**Table S1.** **Average body mass and reproductive characteristics of dinosaurs as documented in the fossil record.** The *Megaloolithus patagonicus* oospecies is assigned to a titanosaurian sauropod based on embryonic remains in the eggs [[1-4](#_ENREF_1)], and the *Megaloolithus siruguei/mammilare* egg type (with a highly porous shell) is commonly assigned to titanosaurian sauropod dinosaurs, because titanosaur bones had been found in the same horizon or formation as the eggs. It should be noted that *Megaloolithus siruguei* is considered as a junior synonym of *Megaloolithus mammillare* [[5-7](#_ENREF_5)]. Megaloolithus eggs have also been assigned to titanosaurs because of the find of a hatchling in a nest of Megaloolitgus eggs from India[[8](#_ENREF_8)]. Although taxonomic identification of the eggs and their producers is problematic in sauropods, species with a mass of at least 5000 kg were assigned to both *Megaloolithus* oospecies [[7](#_ENREF_7),[9](#_ENREF_9)]. BM = body mass. ES = egg size, expressed in length (L) and diameter (D). EM = egg mass. CS = clutch size, number of eggs per clutch. CM/ACM = clutch mass (CM; CM = EM x CS) respectively annual clutch mass (ACM). ACM equals CM because as a first approximation we assumed one clutch per year for all dinosaurs studied. Values in brackets are minimum and maximum values, where no maxima are given only one value was available.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Taxon** | **BM (kg)** | **ES (cm)** | | **EM (kg)** | **CS (#)** | **CM/ACM (kg)** | **References** |
| **L** | **D** |
| *Troodoon formosus* | 44 [34, 51] | 13.5 | 6.5 | 0.329 | 23 [22, 24] | 7.567 [7.238, 7.896] | [[9-13](#_ENREF_9)] |
| *Oviraptor philoceratops* | 37 [33, 40] | 15.0 | 5.5 | 0.262 | 24 [20, 30] | 6.288 [5.240, 7.860] | [[9](#_ENREF_9),[10](#_ENREF_10),[13-15](#_ENREF_13)] |
| *Citipati osmolskae* | 79 | 18.3 | 6.7 | 0.473 | 22 [15, 30] | 10.406 [7.095, 14.190] | [[9](#_ENREF_9),[14](#_ENREF_14),[16](#_ENREF_16)] |
| *Lourinhanosaurus antunesi* | 176 | 12.9 | 9.0 | 0.602 | 63 [25, 100] | 37.926 [15.050, 60.200] | [[17](#_ENREF_17),[18](#_ENREF_18)] |
| *lambeosaurine dinosaur* | 3344 [2390, 5057] | 20.0 | 20.0 | 4.737 | 22 | 104.214 | [[19-23](#_ENREF_19)] |
| *Maiasaura peeblesorum* | 2556 [1500, 4079] | 12.0 | 12.0 | 1.023 | 16 | 16.368 | [[21](#_ENREF_21),[24](#_ENREF_24),[25](#_ENREF_25)] |
| *Massospondylus carinatus* | 175 [107, 280] | 6.0 | 6.0 | 0.128 | 34 | 4.352 | [[9](#_ENREF_9),[22](#_ENREF_22),[24](#_ENREF_24),[26](#_ENREF_26),[27](#_ENREF_27)] |
| *titanosaur (Megaloolithus patagonicus)* | 22399 [5000, 75000] | 15.0 | 14.0 | 1.741 | 28 [15, 40] | 48.748 [26.115, 69.640] | [[28](#_ENREF_28),[29](#_ENREF_29)] |
| *titanosaur (Megaloolithus mammilare)* | 22399 [5000, 75000] | 22.0 | 20.0 | 5.211 | 19 [9, 28] | 99.009 [46.899, 145.908] | [[28-30](#_ENREF_28)] |

Note: the mean BMs for both *titanosaur* taxa were established from body masses of sauropods larger than 5000 kg (because sauropod species with a BM of at least 5000 kg were assigned to both *Megaloolithus* oospecies [[7](#_ENREF_7),[9](#_ENREF_9)]) and for which the body mass estimation method was given in the source. The exact body mass range is 6853 kg to 72936 kg, however we assumed, as a somewhat more conservative measure, minimum and maximum body masses of 5000 kg and of 75000 kg.

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