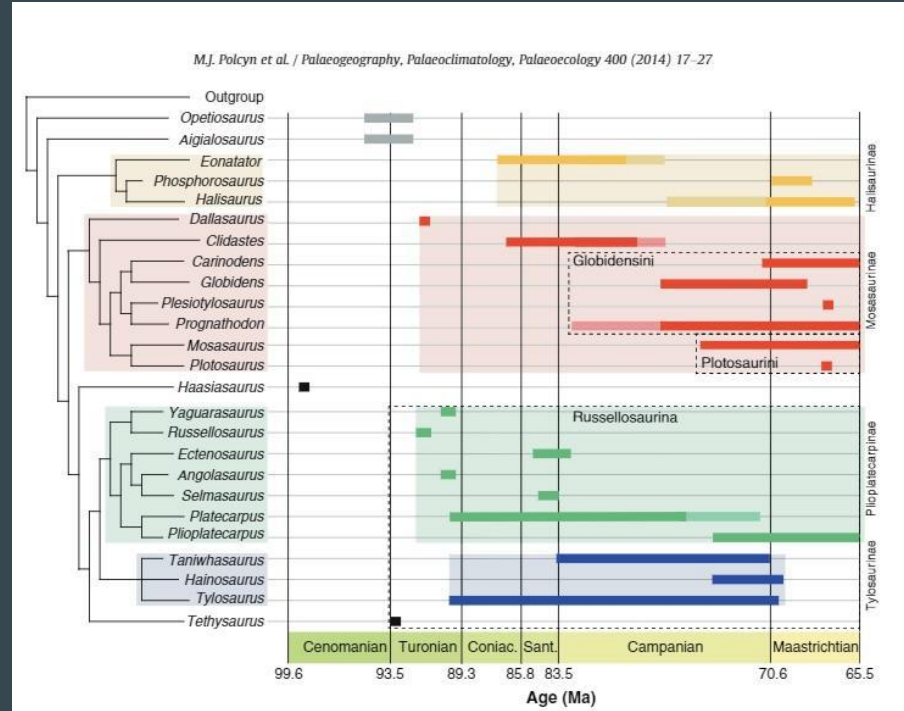
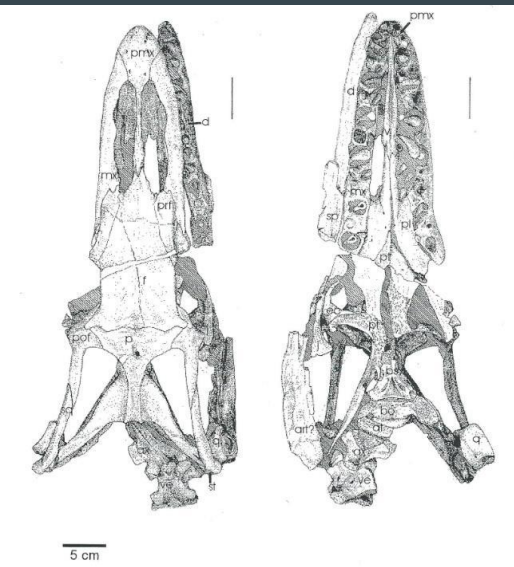
Russell's (1967) Text-fig. 38. Skull showing the jaws nearly closed, the muzzle and anterior mandibular units adducted, and the jaws retracted. Note angle of quadrate.



Adapted from Russell (1967, Text-figs. 20 and 25). Right quadrate in lateral view and right quadrate suspensorium in left dorso-lateral view of *Platecarpus ictericus*.



