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new & recent described Flora & Fauna species from all over the World esp. Asia, Oriental, Indomalayan & Malesiana region

Tuesday, June 15, 2021

[Paleontology • 2021] *Oculudentavis naga* • Unusual Morphology in the mid-Cretaceous Lizard *Oculudentavis* (Reptilia: Squamata)



Oculudentavis naga

Bolet, Stanley, Daza, Arias, Čerňanský, Vidal-García, Bauer, Bevitt, Peretti & Evans, 2021

DOI: [10.1016/j.cub.2021.05.040](https://doi.org/10.1016/j.cub.2021.05.040)
Scientific illustration by Stephanie Abramowicz.

Highlights:

- A new species of the reptile in amber, *Oculudentavis*, is described
- *Oculudentavis* is a bizarre lizard, not a bird
- The bird-like appearance of *Oculudentavis* is due to convergence in skull proportions

Summary

Oculudentavis khaungrae was described based on a tiny skull trapped in amber. The slender tapering rostrum with retracted narial openings, large eyes, and short vaulted braincase led to its identification as the smallest avian dinosaur on record, comparable to the smallest living hummingbirds. Despite its bird-like appearance, *Oculudentavis* showed several features inconsistent with its original phylogenetic placement. Here, we describe a more complete specimen that demonstrates *Oculudentavis* is actually a bizarre lizard of uncertain position. The new specimen is described as a new species within the genus *Oculudentavis*. The new interpretation and phylogenetic placement highlight a rare case of convergent evolution in skull proportions but apparently not in morphological characters. Our results re-affirm the importance of Myanmar amber in yielding unusual taxa from a forest ecosystem rarely represented in the fossil record.

Keywords: burmite, dinosaur, lizard, HRCT, synchrotron, Myanmar, comparative anatomy, phylogenetic analyses, osteology, Cretaceous

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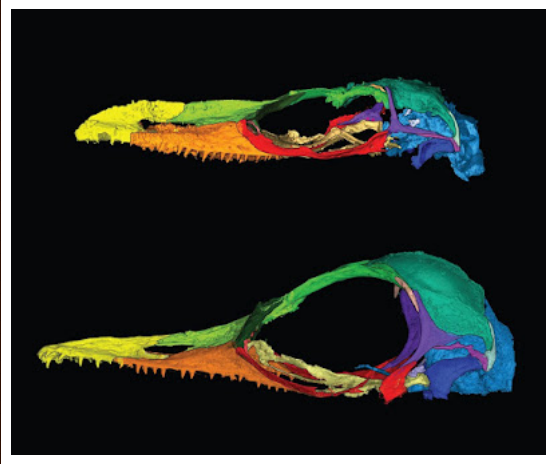
Batrachoseps wakei Sweet & Jockusch, 2021 DOI: [10.1643/h2020027](https://doi.org/10.1643/h2020027) [twitter.com/ IchsAndHerps](https://twitter.com/IchsAndHerps) Abstract Among western North Ameri...



[Herpetology • 2021] *Cnemaspis balerion*, *C. lithophilis*, *C. regalis*, *C. smaug*, *C. wallacei*, et al. • Diversifying on the Ark: Multiple New Endemic Lineages of Dwarf Geckos (Squamata: Gekkonidae) from the Western Ghats

provide insights into the Systematics and Biogeography of South Asian *Cnemaspis*

Coloration in life of all 12 holotypes A: *Cnemaspis balerion* sp. nov.; B: *C. lithophilis* sp. nov.; C: *C. rubraoculus* sp. nov.; ...



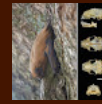
Oculudentavis naga new species

Holotype: Peretti Museum Foundation, GRS-Ref-28627, a skull and anterior postcranial skeleton (Figures 1, 2A–2J, 3A, 3C, and S1). Three-dimensional model of new specimen available at <https://tinyurl.com/Oculudentavis-L-10420>.

Type locality: The holotype specimen of *Oculudentavis naga* (GRS-Ref-28627) and the holotype of *O. khaungraae* (HPG-15-3) were recovered from the same mine (Aung Bar mine, 26° 09' N, 96° 34' E).

