Biting mechanics determines craniofacial morphology among extant diprotodont herbivores: Dietary predictions for the giant extinct short-faced kangaroo, *Simosthenurus occidentalis*.

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SUPPLEMENTARY MATERIAL

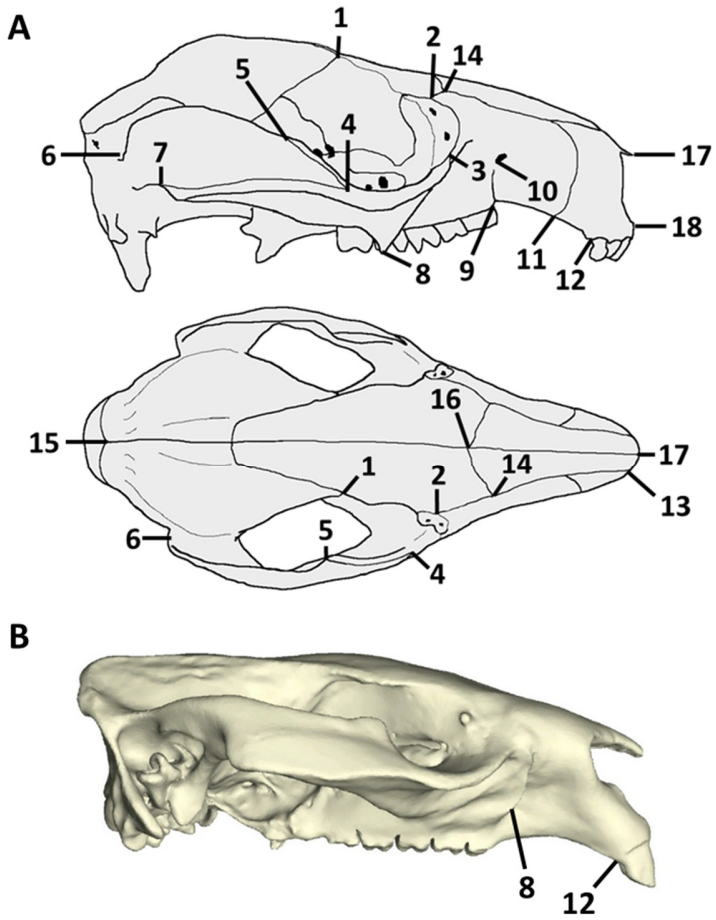

Figure S1: Landmark locations on a macropod cranium. (A) Landmarks 19-32 on the left side are paired with landmarks 1-14 on the right side (From Mitchell et al 2018 Proc R Soc B). (B) Landmark adjustments for *Vombatus ursinus*.

Table S1: Landmarks used for morphometric analyses (From Mitchell et al 2018 Proc R Soc B).

Number	Location of Landmarks
1 and 19	Fronto-parietal suture at the lateral frontal ridge
2 and 20	Fronto-maxillary-lacrimal junction
3 and 21	Zyomatico-maxillary-lacrimal junction
4 and 22	Anterior-most point of the zygomatic process on the temporal bone
5 and 23	Dorsal-most point of the zygomatico-temporal suture on the dorsal edge of the zygomatic arch
6 and 24	Superior root of the zygoma on the temporal bone
7 and 25	Posterior end of the zygomatico-temporal suture
8 and 26	Ventral-most point of the anterior end of the zygomatic arch Masseteric process
9 and 27	Alveolar margin at the latero-anterior-most point of the first premolar
10 and 28	Infraorbital foramen
11 and 29	Maxillary-premaxillary suture at the alveolar margin
12 and 30	Alveolar margin at the posterior-most point of the 3rd incisor
13 and 31	Naso-premaxillary suture at the margin of the nasal aperture
14 and 32	Fronto-naso-maxillary junction
15	Lambda
16	Naso-frontal suture at the midline
17	Tip of the nasal bone at the midline
18	Interpremaxillary suture at the ventral margin of the nasal aperture

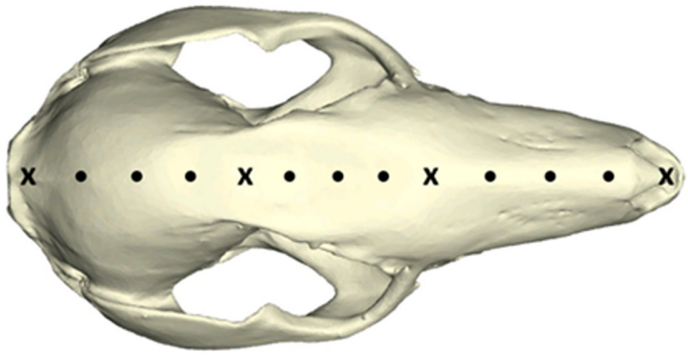

Figure S2: Landmarks and semi-landmarks for strain data collection (from Mitchell, et al., 2018). Fixed landmarks indicated by a cross, semi-landmarks by dots.

