

The skeleton of the manus of *Mylodon darwinii* Owen (Tardigrada, Mylodontidae) and its
phylogenetic implications

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SUPPLEMENTARY DATA 2

SUPPLEMENTARY FIGURES

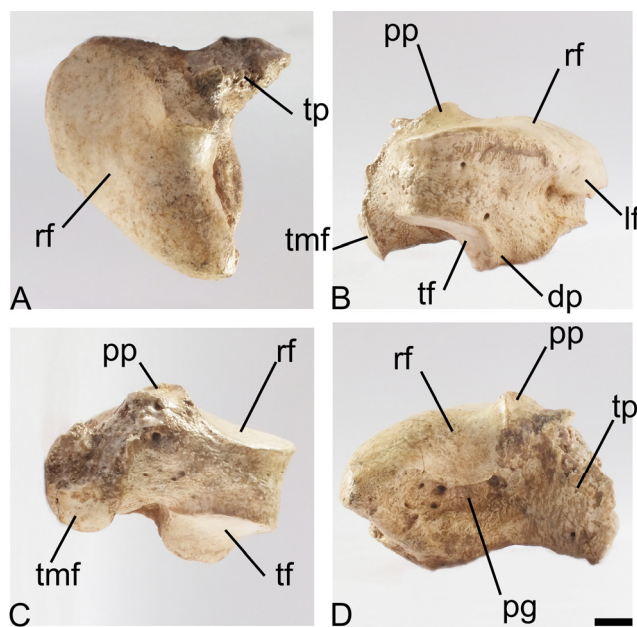


FIGURE 1S. Left scaphoid of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the left; **B**, dorsal view; proximal to the top; **C**, medial view; proximal to the top; **D**, palmar view; proximal to the top. **Abbreviations:** **dp**, distal process; **lf**, articular facet for lunar; **mf**: articular facet for magnum; **pg**, groove on palmar surface; **pp**, proximal process; **rf**, articular facet for radius; **tf**, articular facet for trapezoid; **tmf**, articular facet for trapezium+metacarpal I; **tp**, process contacting trapezium. Scale bar equals 10 mm.

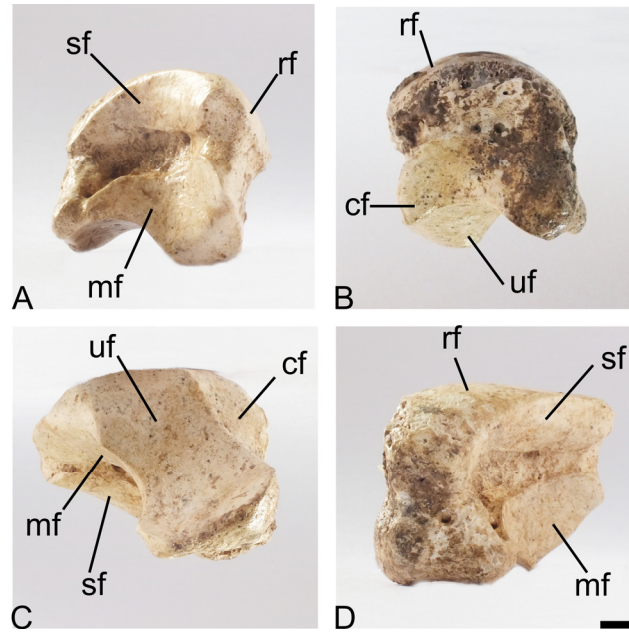


FIGURE 2S. Left lunar of *Mylodon darwinii* specimen CORD PZ 4570. **A**, medial view; proximal to the top; **B**, lateral view; proximal to the top; **C**, distal view; dorsal to the top; **D**, palmar view; proximal to the top. **Abbreviations:** **cf**: articular facet for cuneiform; **mf**: articular facet for magnum; **rf**: articular facet for radius; **sf**: articular facet for scaphoid; **uf**: articular facet for unciform. Scale bars represent 10 mm.

