**Supplementary Table S1.** Upper canine measurements in cm for modern specimens of Northern and Southern elephant seals and USNM 375734. Data of *Mirounga leonina* from Koch et al. (2019). Data of *Mirounga angustirostris* from this study.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Specimen number** | **Species** | **Age** | **Sex** | **Mesiodistal** | **Buccolingual** |
| **AMNH 48154** | *Mirounga leonina* | Adult | Female | 1.5 | 1.2 |
| **AMNH 48155** | *Mirounga leonina* | Adult | Female | 1.3 | 1.05 |
| **AMNH 48156** | *Mirounga leonina* | Adult | Female | 1.05 | 0.8 |
| **AMNH 48159** | *Mirounga leonina* | Adult | Female | 1.95 | 1.65 |
| **AMNH 48160** | *Mirounga leonina* | Adult | Female | 1.25 | 1.2 |
| **AMNH 48166** | *Mirounga leonina* | Adult | Female | 1.2 | 0.9 |
| **AMNH 77911** | *Mirounga leonina* | Adult | Female | 1.15 | 1 |
| **AMNH 77912** | *Mirounga leonina* | Adult | Female | 0.95 | 0.85 |
| **AMNH 77913** | *Mirounga leonina* | Adult | Female | 1.25 | 1.05 |
| **AMNH 77926** | *Mirounga leonina* | Adult | Female | 1.7 | 1.25 |
| **CAS 6251** | *Mirounga leonina* | Adult | Female | 1.26 | 1.08 |
| **AMNH 18682** | *Mirounga leonina* | Adult/subad | Male | 3.2 | 2.95 |
| **AMNH 31720** | *Mirounga leonina* | Adult/subad | Male | 3.7 | 3 |
| **AMNH 34904** | *Mirounga leonina* | Adult/subad | Male | 3.6 | 3 |
| **AMNH 48151** | *Mirounga leonina* | Adult/subad | Male | 3.4 | 3.05 |
| **AMNH 48152** | *Mirounga leonina* | Adult/subad | Male | 3.95 | 4.1 |
| **AMNH 48153** | *Mirounga leonina* | Adult/subad | Male | 3.35 | 2.75 |
| **AMNH 48161** | *Mirounga leonina* | Adult/subad | Male | 2.1 | 1.9 |
| **AMNH 48162** | *Mirounga leonina* | Adult/subad | Male | 2.3 | 2.1 |
| **AMNH 70240** | *Mirounga leonina* | Adult/subad | Male | 3 | 2.6 |
| **AMNH 77916** | *Mirounga leonina* | Adult/subad | Male | 2.35 | 2.05 |
| **AMNH 77919** | *Mirounga leonina* | Adult/subad | Male | 3 | 2.8 |
| **AMNH 77923** | *Mirounga leonina* | Adult/subad | Male | 2.5 | 2.35 |
| **AMNH 77928** | *Mirounga leonina* | Adult/subad | Male | 3.65 | 3.05 |
| **CAS 6250** | *Mirounga leonina* | Adult/subad | Male | 3.62 | 3.54 |
| **MCZ 1178** | *Mirounga leonina* | Adult/subad | Male | 3.49 | 2.86 |
| **MCZ 1179** | *Mirounga leonina* | Adult/subad | Male | 4.29 | 3.33 |
| **MCZ 35085** | *Mirounga leonina* | Adult/subad | Male | 3.81 | 3.18 |
| **USNM 241199** | *Mirounga leonina* | Adult/subad | Male | 2.7 | 2.25 |
| **USNM 484893** | *Mirounga leonina* | Adult/subad | Male | 2.6 | 2.4 |
| **USNM 21890** | *Mirounga angustirostris* | Adult/subad | Female | 2.4 | 1.75 |
| **USNM 21738** | *Mirounga angustirostris* | Adult/subad | Male | 4.7 | 3.7 |
| **USNM 260867** | *Mirounga angustirostris* | Adult/subad | Male | 3.55 | 2.55 |
| **USNM 265353** | *Mirounga angustirostris* | Adult/subad | Male | 4.4 | 3.65 |
| **USNM 267987** | *Mirounga angustirostris* | Adult/subad | Female | 2.1 | 1.75 |
| **USNM 38234** | *Mirounga angustirostris* | Adult/subad | Female | 2.3 | 1.4 |
| **USNM 375734** | Cast Indiana (this work) | Adult | Unknown | 4.3 | 3.29 |

Abbreviations: AMNH, American Museum of Natural History; CAS, California Academy of Sciences; MCZ, Museum of Comparative Zoology, Harvard; USNM, Departments of Paleobiology and Vertebrate Zoology (Division of Mammals), National Museum of Natural History, Smithsonian Institution.