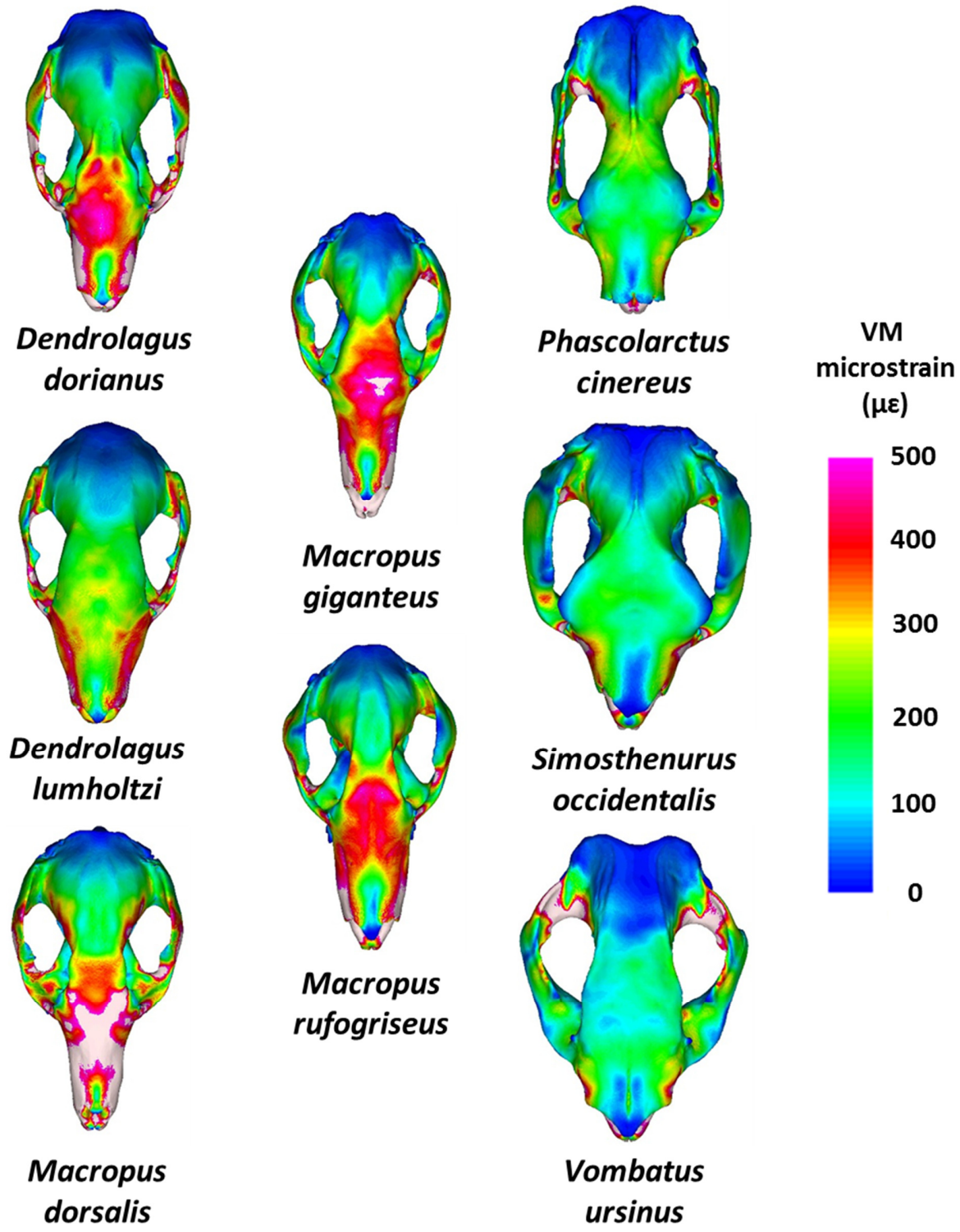

Figure S3: Strain distributions of each FEM during a bilateral incisor bite simulation. Muscle forces are scaled to volume.