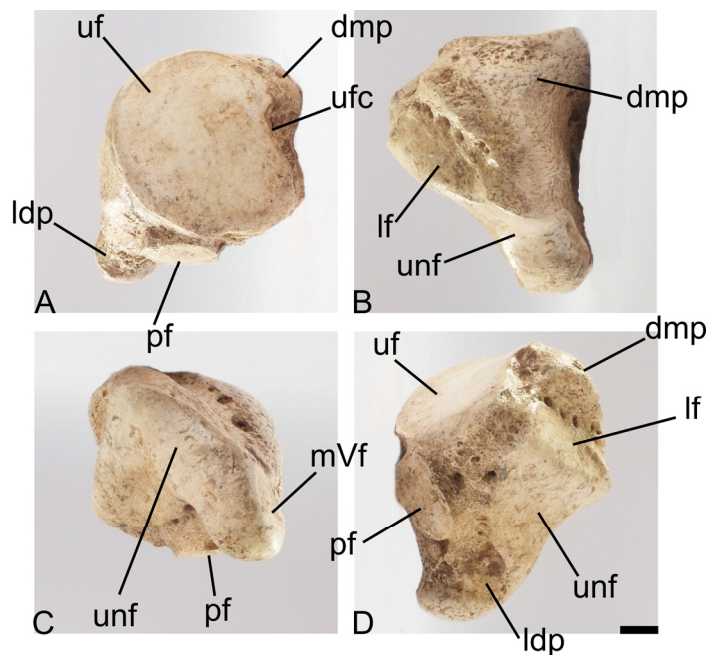


FIGURE 3S. Left cuneiform of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, medial view; proximal to the top; **C**, distal view; dorsal to the top; **D**, palmar view; proximal to the top. **Abbreviations:** **dmp**, dorsomedial process; **ldp**, distolateral process; **lf**, articular facet for lunar; **mVf**, articular facet for metacarpal V; **pf**, articular facet for pisiform; **uf**, articular facet for ulna; **ufc**, medial concavity on border of articular facet for ulna; **unf**, articular facet for unciform. Scale bar equals 10 mm.

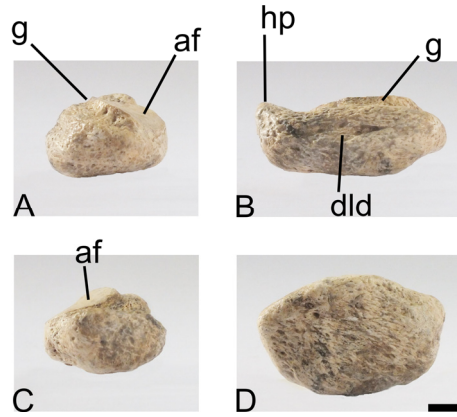


FIGURE 4S. Left pisiform of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximolateral view; dorsal to the top; **B**, distolateral view; dorsal to the top; **C**, distomedial view; dorsal to the top; **D**, palmar view; proximal to the top and left. **Abbreviations:** **af**, continuous articular surface for cuneiform and ulna; **dld**, depression on distolateral aspect; **g**, groove formed by prominence of articular facet; **hp**, hooked process. Scale bar equals 10 mm.

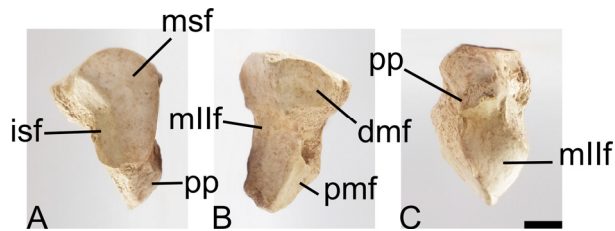


FIGURE 5S. Left trapezoid of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximomedial view; dorsal to the top; **B**, distolateral view; dorsal to the top; **C**, palmar view; proximal to the top and left corner. **Abbreviations:** **dmf**, dorsal articular facet for magnum; **isf**, inclined part of scaphoid articular facet; **mllf**, articular facet for metacarpal II; **msf**, main part of scaphoid facet; **pmf**, palmar articular facet for magnum; **pp**, distal process of palmar extremity. Scale bar equals 10 mm.

