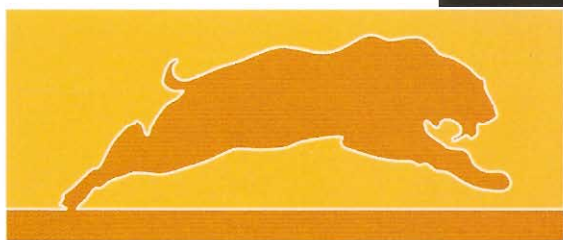
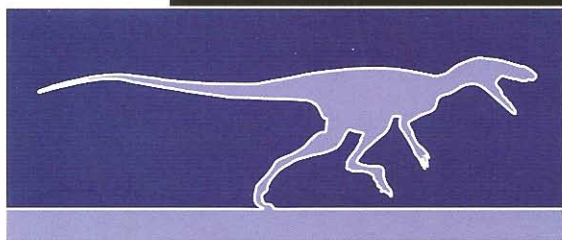
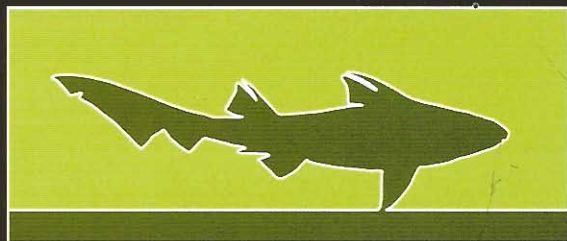




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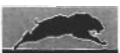
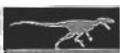
Boletim de Resumos

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Occurrence of gastroliths in *Baurusuchus* (Baurusuchidae, Mesoeucrocodylia) from Adamantina Formation, Bauru Basin

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The fossil record of Baurusuchidae Mesoeucrocodylia in the General Salgado county and its surroundings is one of the best regarding preservation, completeness and articulation of skull and skeleton remains, including specimens that shown even the

most delicate bone structures and cartilaginous tissues. One of them, UFRJ DG 288-R, has preserved its skull and about 80% of its skeleton. During the removal of the rock matrix, on what should be the specimen's abdominal region, some weathered clasts were observed, presumed to be gastroliths, together with fragments of the gastralia. The exoliths were well-polished, angulous to subrounded, and occur in a restrict cluster, where at least four pebble-sized stones are visible in the surface of the specimen. The texture and fabrics of these rock fragments differs from the surrounding matrix, presenting darker purplish tones. In thin section, one of the fragments revealed isotropic texture, with opaque minerals in abundance, of euhedric to subhedric habits. The mineralogical composition presents mainly clay minerals as weathering products; biotite and chlorite are common, being the last the result of hidratação of the first. Although highly altered, the low quartz content, small-sized and well-formed crystals suggests mafic composition in volcanic context, possibly representing a basalt fragment. In extant Crocodyliformes, the occurrence of gastroliths is commonly associated with food processing in the stomach, diving ballast, hunger stress and/or supplementary mineral ingestion. As baurusuchids are characterized as medium to large size fully terrestrial predator/scavengers, based on skeletal data, the ballast function of gastroliths is excluded in this case. As mentioned above, extant crocodyliforms such as *Caiman* and *Crocodylus* ingest stones when under stressful conditions of lack of food, water or when in high population density. Osteoderms are one of the primary sources for calcium and a reservoir for the homeostasis. The hunger stress can be observed in the osteoderms histological cuts as an abnormal concentration of osteoclasts at its inner region, overwhelming the presence of osteoblasts and consuming the osteocytes. The preservation of osteoderms associated with gastroliths may reveal if the stone ingestion in baurusuchids is a normal or driven by hunger behavior. The paleoenvironmental conditions dominating the Adamantina Formation during the Late Cretaceous are considered mainly arid, marked with strong seasonality, alternating long droughts and short rainy periods, associated with flashflood events. The stressful condition created during the dry season would cause famine and mass mortality, thus forcing animals to endure or escape. The baurusuchids underwent dry seasons through behavioral responses of self burial; common in extant Crocodyliformes taxa and here inferred from the completeness and articulation of the skeleton, in even its most delicate elements as isolated osteoderms, phalanxes and gastralia; and probably stone ingestion, although it is not possible to discard this habit as a normal, customary behavior. [Financial support provided by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq, grant n° 305780/2006–9), Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) and Instituto Virtual de

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