

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

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SUPPLEMENTARY DATA 1

TABLE S1. Selected measurements of described bones. Measurements are of actual bones or bone fragments, not estimated. **Abbreviations:** **I**, incomplete; **L**, left bone; **R**, right bone.

Scaphoid	
Maximal diameter of the proximal articular surface	73.1 mm (L); 65.8 mm (R)
Maximal length from the border of the articular facet for the radius to the border of the articular facet for the trapezium-metacarpal I	69.1 mm (L)
Proximodistal length from the proximal articular surface to apex of distal process, measured perpendicular to the proximal articular surface	36.2 mm (L); 38.6 mm (R)
Maximal dorsopalmar depth, measured perpendicular to the line connecting the mediopalmar and lateropalmar corners	61.7 mm (L); 56.1 mm (RI)
Maximal proximodistal length at the dorsal surface	36.1 mm (LI); 39.9 mm (RI)
Proximodistal length at mid-length of the dorsal surface	18.2 mm (L) and 18.3 mm (RI)
Maximal mediolateral width	67.1 mm (L); 66.7 mm (R)
Width of trapezial process in transverse plane	18 mm (L)
Length of trapezial process in transverse plane	24.1 mm (L)
Lunar	
Maximal proximodistal length from the articular facet for the radius to the articular facet for the unciform, measured along the dorsal surface	49.1 mm (L); 49.3 mm (R)
Maximal proximodistal length of the dorsal surface, from the articular facet for the radius to the articular facet for the unciform (not including articular facets)	25.9 mm (L); 25.2 mm (R)
Maximal width, measured along the proximal articular surface for the radius	65.5 mm (L)
Maximal dorsopalmar length of the articular surface for the cuneiform	36.1 mm (L)
Chord length of the lateral border of the bone	11.4 mm (L)
Chord length of the dorsal border of the articular surface for the magnum	25 mm (L); 24 mm (R)
Chord length of the medial border in dorsal view, between articular facets for radius and magnum	21 mm (L); 22.6 mm (R)
Chord length of the dorsal border of the unciform articular facet	29 mm (L, R)
Chord length of the dorsal border of the cuneiform articular facet	28 mm (L)
Angle formed by the articular facets for magnum and unciform at the mid-point of their contact	ca. 133° (L, R)
Width of dorsal border of proximal articular surface	62.3 (L)
Width of palmar end of proximal articular surface	25.4 (L)
Maximal width of palmar half of unciform facet	37.4 mm (L)
Cuneiform	
Maximal diameter (dorsopalmar) of articular surface for ulna	53 mm (L)
Minimal diameter (mediolateral) of articular surface for ulna	45 mm (L)

Angle formed between articular facets for ulna and pisiform	ca. 100° (L)
Maximal mediolateral width	73.6 mm (L)
Maximal proximodistal length, measured perpendicular to the articular surface for the ulna	61.4 mm (L)
Maximal dorsopalmar length of the ulnar articular surface, measured normal to the dorsolateral surface	50.6 mm (L)
Maximal dorsopalmar depth of the bone, measured parallel to the plane of the proximal articular surface	57.4 mm (L)

Pisiform

Maximal length	50.8 mm (L)
Maximal width, perpendicular to the Maximal length	31.6 mm (L)
Maximal thickness, perpendicular to the cuneiform facet	21.3 mm (L)

Trapezoid

Maximal dorsopalmar depth	40.7 mm (L); 40.2 mm (R)
Maximal length of the dorsal surface perpendicular to the main articular facet for the scaphoid	42.7 mm (L)
Minimal diameter of the dorsal surface	28.6 mm (L); 29.1 mm (R)
Maximal proximodistal length of the dorsal surface	35 mm (L)
Maximal proximodistal length of the dorsal facet for the magnum	20.1 mm (L)
Maximal mediolateral width of the dorsal surface	34.6 mm (L); 35.4 mm (R)
Maximal dorsopalmar depth of scaphoid facet	32 mm (L); 32.5 mm (R)
Maximal mediolateral width of scaphoid facet	23 mm (L, R)

Magnum

Maximal dorsopalmar length of the distal surface	64 mm (L); 59 mm (R)
Maximal mediolateral width of the dorsal surface	44.7 mm (L); 41.8 mm (R)
Maximal proximodistal length	61.4 mm (L); 62.7 mm (R)
Mediolateral width of the palmar surface, perpendicular to the dorsal facet for the unciform	34.5 mm (L); 33.9 mm (R)
Proximodistal length perpendicular to the palmar part of the lateral facet for metacarpal III	12.6 mm (L); 12.8 mm (R)
Dorsopalmar depth of the ridge located between the facets for scaphoid and lunar	32.6 mm (L); 31.1 mm (R)
Angle between articular facet for metacarpal II and palmar articular facet for trapezoid	ca. 132° (L); ca. 129° (R)
Maximal dorsopalmar depth	65 mm (L)

