**Taphonomic Remarks**

The faunal content of the massive sandstone facies of the Linha São Luiz Site is exclusively composed of terrestrial vertebrates. The only large-sized animal (ca. 2 m length) found at these beds is the dinosaur *Guaibasaurus candelariensis* (*Bonaparte et al., 1999*). It draws attention the almost exclusive occurrence of small-sized tetrapods (most of them not reaching the size of the extant rat *Rattus norvegicus*), such as the procolophonian *Soturnia caliodon* (*Cisneros & Schultz, 2003*); the basal lepidosauromorph *Cargninia enigmatica* (*Bonaparte et al., 2010; Romo de Vivar et al., 2020a*); the sphenodontians *Clevosaurus brasiliensis*, *Lanceirosphenodon ferigoloi* (*Bonaparte & Sues, 2006; Romo de Vivar et al., 2020b*) and *Microsphenodon bonapartei* (*Chambi-Trowell et al., 2021*); and the non-mammaliaform probainognathian cynodonts *Brasilodon quadrangularis*, *Riograndia guaibensis* and *Irajatherium hernandezi* (*Bonaparte et al., 2001, 2003, 2005; Martinelli et al., 2005; Soares et al., 2011; Oliveira et al., 2011; Guignard et al., 2019a, 2019b; Kerber et al., 2021a; 2021b*), aside from the specimens we describe in the manuscript “Reassessment of *Faxinalipterus minimus* minimus, a purported Triassic pterosaur from southern Brazil with the description of a new taxon”.

The small fossil tetrapods (which currently compose a sample of more than a hundred specimens) are preserved as semi-articulated skeletons (less frequently) or isolated bones, those being represented mostly by skulls and lower jaws. *Horn et al. (2018)* suggested this kind of accumulation could have had as a concentration agent a large carnivore predator with preference for small prey, disposing carcasses in a small area. As skulls and lower jaws are the less nutritional body parts, they were left as scrap (*Behrensmeyer, 1991; Rogers & Broughton, 2001*). These remaining, unconsumed parts of the skeletons were then subjected to subaerial exposure being gradually accumulated while underwenting biostratinomic processes (e.g., disarticulation, weathering, trampling) before their final burial by ephemeral floods.

According to *Horn et al. (2018),* the sedimentary environment reveals highly variable depositional rates and periodicity within the massive channel facies, with possibly long periods of non-deposition. This would enable a mix of well-preserved skulls and lower jaws, plus some disarticulated postcranial bones being buried together in each flood event.

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