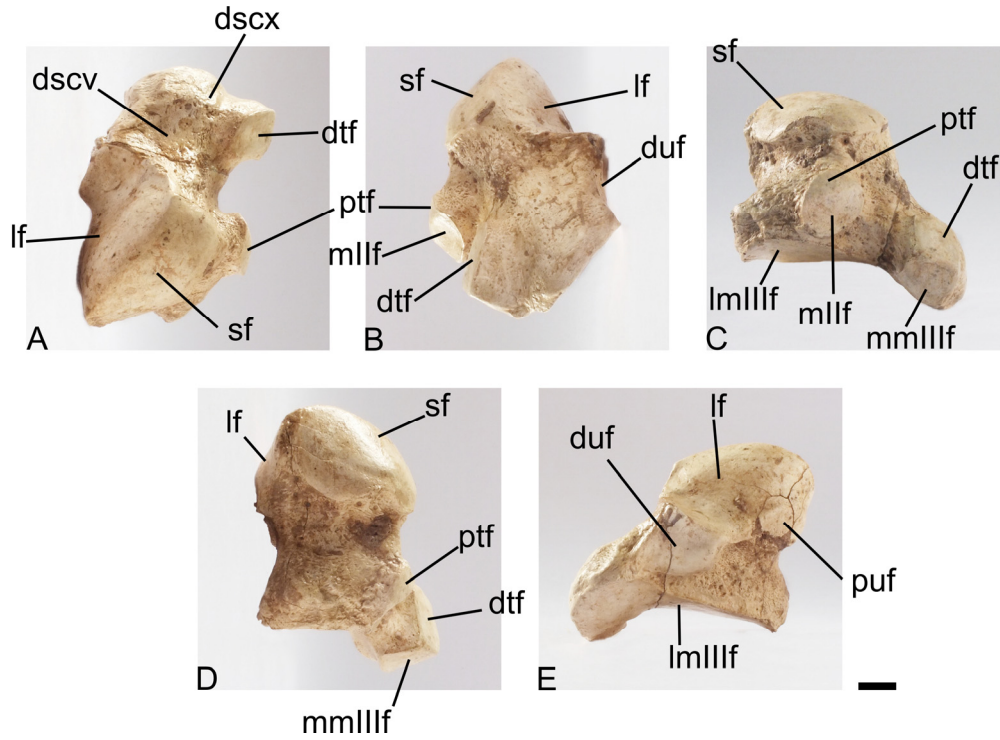


FIGURE 6S. Left magnum of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top and right; **B**, dorsal view; proximal to the top; **C**, medial view; proximal to the top; **D**, palmar view; proximal to the top; **E**, lateral view; proximal to the top. **Abbreviations:** **deuf**, dorsal articular facet for unciform; **dscv**, concavity of dorsal surface; **dscx**, convexity of dorsal surface; **dtf**, dorsal articular facet for the trapezoid; **lf**, articular surface for lunar; **lmlf**, lateral articular surface for metacarpal III; **mllf**, articular facet for metacarpal II; **mmlf**, medial articular surface for metacarpal III; **puf**, palmar articular facet for unciform; **ptf**, palmar articular facet for trapezoid; **sf**, articular surface for scaphoid. Scale bar equals 10 mm.

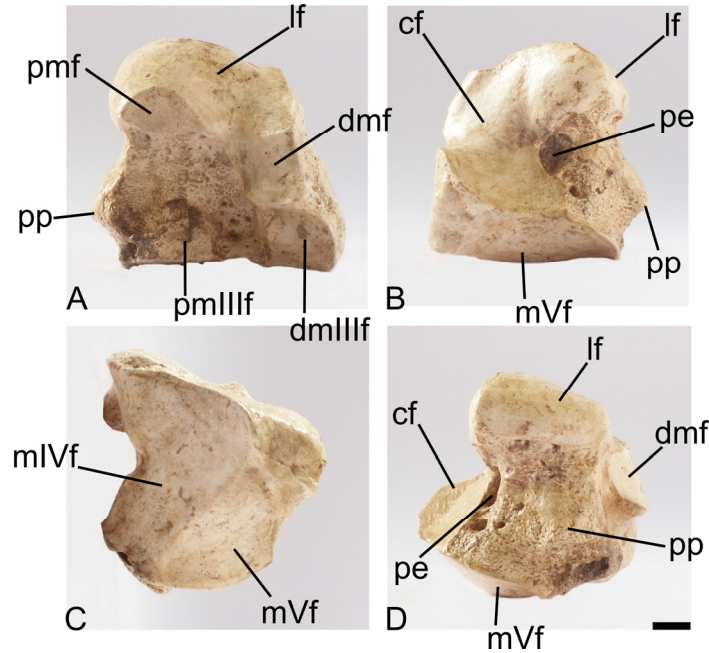


FIGURE 7S. Left unciform of *Mylodon darwini* specimen CORD PZ 4570. **A**, medial view; proximal to the top; **B**, lateral view; proximal to the top; **C**, distal view; dorsal to the top; **D**, palmar view; proximal to the top. **Abbreviations:** **dmf**, dorsal articular facet for magnum; **dmIIIlf**: dorsal articular facet for metacarpal III; **lf**: articular facet for the lunar; **mIVf**: articular facet for metacarpal IV; **mVf**: articular surface for metacarpal V; **pmf**: palmar articular facet for magnum; **pe**: palmar excavation; **pmIIIlf**: palmar articular facet for metacarpal III; **pp**: palmar process. Scale bar equals 10 mm.

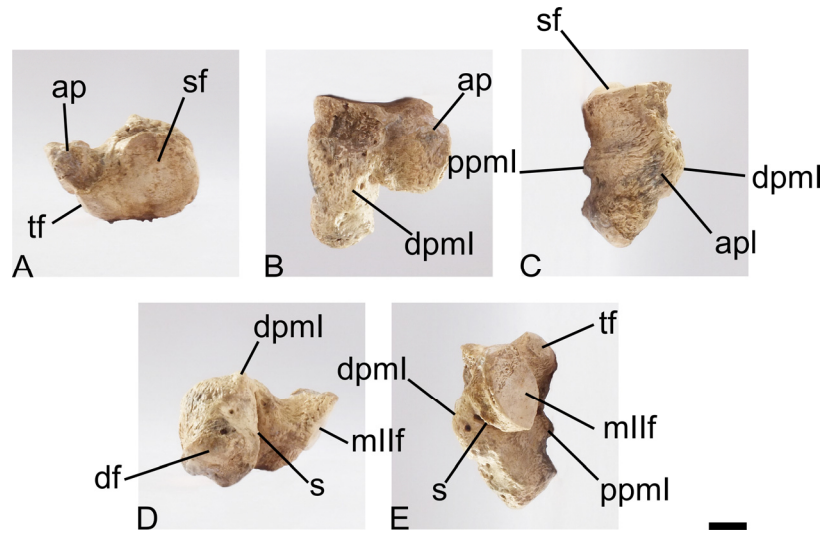


FIGURE 8S. Left fused trapezium and metacarpal I of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, dorsal view; proximal to the top; **C**, abaxial view; proximal to the top; **D**, distal view; dorsal to the top; **E**, axial view; proximal to the top.

