

Supporting Information

Hautier et al. 10.1073/pnas.1010335107

Table S1. Results of rank correlation analysis

Bradypus vs.	All vertebrae	Neural arches	Centra
<i>Rhodomys</i> *	-0.212 [†]	0.319 [‡]	0.898 [‡]
<i>Meriones</i> *	0.022	0.195	0.749 [‡]
<i>Cricetus</i> *	-0.266 [‡]	0.12	0.819 [‡]
Rodentia [§]	-0.19 [†]	0.399 [‡]	0.961 [‡]
<i>Mogera</i> *	0.279 [‡]	0.687 [‡]	0.961 [‡]
<i>Cryptotis</i> *	0.279 [‡]	0.687 [‡]	0.824 [‡]
Eulipotyphla [§]	0.279 [‡]	0.687 [‡]	0.961 [‡]
Boreoeutheria [§]	0.161	0.528 [‡]	0.825 [‡]

Comparisons of sequence rank between *Bradypus* and either individual placental species or composite taxa. Significance levels for hypothesized modules (neural arches or centra) were derived from a permutation test that generated a null distribution of rank correlations for 1,000 alternative partitions. The methodology used in this analysis is described in detail by Poe (1), Goswami (2), and Goswami et al. (3).

*Individual placental species.

[†] $P < 0.05$.

[‡] $P < 0.01$.

[§]Composite taxa.

1. Poe S (2004) A test for patterns of modularity in sequences of developmental events. *Evolution* 58:1852–1855.
2. Goswami A (2007) Cranial modularity and sequence heterochrony in mammals. *Evol Dev* 9:290–298.
3. Goswami A, Weisbecker V, Sánchez-Villagra MR (2009) Developmental modularity and the marsupial-placental dichotomy. *J Exp Zool B Mol Dev Evol* 312B:186–195.

Dataset S1. List of specimens (marsupials) and state of vertebral ossification

[Dataset S1](#)

C, cervical; T, thoracic; L, lumbar; S, sacral; Cd, caudal; PND, postnatal day. Columns show the appearance of vertebral ossification centers. The circles represent the centra, and the crosses are the neural arches; the size of the symbols indicates the degree of ossification. Red color indicates that relative sizes of the neural arches and centra are unknown.

Dataset S2. List of specimens (placentals) and state of vertebral ossification

[Dataset S2](#)

C, cervical; T, thoracic; L, lumbar; S, sacral; Cd, caudal; PND, postnatal day. Columns show the appearance of vertebral ossification centers. The circles represent the centra, and the crosses are the neural arches; the size of the symbols indicates the degree of ossification. Red color indicates that relative sizes of the neural arches and centra are unknown. Data from *Meriones*, *Cricetus*, and *Rattus* derive from Yukawa et al. (1), Beyerlein et al. (2), and Strong (3).

1. Yukawa M, Hayashi N, Takagi K, Mochizuki K (1999) The normal development of Mongolian gerbil fetuses and, in particular, the timing and sequence of the appearance of ossification centres. *Anat Histol Embryol* 28:319–324.
2. Beyerlein L, Hillemann HH, Van Arsdell WC, 3rd (1951) Ossification and calcification from postnatal day eight to the adult condition in the golden hamster (*Cricetus auratus*). *Anat Rec* 111:49–65.
3. Strong RM (1925) The order, time, and rate of ossification of the albino rat (*Mus norvegicus albinus*) skeleton. *Am J Anat* 36:313–355.

Dataset S3. List of specimens (armadillos) and state of vertebral ossification

[Dataset S3](#)

C, cervical; T, thoracic; L, lumbar; S, sacral; Cd, caudal; PND, postnatal day. Columns show the appearance of vertebral ossification centers. The circles represent the centra, and the crosses are the neural arches; the size of the symbols indicates the degree of ossification. Red color indicates that relative sizes of the neural arches and centra are unknown.

Dataset S4. List of specimens (sloths) and state of vertebral ossification

[Dataset S4](#)

C, cervical; T, thoracic; L, lumbar; S, sacral; Cd, caudal; PND, postnatal day. Columns show the appearance of vertebral ossification centers. The circles represent the centra, and the crosses are the neural arches; the size of the symbols indicates the degree of ossification. Red color indicates that relative sizes of the neural arches and centra are unknown.