Maximal dorsopalmar depth of proximal articular surface	45 mm (L); 41.9 mm (R)
Angle between dorsal articular facet for trapezoid and medial articular facet for metacarpal III	ca. 96° (L); ca. 105° (R)
Angle between articular facet for metacarpal II and palmar part of lateral articular facet for metacarpal III	ca. 119° (L); ca. 116° (R)
Mediolateral width of dorsal end of scaphoid facet	16.3 mm (L); 17.5 mm (R)
Mediolateral width of palmar end of scaphoid facet	19.5 mm (L); 18.7 mm (R)
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Unciform	
Angle between facet for metacarpal IV and dorsal facet for metacarpal III	ca. 118° (L, R)
Angle between facet for metacarpal IV and palmar facet for metacarpal III	ca. 114° (L); ca. 116° (R)
Angle between facets for metacarpal IV and metacarpal V	ca. 129° (L); ca. 132° (R)
Maximal mediolateral width, measured from the most medial point of the articular facet for metacarpal III to the most lateral point of the articular facet for metacarpal V	61.5 (L); 65.5 mm (R)
Maximal proximodistal length, from the apex of the proximal process to the palmar half of the facet for metacarpal IV, perpendicular to the latter	57.8 mm (L)
Maximal dorsopalmar depth of the metacarpal IV facet	52 mm (LI); 52.7 mm (RI)
Dorsopalmar depth of lateral part of cuneiform facet	35.8 mm (L)
Mediolateral width of cuneiform facet	42.5 mm (L)
Mediolateral width of dorsal part of lunar articular facet	25.5 mm (L)
Mediolateral width of palmar part of lunar articular facet	33.8 mm (L)
Mediolateral width of dorsal part of metacarpal V articular facet	20.2 mm (L)
Mediolateral width of palmar part of metacarpal V articular facet	27.7 mm (L)
Angle between main planes of dorsal facets for magnum and metacarpal III.	ca. 126° (L)
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Trapezium-Metacarpal I	
Maximal proximodistal length	40.4 mm (L)
Axioabaxial length of the proximal end	39.1 mm (L)
Angle between trapezoidal and metacarpal arms.	ca. 70° (L)
Angle between facets for metacarpal II and scaphoid.	ca. 77° (L)
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Metacarpal II	
Maximal proximodistal length	78.6 mm (L); 79.2 mm (R)
Maximal chord length of the carina of the distal articular surface (= Maximal diameter of the distal end)	53.1 mm (L); 53.8 mm (R)
Minimal dorsopalmar depth of the shaft	30 mm (L, R)

Axioabaxial width of the distal articular facet	29.7 mm (L); 31 mm (R)
Maximal axioabaxial width of shaft at constriction	24.5 mm (L); 23 mm (R)
Proximodistal length of dorsal, non-articular surface	48.8 mm (L); 47.9 mm (R)
Mediolateral width of dorsal, non-articular surface	14.9 mm (L); 17.9 mm (L)

Metacarpal III

Minimal dorsopalmar depth of the shaft at the axial surface	27 mm (L); 27.1 mm (R)
Maximal axioabaxial width of the distal end	38.6 mm (L)
Maximal proximodistal length	95.7 mm (L)
Dorsopalmar depth of the proximal end at the proximal surface	56.6 mm (L); 55.3 mm (R)
Maximal axioabaxial width of the proximal extremity	68.7 mm (L); 67.1 mm (R)
Minimal axioabaxial width of the shaft at the dorsal surface	28.1 mm (L); 27.5 mm (R)
Width of dorsal surface at abaxial proximal projection	30.3 mm (L); 28.8 mm (R)
Width of dorsal surface at axial proximal projection	22 mm (L); 22.5 mm (R)
Maximal length of the distal carina (= Maximal dorsopalmar diameter of the distal end)	59.2 mm (L)