Abbreviations: **ap**, axial process; **apl**, muscle scar for the M. abductor pollicis longus; **df**, distal articular surface for proximal phalanx of digit I of the manus; **dpml**, dorsal process of metacarpal I; **mllf**, articular surface for metacarpal II; **ppml**, palmar process of metacarpal I; **s**: partially fused suture between trapezium and metacarpal I; **sf**: articular surface for scaphoid; **tf**: articular surface for trapezoid. Scale bar equals 10 mm.

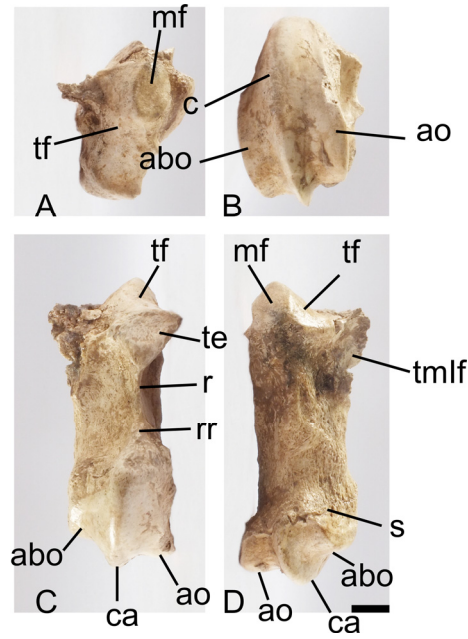


FIGURE 9S. Left metacarpal II of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, distal view; dorsal to the top; **C**, dorsal view; proximal to the top; **D**, palmar view; proximal to the top. **Abbreviations:** **abo**, abaxial offset of distal articular surface; **ao**, axial offset of distal articular surface; **c**, carina of distal articular surface; **mf**, articular surface for magnum; **r**, ridge laterally limiting dorsal surface; **rr**, rugosity contacting ridge limiting dorsal surface; **s**, suture between body and epiphysis; **te**, triangular eminence; **tf**, articular surface for trapezoid; **tmlf**, articular surface for composite bone including trapezium and metacarpal I. Scale bar equals 10 mm.

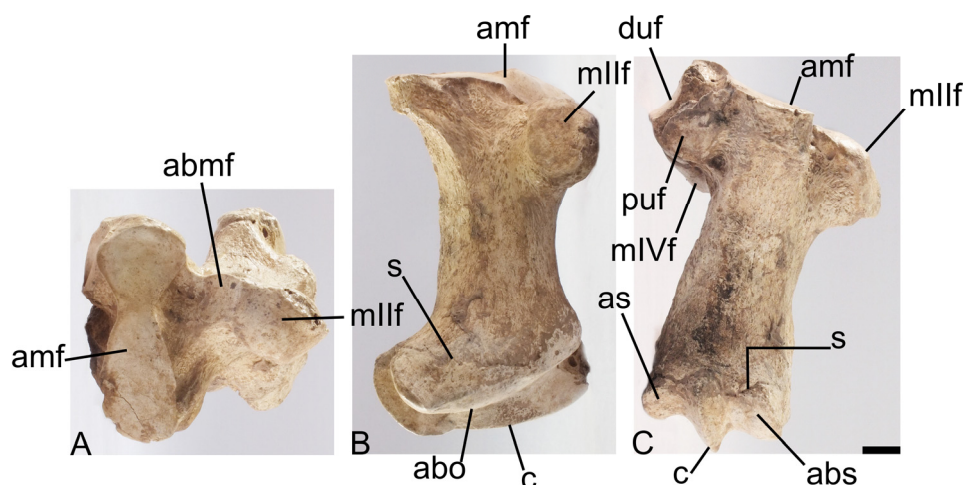


FIGURE 10S. Left metacarpal III of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, abaxial view; proximal to the top; **C**, palmar view; proximal to the top. **Abbreviations:** **abmf**, abaxial articular surface for magnum; **abo**, abaxial offset of distal articular surface; **abs**, articular surface for abaxial sesamoid; **amf**, axial articular surface for magnum; **as**, articular surface for axial sesamoid; **c**, carina of distal articular surface; **duf**, dorsal articular surface for unciform; **mllf**, articular surface for metacarpal II; **mIVf**, articular surface for metacarpal IV; **puf**, palmar articular surface for unciform; **s**, suture between body and epiphysis. Scale bar equals 10 mm.

