RE-SIZING GIANTS: ESTIMATION OF BODY LENGHT OF *FUTALOGNKOSAURUS DUKEI* AND IMPLICATIONS FOR GIANT TITANOSAURIAN SAUROPODS

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Even when the principal component of Cretaceous vertebrate faunal assemblages in South America is represented by the titanosaurian sauropods, most of their remains are based in partial skeletons or isolated elements. The larger taxa inside the group, as *Argentinosaurus huinculensis, Puertasaurus reuili* and *"Antarctosaurus" giganteus*, comprise less than the eight percent of the skeleton, and therefore the total lenghts of these forms are speculative (Bonaparte & Coria 1993, Novas et al., 2005). The discovery of *Futalognkosaurus dukei* improves the knowledge of the body proportions of the giant titanosaurians, as it preserves no less than seventy percent of the skeleton, including the complete neck, trunk, and the pelvic girdle, and the overlapping material confirm that this taxon is about 15 to 25 percent smaller than *Argentinosaurus* and *Puertasaurus* (Calvo et al., 2007a,b). The tail of *Futalognkosaurus dukei* is only known by the most proximal caudal vertebra, then we made comparisons with different titanosaur taxa that preserve dorsal and caudal secuences, especially with a complete unnamed titanosaurid from Rincón de los Sauces locality, northern of Neuquén province, Argentina (Calvo et al., 1997), which preserves the skull and all the axial material, even the distalmost caudals. The general proportions from the neck to sacrum of the Rincón titanosaur are very similar to those of *Futalognkosaurus* in anteroposterior sense, then it is presumable that the lengh of the tail should be proportionally comparable. The Rincón titanosaur is 14,5 meters long from the snout to the last caudal vertebra, and the tail comprise 7,2 meters, then corresponding approximately to half of the total body lenght. In *Futalognkosaurus*, the preserved secuence from the atlas to the sacrum is 11,9 meters long, although an anteroposterior compression is present in the sacrum due to taphonomic processes. Including the skull, also inferred in comparing with the Rincón titanosaur, resulted a total measure of 13 meters without the tail. Then, taking into account the 50 percent for the tail and the same proportion for the remaining of the body, *Futalognkosaurus dukei* has a size approximately 26 meters long. Consequentely, we can infer that the real measurements of *Argentinosaurus* and *Puertasaurus* are smaller than previously thought, probably less than 33 meters long, accepting that *Futalognkosaurus* is the best model to be compared with, because ~~since~~ the tree forms are gigantic and phylogenetically basal within the Titanosauridae. Additional articulated specimens are required to evaluate the allometric changes in proportion of the skeletal sections between titanosaurians. Until then, caution in assigning sizes to incompletely known titanosaurs is urged.

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