Brain, Behavior and Evolution

Erratum

In the article by Dos Santos SE et al., entitled "Cellular Scaling Rules for the Brain of Marsupials: Not as 'Primitive' as Expected" [Brain Behav Evol 2017;89:48–63, DOI: 10.1159/000452856], the following values have to be corrected:

The correct number of neurons in the cerebral cortex (N_{CX}) of the Tasmanian devil (*Sarcophilus*) in online supplementary Table S1 is 71.66×10^6 (for online suppl. material, see www.karger.com/doi/10.1159/000452856).

The conclusions of the paper are in no way impacted. The correction only impacts the values listed below (as well as Figure 5a–c, see below):

- The cerebral cortex holds 15.2 ± 1.2% of all brain neurons.
- Larger marsupial brains do not have a greater percentage of their neurons located in the cerebral cortex (Spearman, $p = 0.5755$).
- Larger cortices do not have proportionally more neurons (Spearman, $p = 0.3807$).
- The hippocampus holds on average 11.5 ± 2.0% of all cortical neurons.
- The correlation between cortical mass and the percentage of cortical neurons located in the hippocampus does not reach significance ($p = 0.1544$).
- The relationship between N_{CB} and N_{CX} is a significantly linear function with $r^2 = 0.926$ ($p < 0.0001$) or a power function of exponent 0.917 ± 0.091 ($p < 0.0001$).
- The average N_{CX}/N_{ROB} ratio in Australasian marsupials is 5.8 ± 0.7 and is not significantly different from the ratio found in artiodactyls (Wilcoxon, $p = 0.6481$).

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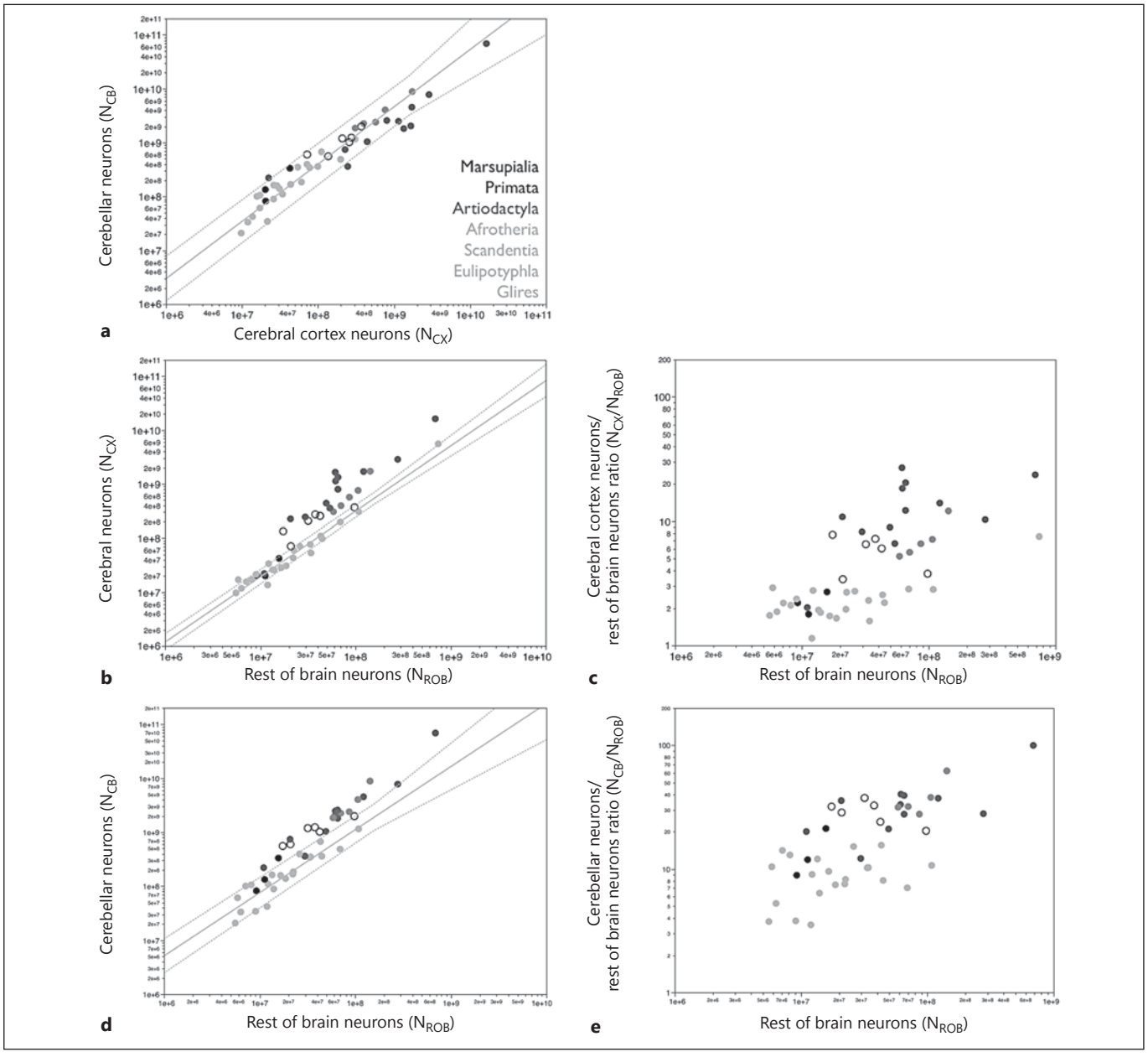