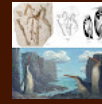
Diagnosis: The holotype of *O. naga* (skull length = 14.2 mm) is somewhat smaller than that of *O. khaungraae* (skull length = 17.3 mm). *Oculudentavis naga* differs from *O. khaungraae* in having a jugal process of the maxilla that reaches caudally to less than 25% of orbit length; in having a long squamosal process of the postorbital; in having a relatively smaller braincase, with short, distally expanded basiptyergoid processes (versus longer, unexpanded processes); and in having anterior palatal rami of pterygoids parallel, diverging posteriorly just behind the fossa columellae, interptyergoid vacuity nearly rectangular (versus divergent pterygoids, heart-shaped vacuity), rostral part of premaxilla shorter and proportionally wider than that of *O. khaungraae*, and less conspicuous platform on the dorsolabial surface of the posterior third of the dentary.

Etymology: Combination of *Oculudentavis* (*oculus* = eye, *dentes* = teeth, and *avis* = bird) and *Naga*, the name of one of the many ethnic tribes living in the Burmese amber mines area. The Naga are mentioned in historical chronicles for their prominent role in amber trading. Divided into many sub-groups scattered across the hills and jungle of India (in Nagaland and other states) and in the Tiger valley region of Burma (where amber deposits are found), the Naga tribes are also reputed for their rich and fascinating culture.



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Molossus melini Montani, Tomasco, Barberis, Romano, Barquez & Diaz, 2021 DOI: 10.1093/jmammal/gyab078 twitter.com/Mammalogists ...



[PaleoOrnithology • 2021] *Kairuku waewaeroa* • A Giant Oligocene Fossil Penguin (Aves: Sphenisciformes) from the North Island of New Zealand

Kairuku waewaeroa Giovanardi, Ksepka & Thomas, 2021 DOI: 10.1080/02724634.2021.1953047 twitter.com/KsepkaLab ...



[Paleontology • 2021] Nuclear Preservation in the Cartilage of the Jehol Dinosaur *Caudipteryx*

in Zheng, Bailleul, ... et Zhou, 2021. DOI: 10.1038/s42003-021-02627-8 Abstract Previous findings on dinosaur cartilage material from t...



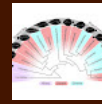
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Oligosoma kahurangi Patterson & Hitchmough, 2021 DOI: 10.11646/zootaxa.4920.4.2 twitter.com/Skins_IUCN Abstract A new species ...



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Thor dicaprio Anker & Baeza, 2021 DOI: 10.11646/zootaxa.5039.4.3 Abstract *Thor amboinensis* (De Man, 1888), known as “sexy shrimp” or ...



[Ichthyology • 2022] Exon-capture Data and Locus Screening provide new insights into the Phylogeny of Flatfishes (Pleuronectoidei)

in Atta, Yuan, Li, ... et Tornabene, 2022. DOI: 10.1016/j.ympev.2021.107315

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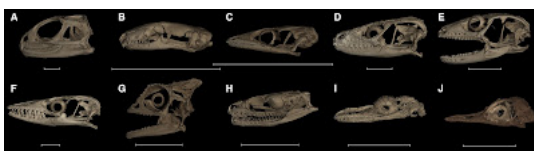
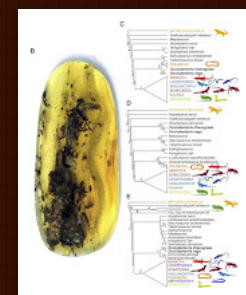
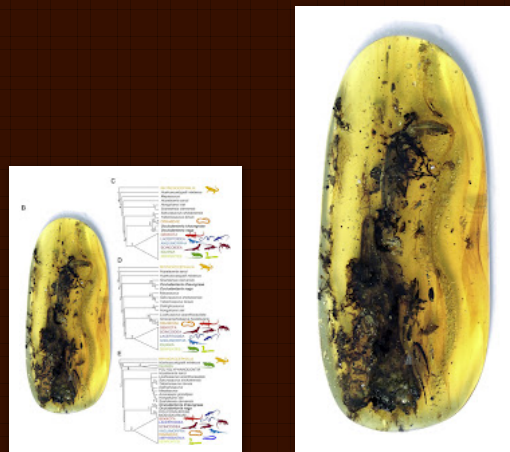
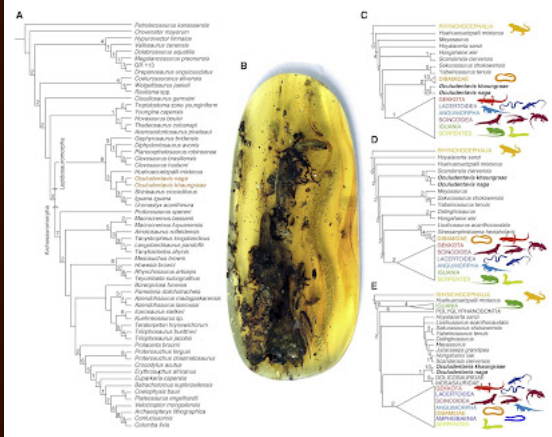