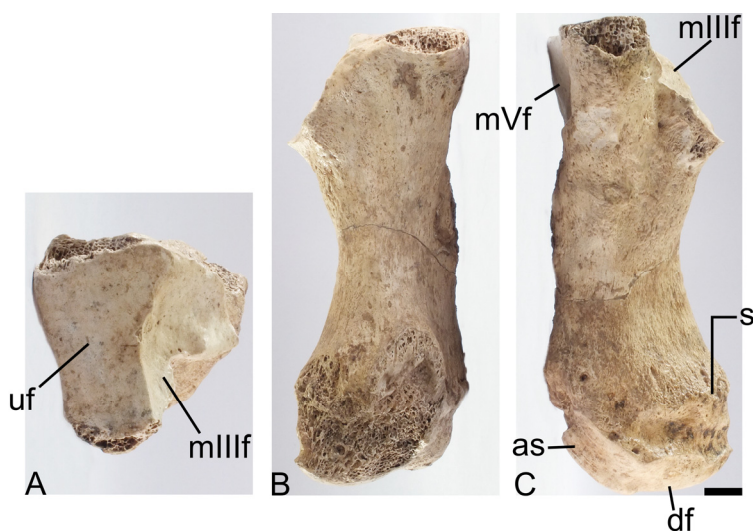


FIGURE 11S. Left metacarpal IV of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, dorsal view; proximal to the top; **C**, palmar view; proximal to the top. **Abbreviations:** **as**, articular facet for axial sesamoid; **df**, articular facet for proximal phalanx; **mlllf**, articular facet for metacarpal III; **mVf**, articular facet for metacarpal V; **s**, suture between body and epiphysis; **uf**, articular facet for unciform. Scale bar equals 10 mm.

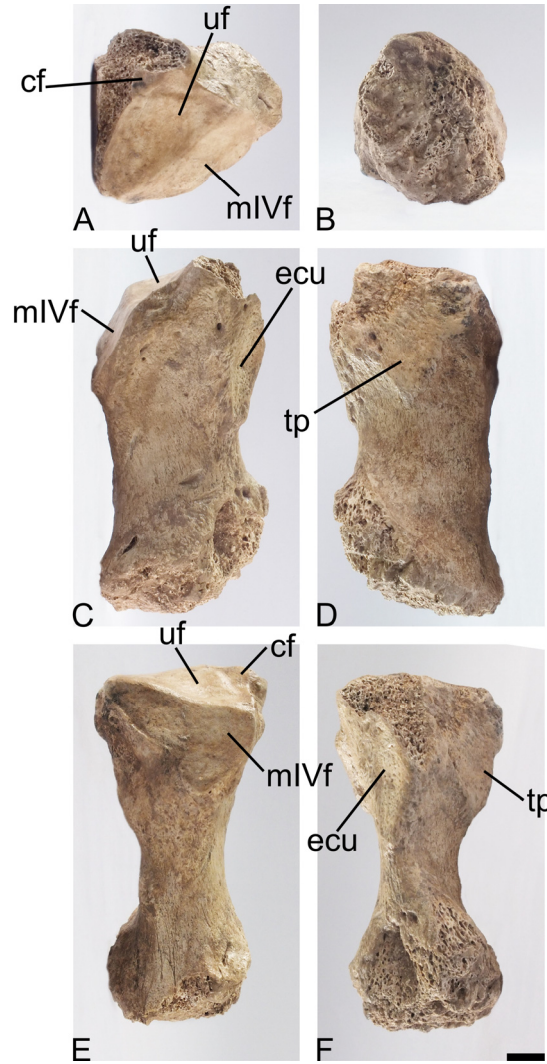


FIGURE 12S. Left metacarpal V of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, distal view; dorsal to the top; **C**, dorsal view; proximal to the top; **D**, palmar view; proximal to the top; **E**, axial view; proximal to the top; **F**, abaxial view; proximal to the top. **Abbreviations:** **cf**, articular facet for cuneiform; **ecu**, insertion scar for M. extensor carpi ulnaris; **mIVf**, articular facet for metacarpal IV; **tp**, triangular platform on ventral surface; **uf**, articular facet for unciform. Scale bar equals 10 mm.