Preliminary findings



Personal developments

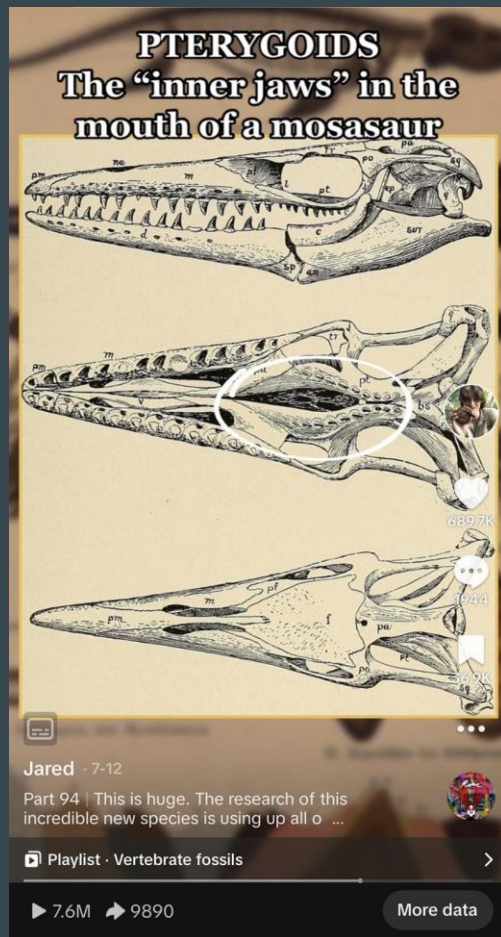
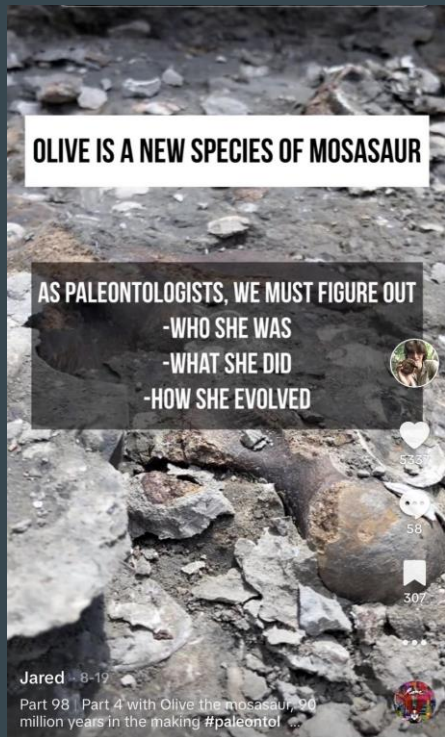
- Better understand the scope of science
- Glimpsed the work life of a vertebrate paleontology researcher
- Better oriented to pursue my goals

Professional developments

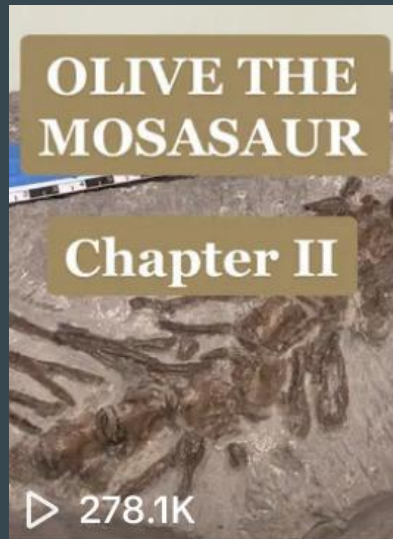
- Field excavation techniques
- Lab preparation techniques
- Methods of comparative anatomy
- Inferring phylogenetic relationships



Social Media:



PREPPING OLIVE THE MOSASAUR



Social Media: impact



logan14567

You guys are unlocking a passion I never knew I had. Thank you for your content!



Reply [Reply with video](#)



amaxis

You're an amazing inspiration because watching your videos and your passion made me follow my goal as a astronomer even harder and more passion as wel



Reply [Reply with video](#)



djdynofinch

When I get kind of burnt out on my Geoscience degree, I come to watch you and I get excited again.



Reply [Reply with video](#)



goofyahhhdog

This inspired me to go and explore the world around me



Reply [Reply with video](#)

The background is a detailed digital illustration of a prehistoric ocean scene. In the foreground, a large, dark-colored marine reptile with light-colored, irregular patterns on its back and tail swims towards the right. Above it, another similar but smaller creature is visible. To the right, a smaller, lighter-colored marine reptile swims. In the bottom right corner, there is a faint, blue silhouette of a person swimming. The water is a deep blue with some white foam or bubbles near the surface.

Questions?

Huge thank you to Mike Polcyn and the Science
Influencers directors for making this possible