Supplement 2

Full list of Sicuro and Oliveira’s (2002) skull measurements, force-indexes, and acronyms.

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| BCL | Basal condyle length |
| CCL | Condyle to canine length of jaw |
| CM1L | Condyle to M1 length of jaw |
| CSW | complex muscle scar width |
| JHM1 | Jaw height at M1 |
| JWM1 | Jaw width at M1 |
| LCW | lambdoidal crest width |
| MMA | Masseter muscle moment arm |
| MSL | Masseter muscle scar length |
| MSW | Masseter muscle scar width |
| ORH | Occipital region height |
| PTW | Posttemporal fossa width |
| RWP2 | Rostral width at the 2nd premolar P2 |
| SL | Skull length |
| TFL | Temporal fossa length |
| TMA | Temporal muscle moment arm |
| ZIW | Zygomatic arches internal width |

|  |  |
| --- | --- |
| SMA |  |
| TMW |  |
| FTM1 |  |
| FMM1 |  |
| FTMM1 |  |
| CFTMM1 |  |

Definition of landmarks and semi-landmarks placed on the cranium and mandible of each peccary specimen in Hendges et al., 2019.

*Ventral view of the cranium:*

**L1** = midpoint of central incisors; **L2** = posteriormost point of interpalatine suture; **L3** = vertical projections of landmark 6 and 7 in an angle of 90 degrees; **L4** = anteriormost point of the foramen magnum along the midline; **L5** = posteriormost margin of the occipital condyle; **L6** = anteriormost external border of the auditory bulla; **L7** = lateral point of the skull at the region of post-glenoid process; **L8** = suture between jugal and squamosal in the zygomatic arch; **L9, 11, 12, 13, 15, 16, 33** = temporal muscle insertion area; **L10** = curvature between the maxilla and the zygomatic arch**; L14** = extremity of the post-glenoid process; **L17, 18, 19, 20** = third molar area; **L21, 22, 23, 24** = second molar area; **L25, 26, 27, 28** = first molar area; **L29** = anteriormost tip of the first premolar; **L30** = posteriormost point of the lateral canine; **L31** = anteriormost point of the lateral canine; **L32** = posteriormost point of the lateral incisor.

*Lateral view of the mandible*:

**L1** = posteriormost point of the canine alveolus; **L2** = midpoint of the diastema **L3** = anteriormost point of the first premolar alveolus; **L4** = anteriormost point of the first molar alveolus; **L5** = junction between ramus and mandibular corpora at third molar; **L6** = anteriormost point of the coronoid process; **L7** = midpoint of the coronoid process; **L8 =** tip of the coronoid process; **L9** = posteriormost point of the coronoid process; **L10** = point of maximum curvature between the coronoid and condylar process; **L11** = tip of the condylar process as seen in the lateral view; **L12** = end of the lateral border of the angular process; **L13** = junction between mandibular corpora and masseteric crest; **L14, 15, 16** = vertical projections of landmark 4, 3 and 2 (respectively) in an angle of 90 degrees; **L17**: lateral cavity in mandibular corpora at the region of canine as seen in the lateral view, **L18** = anteriormost point of the incisor alveolus; **L19** = anteriomost point of the canine alveolus; **L20** = midpoint of the canine alveolus.

Descriptions of the formula for each biomechanical variable estimated for peccary species in Hendges et al., 2019. \* = multiplied by; / = dividing by**.**

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| --- | --- |
| Biomechanical variables | Formula |
| Masseter torque | masseter centroid size \* the in-lever distance from the tip of the condylar process (L11) to the junction between the ramus and mandibular corpus, at M3 (L5) |
| Temporalis torque | temporalis centroid size \* in-lever distance from the tip of the post-glenoid process (L14) to the curvature between the maxilla and the zygomatic arch (L10). |
| Jaw muscle torque | masseter torque + temporalis torque |
| Bite force | jaw muscle torque / out-lever distances at incisor (L11 to L18), canine (L11 to L1), first premolar (L11 to L3), and first molar (L11 to L4). |
| Bite stress at molars | bite force at the first molar / centroid size of M1, M2 and M3 |
| Resistance to bending | corpus height dividing by mandible length (distance from L11 to L18) |
| Stress under bending | torque at the incisors (FB \* L11-L1) / corpus height |
| Resistance to shear | corpus width \* corpus height \* π |
| Shear stress | bite force at M1 / corpus width \* corpus height \* π |
| Condylar reaction force | jaw elevator torque at M1 / out-lever distance from the tip of the condylar process (L11) to the anteriormost point of the first molar alveolus (L4). |
| Condyle stress | condyle reaction force / condylar area (= condyle length \* condyle width) |
| Relative symphysis length | symphysis length / mandible length. |