Figure 4. Cranial disparity of typical lepidosaurs to demonstrate the atypical skulls of *Oculudentavis* (A) *Sphenodon punctatus*, Rhynchocephalia UF11978; (B) *Anelytropsis papillosus* UF-H-86708, Dibamidae; (C) *Sphaerodactylus caicosensis* UF95971, Gekkota; (D) *Smaug swazicus* NMB-R9201, Cordyliformes; (E) *Eugongylus albofasciolatus* CAS159825, Scincidae; (F) *Varanus* sp. UF71411, Varanidae; (G) *Rieppeleon brevicaudatus* CAS168891, Iguania; (H) *Boaedon fuliginosus* CAS85747, Serpentes; (I) *Oculudentavis naga* GRS-Ref-28627; (J) *O. khaungrae* HPG-15-3. Scale bar represents 10 mm.



Figure 4. Cranial disparity of typical lepidosaurs to demonstrate the atypical skulls of *Oculudentavis* (A) *Sphenodon punctatus*, Rhynchocephalia UF11978; (B) *Anelytropsis papillosus* UF-H-86708, Dibamidae; (C) *Sphaerodactylus caicosensis* UF95971, Gekkota; (D) *Smaug swazicus* NMB-R9201, Cordyliformes; (E) *Eugongylus albofasciolatus* CAS159825, Scincidae; (F) *Varanus* sp. UF71411, Varanidae; (H) *Boaedon fuliginosus* CAS85747, Serpentes; (I) *Oculudentavis naga* GRS-Ref-28627; (J) *O. khaungrae* HPG-15-3. Scale bar represents 10 mm.

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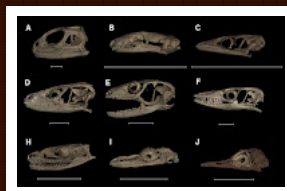
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Oculudentavis naga prior to being trapped in tree resin.
Scientific illustration by Stephanie Abramowicz.

Arnaud Bolet, Edward L. Stanley, Juan D. Daza, J. Salvador Arias, Andrej Čerňanský, Marta Vidal-García, Aaron M. Bauer, Joseph J. Bevirt, Adolf Peretti and Susan E. Evans. 2021. Unusual Morphology in the mid-Cretaceous Lizard *Oculudentavis*. **Current Biology**. In Press. DOI: [10.1016/j.cub.2021.05.040](https://doi.org/10.1016/j.cub.2021.05.040)



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ป้ายกำกับ: 'Open Access', 2021, Amber, Anatomy, Cretaceous, Herpetology - Frog; Reptile Snake, Journal: Current Biology, Myanmar, Osteology, Paleontology - Palaeontology, Phylogenetics, Southeast Asia, Tribe

