

ARK links to all CT Image series and mesh files of *Janavis finalidens* fossil remains and segmented skeletal elements discussed in this study, deposited in the online repository Morphosource, under Project ID 000444955.

Element(s)	Data type	ARK Link
Main block: whole matrix block scan	CT Image Series	http://n2t.net/ark:/87602/m4/445292
Main block: Focus scan of the thoracic region	CT Image Series	http://n2t.net/ark:/87602/m4/445331
Main block: Focus scan of cervical vertebrae	CT Image Series	http://n2t.net/ark:/87602/m4/445877
Isolated pterygoid & pedal phalanx scan	CT Image Series	http://n2t.net/ark:/87602/m4/445881
Isolated thoracic vertebrae scan	CT Image Series	http://n2t.net/ark:/87602/m4/445885
Isolated tooth scan	CT Image Series	http://n2t.net/ark:/87602/m4/470164
Isolated tooth	Mesh	http://n2t.net/ark:/87602/m4/470167
Pterygoid rostral fragment	Mesh	http://n2t.net/ark:/87602/m4/469729
Pterygoid caudal fragment	Mesh	http://n2t.net/ark:/87602/m4/469726
Pterygoid whole (reconstructed)	Mesh	http://n2t.net/ark:/87602/m4/469732
Vertebra cervical 4 th	Mesh	http://n2t.net/ark:/87602/m4/470260
Vertebra cervical 5 th	Mesh	http://n2t.net/ark:/87602/m4/470250
Vertebra cervical 6 th or 7 th	Mesh	http://n2t.net/ark:/87602/m4/470254
Vertebra cervical 7 th or 8 th	Mesh	http://n2t.net/ark:/87602/m4/470263
Vertebra cervical 8 th or 9 th	Mesh	http://n2t.net/ark:/87602/m4/470266
Vertebra cervical 9 th or 10 th	Mesh	http://n2t.net/ark:/87602/m4/470269
Vertebra thoracic 1 st	Mesh	http://n2t.net/ark:/87602/m4/470257
Vertebra thoracic 2 nd	Mesh	http://n2t.net/ark:/87602/m4/470225
Vertebra thoracic 3 rd	Mesh	http://n2t.net/ark:/87602/m4/470242
Vertebra thoracic 4 th	Mesh	http://n2t.net/ark:/87602/m4/470210
Vertebra thoracic indet. 1	Mesh	http://n2t.net/ark:/87602/m4/470216
Vertebra thoracic indet. 2	Mesh	http://n2t.net/ark:/87602/m4/470219
Vertebra thoracic indet. 3	Mesh	http://n2t.net/ark:/87602/m4/470222
Ribcage	Mesh	http://n2t.net/ark:/87602/m4/469717
Thoracic rib right 1	Mesh	http://n2t.net/ark:/87602/m4/469708
Thoracic rib right 2	Mesh	http://n2t.net/ark:/87602/m4/469711
Thoracic rib right 3	Mesh	http://n2t.net/ark:/87602/m4/469714
Thoracic ribs left	Mesh	http://n2t.net/ark:/87602/m4/470325
Scapula whole	Mesh	http://n2t.net/ark:/87602/m4/470249
Scapula omal (focused)	Mesh	http://n2t.net/ark:/87602/m4/470245
Humerus whole (distorted & fragmented)	Mesh	http://n2t.net/ark:/87602/m4/469693
Humerus proximal fragment	Mesh	http://n2t.net/ark:/87602/m4/469699
Humerus shaft proximal fragment	Mesh	http://n2t.net/ark:/87602/m4/469705
Humerus shaft distal fragment	Mesh	http://n2t.net/ark:/87602/m4/469702
Humerus distal fragment	Mesh	http://n2t.net/ark:/87602/m4/469696
Humerus whole (reconstructed)	Mesh	http://n2t.net/ark:/87602/m4/469720
Manual phalanx II:1	Mesh	http://n2t.net/ark:/87602/m4/470322
Femur	Mesh	http://n2t.net/ark:/87602/m4/469690
Pedal phalanx	Mesh	http://n2t.net/ark:/87602/m4/469723

ARK links to the mesh files for all bird pterygoids used in the Geometric Morphometric analysis and/or discussed in this study, deposited in the online repository Morphosource, under Project ID 000444956. Taxa marked with an asterisk (*) were used in the geometric morphometric analysis (see Methods and Supplementary Information).