Metacarpal IV

	Measurements
Maximal length	128 mm (L)
Axioabaxial width of the proximal end	45.4 mm (LI)
Maximal axioabaxial width of the distal end	50 mm (LI)
Maximal diameter of the distal articular surface	55 mm (LI)
Minimal diameter of the shaft	23.6 mm (L)
Maximal diameter of the shaft	35 mm (L)
Dorsopalmar depth of the proximal end	55.9 mm (LI)
Dorsopalmar depth of distal end	52.6 mm (L)
Proximodistal length of facet for metacarpal V	24 mm (L)
Dorsopalmar depth of facet for metacarpal V	41.4 mm (L)
Long axis of distal end in distal view	61 mm (L)
Minimal diameter of distal end in distal view	41.2 (LI)
Minimal diameter of the shaft	23.6 mm (L)
Maximal diameter of the shaft	35 mm (L)
Dorsopalmar depth of the proximal end	55.9 mm (LI)
Dorsopalmar depth of distal end	52.6 mm (L)
Proximodistal length of facet for metacarpal V	24 mm (L)
Dorsopalmar depth of facet for metacarpal V	41.4 mm (L)

Long axis of distal end in distal view	61 mm (L)
Minimal diameter of distal end in distal view	41.2 (LI)
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Metacarpal V	
Maximal preserved proximodistal length	94.7 mm (L)
Maximal axioabaxial width	47.2 mm (LI)
Maximal dorsopalmar depth	45.2 mm (LI)
Minimal axioabaxial width of the body	34.8 mm (L)
Minimal dorsopalmar depth of the body	20.4 mm (L)
Maximal axioabaxial width of distal end of body	50.3 mm (LI)
Maximal dorsopalmar width of distal end of body	39.5 mm (LI)
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Proximal phalanx of digit II	
Maximal proximodistal length at the abaxial side	24.6 mm (L)
Maximal proximodistal length at the axial side	20.1 mm (LI)
Maximal dorsopalmar depth of the distal end	37.4 mm (L)
Maximal axioabaxial width	35.9 mm (L)
Maximal dorsopalmar depth	48.1 mm (L)
Dorsopalmar depth of abaxial distal condyle	37 mm (L)
Dorsopalmar depth of axial distal condyle	34.8 mm (L)
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Intermediate phalanx of digit II	
Maximal dorsopalmar depth of the proximal end	41.7 mm (L)
Maximal length, perpendicular to and from the line connecting the dorsal and palmar apices of the proximal surface	46.4 mm (L)
Maximal dorsopalmar depth of the axial condyle of the distal end, not perpendicular to the maximal length	32.7 mm (L)
Maximal dorsopalmar height of the axial condyle (= maximal diameter of the distal end), perpendicular to the longitudinal axis	32.4 mm (L)
Maximal axioabaxial width of the proximal end	33 mm (L)
Maximal axioabaxial width immediately proximal to the trochlea	29.8 mm (L)
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Distal phalanx of digit II	
Maximal proximodistal length of the bone	115 mm (LI)
Maximal dorsopalmar depth of sub-ungual plate	5.3 mm (LI)
Maximal axioabaxial width of the unguis process base	29.5 mm (L)
Maximal dorsopalmar depth of the unguis process base	26.7 mm (L)
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Proximal phalanx of digit III	
Maximal dorsopalmar depth	50 mm (RI)
Maximal axioabaxial width	34 mm (RI)
Maximal proximodistal length, from the proximal surface to the abaxial condyle	22.4 mm (RI)
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Proximal phalanx of digit IV	
Maximal dorsopalmar depth	39 mm (R)

Maximal axioabaxial width	36.7 mm (R)
Maximal proximodistal length of the abaxial surface	19.5 mm (R)
Angle between axial sesamoid facet and facet for carina	ca. 140° (R)
Dorsopalmar depth of distal articular surface	22 mm (R)
Mediolateral width of distal articular surface	20.8 mm (R)
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Proximal phalanx of digit V	
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Maximal proximodistal length	18.9 mm (R)
Maximal dorsopalmar depth	28 mm (R)
Maximal axioabaxial width	30 mm (R)
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Abaxial palmar sesamoid of digit III	
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Maximal dorsopalmar depth	14.8 mm (L)
Maximal length	28.4 mm (L)
Maximal axioabaxial width	14.1 mm (L)
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Axial palmar sesamoid of digit IV	
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Maximal proximodistal length	26.6 mm (L); 27.2 mm (R)
Maximal dorsopalmar depth	15.4 mm (R)
Maximal axioabaxial width	15.4 mm (L); 14.9 mm (R)
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Palmar sesamoid	
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Maximal length	45.3 mm (L)
Maximal width, perpendicular to the maximal length	36.4 mm (L)
Maximal thickness	8.3 mm (L)
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