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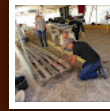
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
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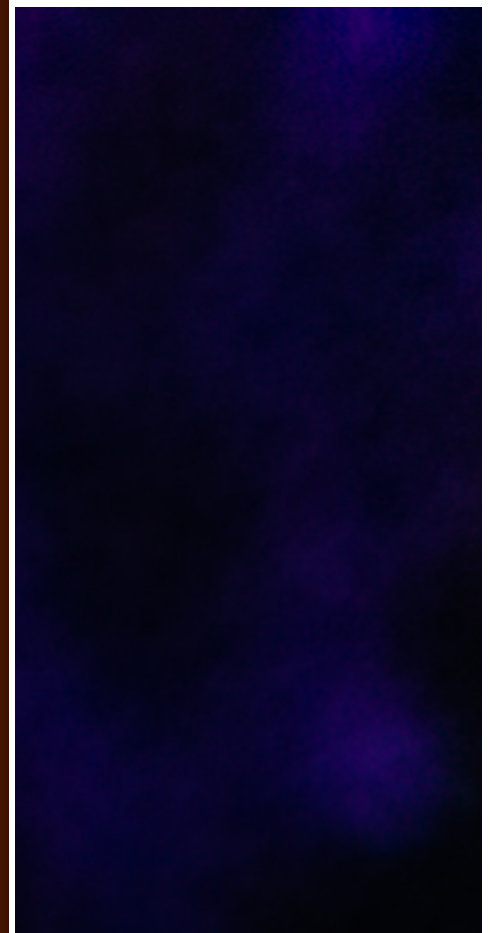
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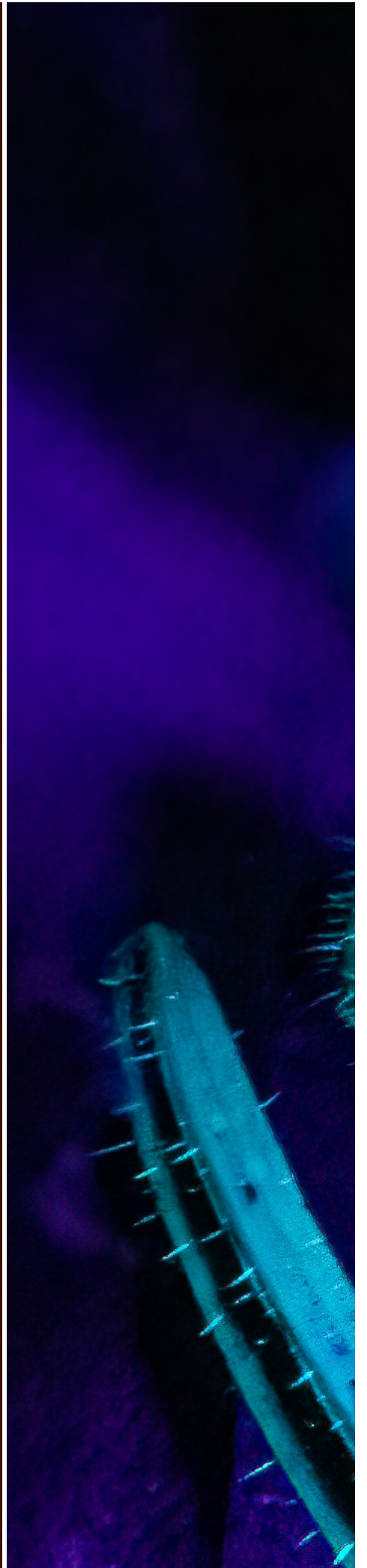
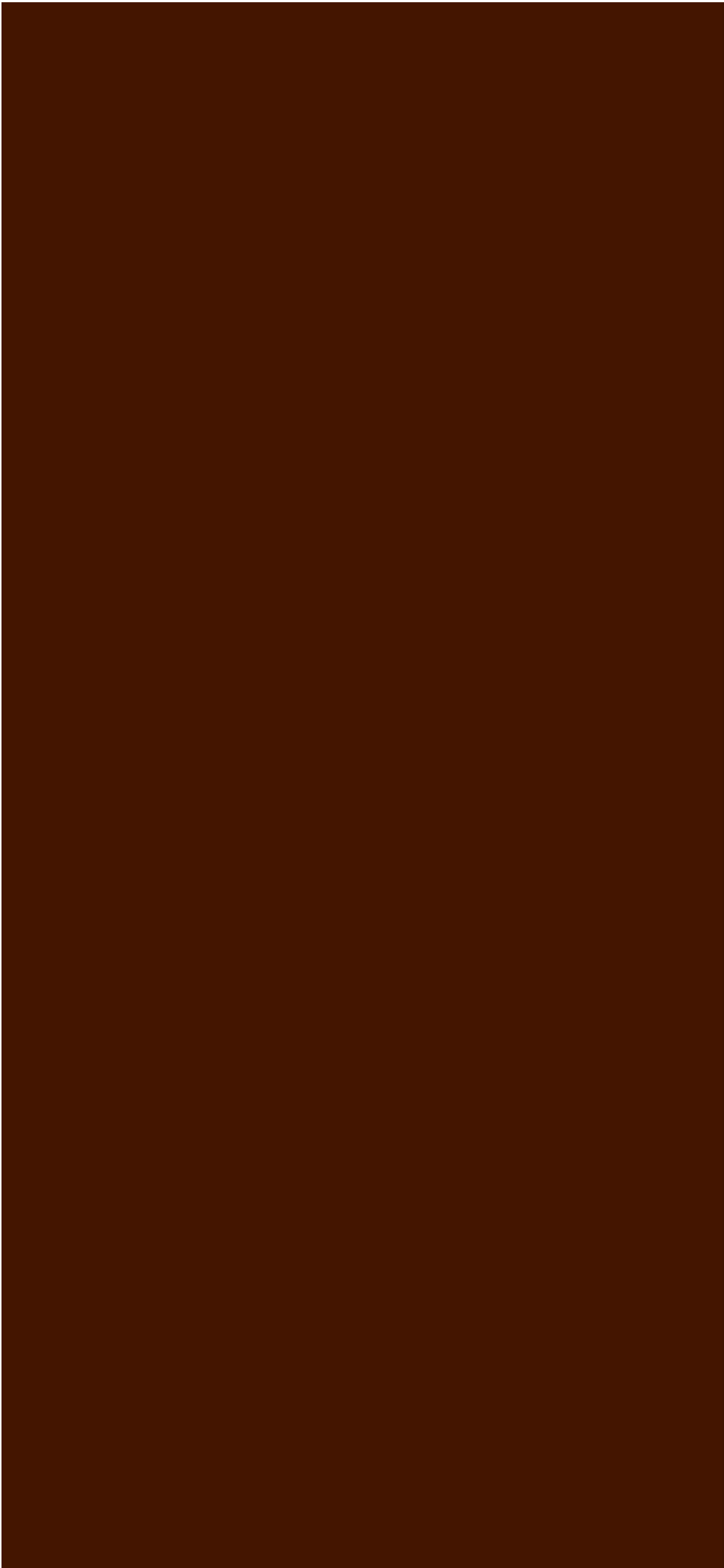