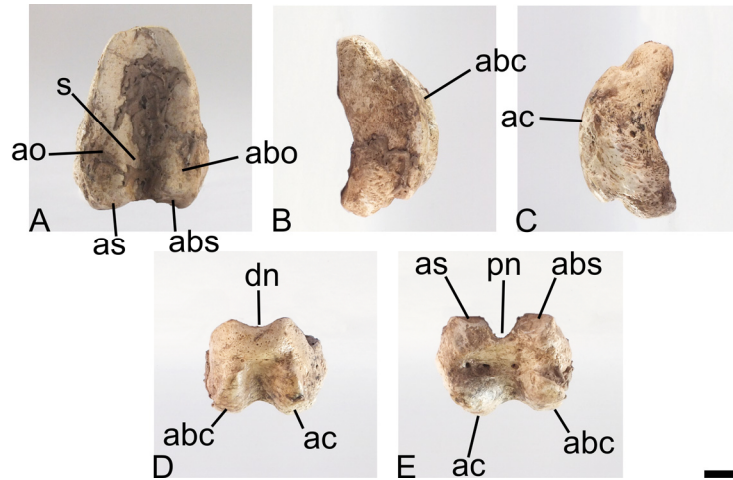


FIGURE 13S. Left proximal phalanx of digit II of the manus of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, abaxial view; proximal to the top; **C**, axial view; proximal to the top; **D**, dorsal view; proximal to the top; **E**, palmar view; proximal to the top. **Abbreviations:** **abo**: region of proximal articular surface articulating with abaxial offset of metacarpal II; **abs**: articular facet for abaxial sesamoid; **ao**: region of proximal articular surface articulating with axial offset of metacarpal II; **as**: articular facet for axial sesamoid; **dn**: notch dorsally continuous with sulcus for metacarpal carina; **pn**: notch palmarly continuous with sulcus for metacarpal carina; **s**: sulcus contacting metacarpal carina. Scale bar equals 10 mm.

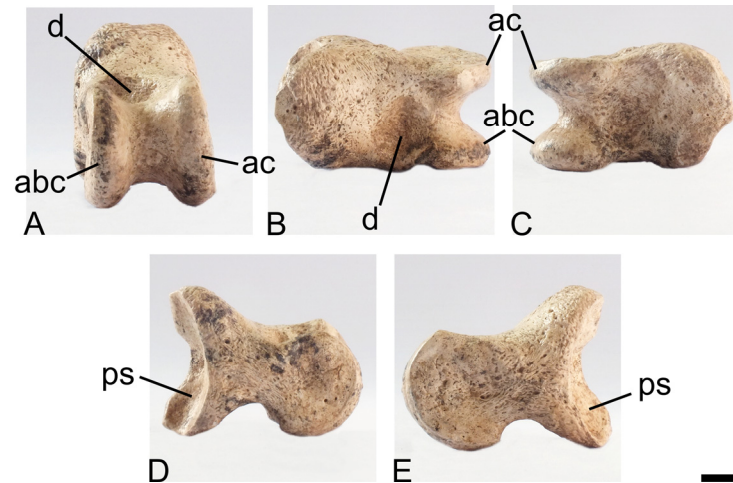


FIGURE 14S. Left intermediate phalanx of digit II of the manus of *Mylodon darwinii* specimen CORD PZ 4570. **A**, distal view; dorsal to the top; **B**, dorsal view; proximal to the left; **C**, palmar view; proximal to the right; **D**, abaxial view; proximal to the left; **E**, axial view; proximal to the right. **Abbreviations:** **abc**, abaxial condyle; **ac**, axial condyle; **d**, dorsal depression receiving extensor process or distal phalanx; **ps**, proximal articular surface. Scale bar equals 10 mm.

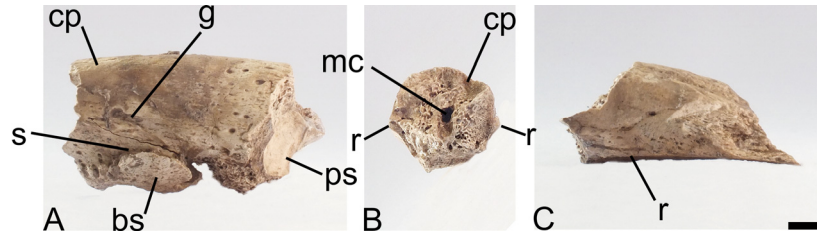


FIGURE 15S. Left distal phalanx of digit II of the manus of *Mylodon darwinii* specimen CORD PZ 4570. **A**, axial view of proximal fragment; **B**, proximal view of distal fragment; **C**, abaxial view of distal fragment. **Abbreviations:** **bs**, palmar part of ungual crest; **cp**, ungual process; **g**, vascular groove; **mc**, vascular channel extending along axis of ungual process; **ps**, proximal articular surface for intermediate phalanx; **r**, one of the collateral ridges; **s**, space between ungual process and sheath. Scale bar equals 10 mm.

