**Table S1.** Von Mises Stress Values (MPa) for Three Biting Regimes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Bilateral Biting** | Anterior | Mid-Anterior | Mid | Mid-Posterior | Posterior |
| *Ebrachosuchus* | 14.40 | 422.00 | 415.38 | 218.99 | 131.04 |
| Alligator  | 6.98 | 5.76 | 9.47 | 10.72 | 10.86 |
| Gharial | 0.59 | 49.32 | 94.73 | 96.73 | 76.11 |
| Nile Crocodile | 1.67 | 4.07 | 14.45 | 13.17 | 16.26 |
| *Ebrachosuchus* (No Palate) | 136.99 | 242.58 | 408.46 | 534.08 | 5.50 |
| *Ebrachosuchus*(No Antorbital fenestra) | 7.80 | 356.21 | 345.81 | 117.23 | 78.90 |
| Gharial(No Palate) | 2.21 | 68.92 | 132.24 | 147.47 | 82.63 |
| **Unilateral Biting** |  |  |  |  |  |
| *Ebrachosuchus* | 24.49 | 423.20 | 415.78 | 219.71 | 131.13 |
| Alligator  | 10.56 | 6.44 | 10.29 | 11.15 | 10.64 |
| Gharial | 4.81 | 51.08 | 95.77 | 97.13 | 76.10 |
| Nile Crocodile | 2.16 | 4.95 | 14.22 | 13.22 | 16.00 |
| *Ebrachosuchus* (No Palate) | 137.05 | 242.82 | 408.71 | 534.09 | 14.02 |
| *Ebrachosuchus*(No Antorbital fenestra) | 13.51 | 357.80 | 346.30 | 119.72 | 77.78 |
| Gharial (No Palate) | 5.24 | 77.02 | 136.12 | 149.83 | 82.97 |
| **Head Shaking** |  |  |  |  |  |
| *Ebrachosuchus* | 11.49 | 210.17 | 208.80 | 107.04 | 61.38 |
| Alligator  | 4.93 | 3.08 | 4.53 | 5.09 | 5.44 |
| Gharial | 2.40 | 26.49 | 48.14 | 45.56 | 38.30 |
| Nile Crocodile | 3.41 | 4.42 | 3.42 | 4.05 | 10.74 |
| *Ebrachosuchus* (No Palate) | 64.08 | 116.99 | 203.27 | 265.07 | 6.72 |
| *Ebrachosuchus*(No Antorbital fenestra) | 12 | 182.12 | 172.68 | 64.48 | 56.17 |
| Gharial (No Palate) | 3.41 | 42.86 | 68.91 | 70.20 | 41.44 |