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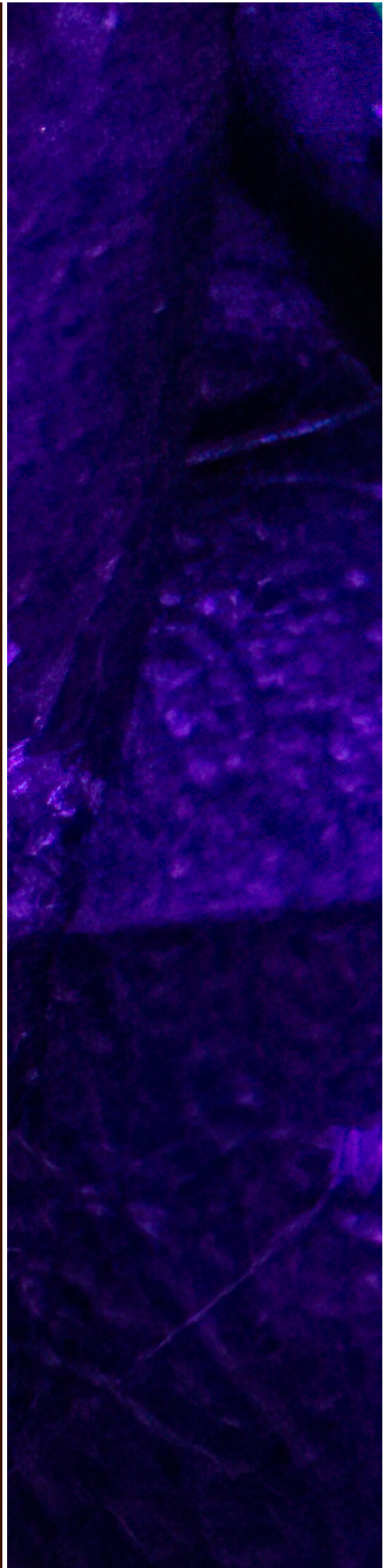


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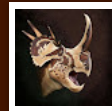
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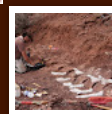
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