

a large variety of bone tissues, are reviewed. New bone histological data on marsupials and on several extinct mainland and island placental mammals are presented. Cervids represent an ideal case study clade for exploring body size and life history evolution, as they are characterised by a rich fossil record, a generally well-known phylogeny, and exceptional examples of body size evolution. The hard tissue histology of various cervid species, including the genus *Candiacervus* with dwarf morphotypes from the Pleistocene of Crete, and the extinct giant deer *Megaloceros giganteus*, both closely related to the recent fallow deer, *Dama dama*, was examined. Dwarf *Candiacervus* are characterised by low absolute growth rates, *Megaloceros giganteus* by high rates. Tooth cementum analysis reveals that in an allometric context, dwarf *Candiacervus* had an extended lifespan compared to deer of similar body size. Histological traits of sampled island and continental mammals suggest the presence of various modes of life history modifications to depend on ecological factors, time of evolution, and phylogeny. Comparison of cervid long bone compactness parameters suggests that mass saving is less intensively selected in zeugopodial bones. Dwarf *Candiacervus* feature relatively thick cortices, suggesting decoupling between limb shortening and mid-diaphyseal cortical thickness.

A NEW TRIASSIC PSEUDOSUCHIAN ARCHOSAUR FROM BRAZIL AND THE EVOLUTION OF THE ORNITHOSUCHIDAE

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The evolution and diversity of pseudosuchian archosaurs during the Triassic is still controversial, but new fossils and the revision of previously described specimens have provided new insights and led to better supported phylogenetic analysis. However, there are a lot of ghost lineages and taxa with unresolved phylogenetic affinities. Here we present a new fossil from the Santa Maria Supersequence (Middle-Late Triassic) of the Rio Grande do Sul State, southern Brazil, which possibly represents a new taxon. The specimen MMACR-PV-036-T is deposited in the collection of the Museu Municipal Aristides Carlos Rodrigues in the city of Candelária and is composed of a complete skull and mandible with associated cervical vertebrae and osteoderms. The diagenetic pattern fits well with that of fossils from the *Dinodontosaurus* AZ (Ladinian) that occur in the region south of the city of Candelária but the collection site is unknown. The presence of features such as a rounded orbit with a distinct ventral point which is surrounded by a "V" shaped dorsal process of the jugal would indicate close affinities with the Ornithosuchidae. This group is composed by only 3 taxa; *Ornithosuchus longidens* from the Lossiemouth Sandstone Formation of Scotland, *Riojasuchus tenuiceps* from the Los Colorados Formation and *Venaticosuchus rusconii* from the Ischigualasto Formation, both in Argentina. MMACR-PV-036-T differs from these by having features such as a not so pronounced ventral projection of the rostrum, palpebral bones and markedly ornamented dermal roof and osteoderms. Preliminary cladistic tests indicate that MMACR-PV-036-T would be the sister group of Ornithosuchidae.

MACOLOGNATHUS VAGANS (ARCHOSAURIA; CROCODYLOMORPHA): NEW INFORMATION ON THE BRAINCASE USING CT-DATA

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Macelognathus vagans was originally described as a dinosaur by Marsh from the Late Jurassic Morrison Formation of Wyoming and later Ostrom suggested crocodylian affinities. More recently, Göhlich and collaborators identified new material from Colorado as a basal crocodylomorph. However, a partial skull found in association with mandibular and postcranial remains was not described. The skull preserves most of the posterior part, including the braincase, and probably belongs to a juvenile given its dorsal curvature. Due to the small size and delicate structures within the braincase, micro CT studies were performed on this specimen. This new material reinforces the non-crocodyliform crocodylomorph affinities of *Macelognathus* as it bears a large otic aperture, unfused frontals and lacks ornamentation on the dorsal cranial bones. The internal struc-

tures also support these affinities as this specimen has traits (*i.e.*, heavily pneumatized and expanded basisphenoid; the presence of additional pneumatic features on the braincase; and the otoccipital-quadrato contact) not present in most basal crocodylomorphs. Furthermore, the presence of a wide supraoccipital and a cranioquadrato passage are traits shared with *Almadasuchus* from the early Late Jurassic of Argentina. The new anatomical information was incorporated in a phylogenetic dataset, expanding both character and taxon sampling. *Macelognathus* was recovered as one of the most derived non-crocodyliform crocodylomorphs, forming a clade with two other Late Jurassic taxa (*Almadasuchus* and the Morrison *Hallopus*). This derived clade is characterized by having a higher degree of suturing of the braincase, posteriorly closed otic aperture (paralleled in mesoeucrocodylians) and cursorial adaptations.

RECONSTRUYENDO AL ANCESTRO BATRACHIA: UNA APROXIMACIÓN CLADÍSTICA Y MORFOMÉTRICA

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El clado Batrachia actualmente está representado por dos linajes de anfibios con marcadas diferencias morfológicas: las salamandras (Caudata), con una morfología usualmente considerada representativa de la condición ancestral, y las ranas (Salientia), con un plan corporal marcadamente distinto al de cualquier otro tetrápodo. Con el objetivo de indagar en la magnitud y dirección de los cambios que derivaron en la morfología esquelética de los anfibios actuales se buscó reconstruir la condición ancestral de Batrachia. Esto se hizo a partir de una matriz de 20 caracteres continuos y merísticos de distintas partes del esqueleto para 117 taxones de anfibios tanto fósiles como vivientes. Las reconstrucciones ancestrales se realizaron mediante los criterios de *squared-change parsimony* en Mesquite y Parsimonia en TNT, sobre una topología derivada de hipótesis filogenéticas previas. Dicha matriz de 117 taxones, más sus ancestros reconstruidos bajo los diferentes criterios, se utilizó en la construcción de diversos filomorfoespacios. Los resultados muestran que, independientemente del método utilizado, el ancestro Batrachia presentaría una morfología intermedia entre aquellas de los ancestros Caudata y Salientia. Por su parte, *Triadobatrachus* (el Salientia más basal conocido) presenta una morfología más similar a la estimada para el ancestro Batrachia que a la de cualquier otro salientia y la mayoría de los cambios que conduce a los anuros vivientes habrían ocurrido luego de su divergencia. Estos resultados contrastan en parte con la percepción generalizada de cómo evolucionaron estos anfibios.

SOBRE LA POSICIÓN SISTEMÁTICA DEL MATERIAL TIPO DE *OLDFIELDTHOMASIA DEBILITATA* (MAMMALIA, NOTOUNGULATA, OLDFIELDTHOMASIIDAE)

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La familia Acoelodidae de Ameghino se sustentó en varios taxones, algunos de los cuales posteriormente fueron asignados por Simpson a la familia Oldfieldthomasiidae. El ejemplar MACN A-10376, tipo de *Acoelodus debilitatus*, fue referido por Simpson al género *Oldfieldthomasia*, estableciendo la nueva combinación *Oldfieldthomasia debilitata* considerándola sinonimia y con prioridad sobre *O. furcata*, la especie genotípica. Un reestudio de este material, un cráneo con la dentadura completa pero gastada, permitió cuestionar su asignación genérica y aún familiar. Así, en los M1-M2 no se observa el mesostilo, un rasgo definitorio de *Oldfieldthomasia*, y si bien los dientes están muy desgastados no hay traza del mismo. Debido a la ausencia del carácter antes mencionado y la confusión sistemática existente dentro de los taxones asignados a la familia Oldfieldthomasiidae, creemos que los diferentes taxones deben estar fundamentados en materiales que presenten caracteres no ambiguos. El material tipo de *Oldfieldthomasia furcata*, MACN A-10748, es un maxilar con la serie dentaria mejor