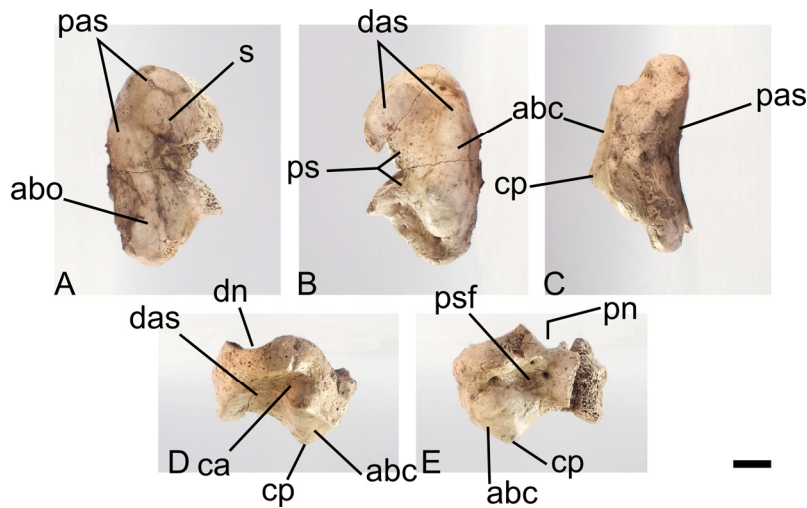


FIGURE 16S. Right proximal phalanx of digit III of the manus of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, distal view; dorsal to the top; **C**, abaxial view; dorsal to the top; **D**, dorsal view; proximal to the top; **E**, palmar view; proximal to the top. **Abbreviations:** **abc**, abaxial distal condyle; **abo**, region of proximal articular surface articulating with abaxial offset of metacarpal III; **ca**, concave area on dorsal surface of phalanx; **cp**, conical prominence of abaxial distal condyle; **das**, distal articular surface; **dn**, notch dorsally continuous with sulcus for metacarpal carina; **pas**, proximal articular surface; **pn**, notch palmarly continuous with sulcus for metacarpal carina; **ps**, pitted surface on axial distal condyle; **psf**, fossa on palmar surface; **s**, sulcus contacting metacarpal carina. Scale bars represent 10 mm.

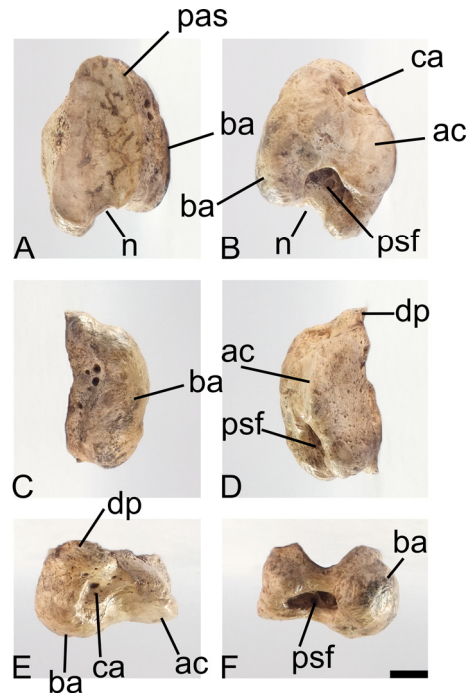


FIGURE 17S. Right proximal phalanx of digit IV of the manus of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, distal view; dorsal to the top; **C**, abaxial view; dorsal to the top; **D**, axial view; dorsal to the top; **E**, dorsal view; proximal to the top; **F**, palmar view; proximal to the top. **Abbreviations:** **ac**, axial distal condyle; **ba**, bulbous area; **ca**, concave area on dorsal surface of phalanx; **dp**, dorsal projection; **n**, notch in palmar border; **pas**, proximal articular surface; **psf**, fossa on palmar surface. Scale bar equals 10 mm.

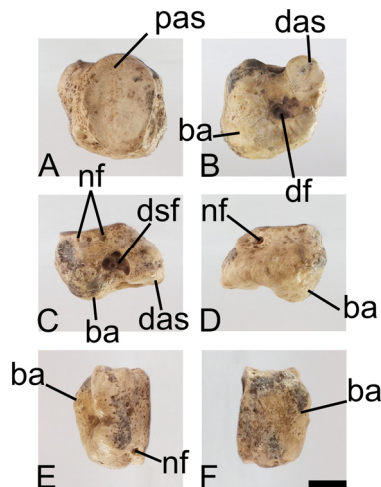


FIGURE 18S. Right proximal phalanx of digit V of the manus of *Mylodon darwinii* specimen CORD PZ 4570. **A**, proximal view; dorsal to the top; **B**, distal view; dorsal to the top; **C**, dorsal view; proximal to the top; **D**, palmar view; proximal to the top; **E**, axial view; proximal to the top; **F**, abaxial view; proximal to the top. **Abbreviations:** **ac**: axial distal condyle; **ba**, bulbous area; **das**, distal articular surface; **df**, distal fossa; **dsf**, fossa on dorsal surface; **nf**, nutrient foramen; **pas**, proximal articular surface. Scale bar equals 10 mm.