Taxon	Specimen	ARK Link
<i>Accipiter nisus</i>	Uncatalogued	http://n2t.net/ark:/87602/m4/470274
<i>Alectura lathamii</i> *	NHMUK S 2010.1.31	http://n2t.net/ark:/87602/m4/470171
<i>Anas platyrhynchos</i> *	UMZC 225	http://n2t.net/ark:/87602/m4/469458
<i>Anatalavis oxfordi</i> †*	NHMUK PVA 5922	http://n2t.net/ark:/87602/m4/470238
<i>Anhima cornuta</i> *	NHMUK 2009.09	http://n2t.net/ark:/87602/m4/470191
<i>Anseranas semipalmata</i> *	NHMUK 1852.7.22.1	http://n2t.net/ark:/87602/m4/470195
<i>Biziura lobata</i> *	UMZC 243.A	http://n2t.net/ark:/87602/m4/461745
<i>Caprimulgus sp.</i> *	UMZC 493.CE	http://n2t.net/ark:/87602/m4/469523
<i>Cereopsis novaehollandiae</i> *	UMZC 242.A	http://n2t.net/ark:/87602/m4/461795
<i>Chauna torquata</i> *	NHMUK S 2012.31.1	http://n2t.net/ark:/87602/m4/470176
<i>Columba livia</i> *	UMZC 721	http://n2t.net/ark:/87602/m4/461805
<i>Corvus frugilegus</i>	Uncatalogued	http://n2t.net/ark:/87602/m4/470280
<i>Crypturellus tataupa</i> *	UMMZ 201948	http://n2t.net/ark:/87602/m4/470207
<i>Dasornis toliapica</i> †*	NHMUK PV OR 44096	http://n2t.net/ark:/87602/m4/470232
<i>Dromaius novaehollandiae</i> *	UMZC 362	http://n2t.net/ark:/87602/m4/461859
<i>Eudromia elegans</i> *	UMZC 404.E	http://n2t.net/ark:/87602/m4/469484
<i>Charadrius morinellus</i> *	UMZC 351	http://n2t.net/ark:/87602/m4/469489
<i>Gallinago gallinago</i> *	UMZC 310	http://n2t.net/ark:/87602/m4/469479
<i>Gallus gallus</i> *	UMZC 400	http://n2t.net/ark:/87602/m4/461864
<i>Gavia arctica</i>	UMZC 203	http://n2t.net/ark:/87602/m4/469500
<i>Haematopus ostralegus</i> *	UMZC 350	http://n2t.net/ark:/87602/m4/469494
<i>Larus marinus</i>	UMZC 273	http://n2t.net/ark:/87602/m4/470181
<i>Leipoa ocellata</i>	UMZC 391.A	http://n2t.net/ark:/87602/m4/470285
<i>Lophophorus impejanus</i> *	UMZC 397.B	http://n2t.net/ark:/87602/m4/461869
<i>Lymnocyptes minimus</i> *	UMZC 311	http://n2t.net/ark:/87602/m4/461874
<i>Macrocephalon maleo</i>	UMZC 14/Meg/5/a/3	http://n2t.net/ark:/87602/m4/470292
<i>Megapodius nicobariensis</i> *	UMZC 14/Meg/f/3	http://n2t.net/ark:/87602/m4/461880
<i>Mergellus albellus</i> *	UMZC 210.B	http://n2t.net/ark:/87602/m4/468793
<i>Morus bassanus</i>	UMZC 262.E	http://n2t.net/ark:/87602/m4/470310
<i>Numida meleagris</i> *	UMZC 393	http://n2t.net/ark:/87602/m4/468798
<i>Pachyptila desolata</i>	Uncatalogued	http://n2t.net/ark:/87602/m4/470315
<i>Pavo cristatus</i> *	UMZC 396.D	http://n2t.net/ark:/87602/m4/468804
<i>Pelecanus occidentalis</i>	NHMUK S 1973.66.16	http://n2t.net/ark:/87602/m4/470204
<i>Perdix cinerea</i>	UMZC 406	http://n2t.net/ark:/87602/m4/470298
<i>Pipile pipile</i> *	UMZC 391	http://n2t.net/ark:/87602/m4/469448
<i>Ptilopachus petrosus</i> *	NHMUK 1968.9.2	http://n2t.net/ark:/87602/m4/470201
<i>Puffinus anglorum</i>	UMZC 284	http://n2t.net/ark:/87602/m4/470304
<i>Rhea americana</i> *	FMNH B 339616	http://n2t.net/ark:/87602/m4/470213
<i>Rhynchotus rufescens</i>	UMZC 404.A	http://n2t.net/ark:/87602/m4/469505
<i>Scolopax rusticola</i> *	UMZC 307	http://n2t.net/ark:/87602/m4/469453
<i>Strix aluco</i> *	Uncatalogued	http://n2t.net/ark:/87602/m4/469463
<i>Struthio camelus</i> *	Uncatalogued	http://n2t.net/ark:/87602/m4/461739
<i>Trogon collaris</i> *	UMZC 438	http://n2t.net/ark:/87602/m4/469469
<i>Tyto alba</i> *	Uncatalogued	http://n2t.net/ark:/87602/m4/469474