

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

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SUPPLEMENTARY DATA 4

DESCRIPTION OF CHARACTERS ADDED IN PHYLOGENETIC ANALYSES

These 37 new characters were added to our larger matrix formed by combining Gaudin (2004) and Rincon et al. (2015); therefore, their numbering reflects their inclusion in the total character list.

(312) Supratrochlear foramen in humerus: present (0); absent (1) (Owen, 1842).

(313) Calcaneal facets in astragalus: unfused (0); fused (1) (Owen, 1842).

(314) Osteoderms: absent (0); present (1) (Ameghino, 1881).

(315) Contact between articular facets for trapezium-metacarpal I and trapezoid in scaphoid: present (0); absent (1) (Hirschfeld, 1985).

(316) Contact between articular facets for trapezoid and magnum in the scaphoid: present (0); absent (1) (Cartelle, 1980).

(317) Articular facet for lunar on scaphoid: subdivided in two parts (0); single (1) (modified from Hirschfeld, 1985).

(318) Relationship between mediolateral widths of dorsal and palmar borders of articular surface for radius in lunar: dorsal border less than twice palmar border (0); dorsal border more than twice palmar border (1) (Hirschfeld, 1985).

(319) Dimension of border corresponding to unciform facet relative to medial border (between borders corresponding to facets for radius and magnum) in dorsal surface of lunar: shorter (0); longer (1) (Montellano-Ballesteros & Carranza-Castañeda, 1986).

(320) Angle between articular facets for scaphoid and magnum in lunar: lesser than 145° (0); greater than 145° (1) (Hirschfeld, 1985).

(321) Relief of articular surface for ulna in cuneiform in the axis extending from dorsolateral to palmomedial: approximately flat (0); clearly concave (1) (Cartelle, 1980).

(322) Contact between the articular facets for ulna and pisiform in the cuneiform: present (0); absent (1) (Cartelle, 1980).

(323) Distolateral process of cuneiform: poorly developed (0); well developed (1) (Cartelle, 1980).

(324) Relationship of proximodistal length to dorsopalmar depth in cuneiform: length < depth (0); length > depth (1) (modified from Robertson, 1976).

(325) Proximodistal length of the cuneiform compared to dorsopalmar depth of the articular surface for the ulna in the cuneiform: length < depth (0); length > or = depth (1) (Robertson, 1976).

(326) Ratio between proximodistal length and mediolateral width in the cuneiform: less than 0.93 (0); more than 0.93 (1) (modified from Robertson, 1976).

(327) Ridge on proximal region of the dorsal surface of the cuneiform: prominent (0); low or weakly developed (1) (Cartelle, 1980).

(328) Pisiform: not flattened (0); flattened (1) (Owen, 1842).

- (329) Proximal articular surface of trapezium-metacarpal I: concave (0); flat (1) (McDonald, 1987).
- (330) Contact between trapezium-metacarpal I and trapezoid: present (0); absent (1) (McDonald, 1987).
- (331) Exposure of contact between metacarpal II and magnum in dorsal view of articulated manus: present (0); absent (1) (Cartelle, 1980).
- (332) Proportions of lateral extremity of articular facet for cuneiform in unciform: dorsopalmarly narrow (0); dorsopalmarly expanded (1) (Hirschfeld, 1995).
- (333) Axioabaxial development of the axial process of trapezium-metacarpal I: low (0); high (1) (Stock, 1925).
- (334) Ratio between length of metacarpal II and dorsopalmar depth of narrowest point in the shaft: more than 0.42 (0); less than 0.42 (1) (modified from Cartelle, 1980).
- (335) Relationship between articular facets for metacarpal III and magnum in metacarpal II: contacting (0); separated (1) (Saint-André et al., 2010).
- (336) Articular facet for trapezium-metacarpal I in metacarpal II: flat or convex (0); concave (1) (Saint-André et al., 2010).
- (337) Articular facet for the magnum in metacarpal III: single facet (0); subdivided, with separate dorsomedial facet (1) (Hirschfeld, 1985).
- (338) Dorsal part of articular facet for metacarpal II in metacarpal III: approximately flat (0); markedly convex (1) (Saint-André et al., 2010).
- (339) Ratio between width of shaft and bone length in metacarpal III: above 0.37 (0); 0.37 or less (1) (new character).
- (340) Expansion of the distal carina upon the dorsal surface of metacarpal III: absent or minimal (0); present, greatly expanded (1) (Stock, 1925).
- (341) Orientation of the distal carina of metacarpal III: dorsopalmar (0) oblique from the middle of the palmar border to the dorsoaxial corner of the distal articular surface (1) (Stock, 1925).
- (342) Proximodistal extension of the articular facet for the metacarpal V in the metacarpal IV: relatively extensive (0); quite narrow (1) (Hirschfeld, 1985).
- (343) Relief of palmar region of articular surface for metacarpal III in metacarpal IV: convex (0); concave (1) (Hirschfeld, 1985).
- (344) Axial offset in distal articular surface of metacarpal IV: well developed (0); reduced or absent (1) (Hirschfeld, 1985).
- (345) Relief of carina on distal articular surface of metacarpal IV in the dorsopalmar direction: flat or concave (0); convex (1) (Rautenberg, 1906).
- (346) Palmar extension of metacarpal V facet relative to palmar surface at shaft constriction in metacarpal IV: less palmarly set (0); more palmarly set (1) (Saint-André et al., 2010).
- (347) Ratio between maximum dorsopalmar and axioabaxial dimensions of proximal phalanx of digit II of the manus: lesser than 1.27 (0); greater than 1.27 (1) (modified from Stock, 1925).

(348) Medial keel in proximal surface of intermediate phalanx in digit II of the manus: not covered by articular surface (0); mostly covered by articular surface (1) (Cartelle, 1980).