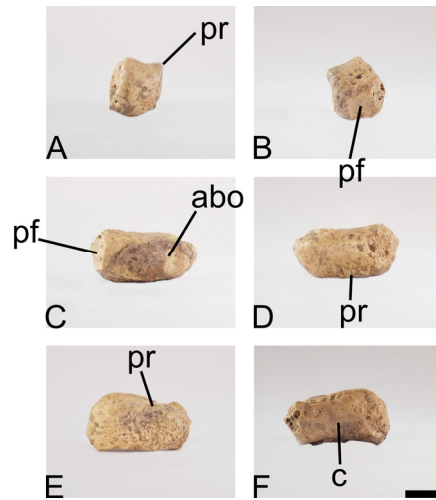


FIGURE 19S. Left abaxial palmar sesamoid of digit III of the manus of *Mylodon darwini* specimen CORD PZ 4570. **A**, proximal view; palmar to the top; **B**, distal view; palmar to the top; **C**, dorsal view; proximal to the right; **D**, palmar view; proximal to the left; **E**, abaxial view; proximal to the left; **F**, axial view; proximal to the right. **Abbreviations:** **abo**, articular surface for abaxial offset in distal articular surface of metacarpal; **c**, articular surface for carina in distal articular surface of metacarpal; **pf**, articular surface for proximal phalanx; **pr**, palmoabaxial ridge. Scale bar equals 10 mm.

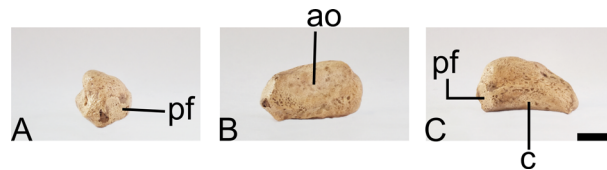


FIGURE 20S. Right axial palmar sesamoid of digit IV of the manus of *Mylodon darwini* specimen CORD PZ 4570. **A**, distal view; palmar to the top; **B**, dorsal view; proximal to the right; **C**, abaxial view; proximal to the left. **Abbreviations:** **ao**, articular surface for axial offset in distal articular surface of metacarpal; **c**, articular surface for carina in distal articular surface of metacarpal; **pf**, articular surface for proximal phalanx. Scale bar equals 10 mm.

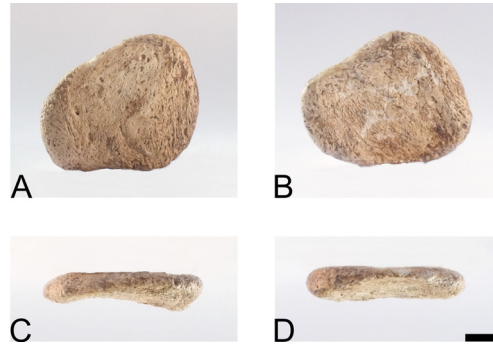


FIGURE 21S. Left palmar sesamoid of *Mylodon darwinii* specimen CORD PZ 4570. **A**, view from convex surface, probably dorsal according to position in situ; **B**, view from concave surface, probably palmar according to position in situ; **C**, view from thick long border, probably distomedial according to position in situ; **D**, view from thin long border, probably proximolateral according to position in situ. Scale bar equals 10 mm.

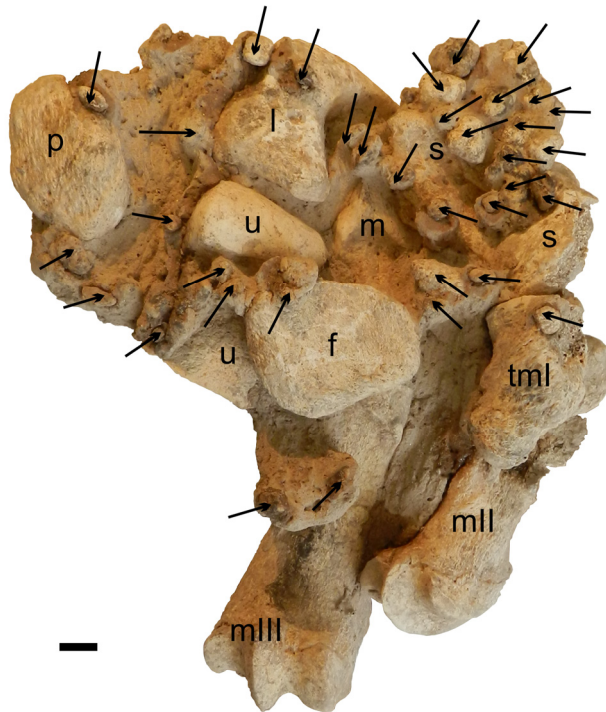


FIGURE 22S. Left manus of *Mylodon darwinii* specimen CORD PZ 4570 prior to cleaning and disarticulation, in palmar view. Arrows indicate placement of the osteoderms. **Abbreviations:** **f**, palmar sesamoid; **l**, lunar; **m**, magnum; **mII**, metacarpal II; **mIII**, metacarpal III; **p**, pisiform; **s**, scaphoid; **tml**, fused trapezoid and metacarpal I; **u**, unciform. Scale bar equals 10 mm.