Fig. 5. Relative increase in numbers of neurons in the cerebral cortex and cerebellum of Australasian marsupials, with a shared scaling of numbers of neurons across these structures. **a** Scaling of N_{CB} as a function of N_{CX} varies in a similar way for all theria with exponents near linearity: 0.917 ± 0.091 in marsupials, 0.867 ± 0.108 in primates, 0.923 ± 0.110 in artiodactyls, and 1.063 ± 0.111 in afrotherians, glires, and scandentian together (plotted line). **b** The N_{CX} in American marsupials matches the expected for N_{ROB} (closed black symbols), while Australasian marsupial species have much higher N_{CX} than expected for their N_{ROB} (open symbols). **c** Accordingly, N_{CX}/N_{ROB} is higher in Australasian marsupials (5.8 ± 0.7) than in South American marsupials (2.2 ± 0.3), making the latter comparable to all nonprimate, nonartiodactyla theria and the former comparable to Artiodactyla (N_{CX}/N_{ROB} = 7.3 ± 1.2). **d** N_{CB} varies as a power function of N_{ROB} of exponent 1.334 ± 0.212 in marsupials, 1.315 ± 0.112 in Primata, 1.737 ± 0.305 in Artiodactyla, and 1.169 ± 0.116 in Afrotheria (minus the elephant), Glires, Eulipotyphla and Scandentia together (plotted line). **e** N_{CB}/N_{ROB} is higher in Australasian marsupials (29.2 ± 2.5) than in South American marsupials (14.0 ± 3.7), making the former comparable to Artiodactyla and Primata (N_{CB}/N_{ROB} = 38.3 ± 6.2 and 35.9 ± 7.0, respectively) and the latter significantly different from its Australasian counterpart but also from Afrotheria, Glires, Eulipotyphla and Scandentia together (p = 0.0112 and p = 0.0423, respectively). Species are shown in shades of gray as displayed in **a**. Australasian marsupials (open symbols) and South American marsupials (closed symbols). Values are exponents ± SE. Data are from Herculano-Houzel et al. [2006, 2007, 2011, 2014b], Azevedo et al. [2009], Sarko et al. [2009], Gabi et al. [2010], Kazu et al. [2014], and Neves et al. [2014].