**Toledo *et al*. Supplementary files information**

Cleveland’s Dotplot graphic depicting distribution of observed values of logarithmised body size (created using the *dotchart.phylog* command of the *ade4* R package) for the three cladograms analysed (1 for Gaudin 2004; 2 for Pujos *et al.* 2007; 3 for Pujos *et al.* 2012).

Labels in nodes indicate orthonormal vectors describing topology of each node (in polytomic nodes, there is more than one describing vector).

**References**

Gaudin, T. J. 2004. Phylogenetic relationships among sloths (Mammalia, Xenarthra, Tardigrada): the craniodental evidence*. Zoological Journal of the Linnean Society* **140**, 255–305.

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