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SUPPLEMENTARY ONLINE MATERIAL FOR

New information on ornithopod dinosaurs from the Late Jurassic of Portugal

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Supplementary Online Material

SOM 1. Data Matrix_ Dieudonné et al. 2016

Data matrix used for the phylogenetic analyses.

xread

289 52

Herrerasaurus_ischigualastensis
000?000??000000000000110000??000001000102O?20????000000000?20??0000000?1000
0000210001???00000?00??0?0?0?0000???????00??000?000200000000000000?10112?0??0002??
0????00?121000?0000??0?000?0??111??0??00?10?020010011100100000001001000000????000
000001000000010?00?0000100000?000??00000000000000

Abrictosaurus_consors
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Agilisaurus_louderbacki
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01000?0101???0000????????0??000110??0000?1?0000?1103010000101011100?010?0100?200??0
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013?0000001020000?000??11?00??11??0????110100000

Anabisetia_saldiviai
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0200?10111??1???02111?2??11?110100000

Camptosaurus_dispar
000?000??01111110101?00100??00110010100110111000100010000002101?2000001010O
0010?110?00000110?2010111002000111011010113101001112010011??111111101101111010010
11012121111?1111?2101110001101l?000000110?000000010100100011010000102111111101101
1111111031111O?0102100111101111000211102O????111100000

Changchunsaurus_parvus
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010?00?0????0????00????0?000011111011011200200111201000010101110l[0
1]010?0?01?00100000???101011?????????00???10???001??001?00001?????????????????????1?
1?1?????????????????????111???0????????1??00???1?????????0100000

Dryosaurus_altus
0?0?000??0101111010100011O??00110110100010011000000010000l0?110000000010100
011011000000101101200001000100001l0?10?011200100111201000l??10111110110111101001
11012111111111021001111002001000000000101000000000l??0??????10000101011111101l011
111010021111011112001101101011?00211111111110111200000

Dysalotosaurus_lettowvorbecki

0?0?000??0?0111101010001 10??00?10111100010011000100110000112110000000010100011?1100?0?01011012 0?10100010000110110101120010011110100 01??10111110110???10?001110121111111?1102?01111??0210100000000001010000000 10?????????1000010101111111011?1111101002111101111200110110 1?11?0021111???110111200000

Echinodon_becklesii

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101011?1??01?0??0??01000100 1???0?0?00000?0?000000000100001000110100011111011000 0?1 00100000200 10?00???11?00??11??1???011?100000

Hypsilophodon_foxii

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Iguanodon_bernissartensis

0000000??01111110101?00100??00110010100110111001000010000002021?000000?01?0 0110?11000?0001?0?20?00?00?2000111011010013101001113010011??111111101101111010011 101212111?1221?201111200110110000010110200000002010010001101000010321111110110 11 ?111103111110?10110011110?11100021110?01100111200000

Jeholosaurus_shangyuanensis

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Koreanosaurus_boseongensis

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Mochlodon_vorosi

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Muttaburrasaurus_langdoni

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1200?10111??11?0000110??01????01??000

Orodromeus_makelai

000?000??10010001100000??10??10100101010?10210001010100001000000030000000100100010000 1?1000011??10?10100??01????0?01111000?110?0100001010111 00?0000000000100000000102011030021 1000?10010000001010 01?0000010000?0000001000010 0?121110011111011000022 00101?11200000?[0 1]0001?10100110110?0?110000000

Othnielosaurus_consors

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0102000000000?011?000111111 1000110100000

Parksosaurus_warreni

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Pisanosaurus_mertii

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Psittacosauridae

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1]0001??10111110?0???1??00???01????10??[0 1]0????1?????0??0100100[0
1]1???010?000?0?0?00?000000100001 0???211[0 1]?011210?1120?00?0010[0
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Rhabdodon_priscus

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Rhabdodon_sp1

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Scelidosaurus_harrisonii

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Scutellosaurus_lawleri

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Talenkauen_santacrucensis

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Tenontosaurus_dossi

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Tenontosaurus_tilletti

0000000???10111101 01?00100???0?100111000101110001100100001001??020000000001 0111??1010???0110??000?1?00100001101100011200100111101000 1??10111110110101001001100101210 1?02212101111 1?0100101000000100100000101000000001101000011001111110110111111102100101101111000201111101001100000000

Thescelosaurus_neglectus

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Tianyulong_confuciusi

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Vegagete_ornithopod

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Yandusaurus_hongheensis

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Yinlong_downsi

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Yueosaurus_tiantaiensis

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Zalmoxes_robustus

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Zalmoxes_shqiperorum

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Zephyrosaurus_schaffi

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ML_768

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Euosdryosaurus_nanohallucis

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ML_2055

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ML_563
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ML_818
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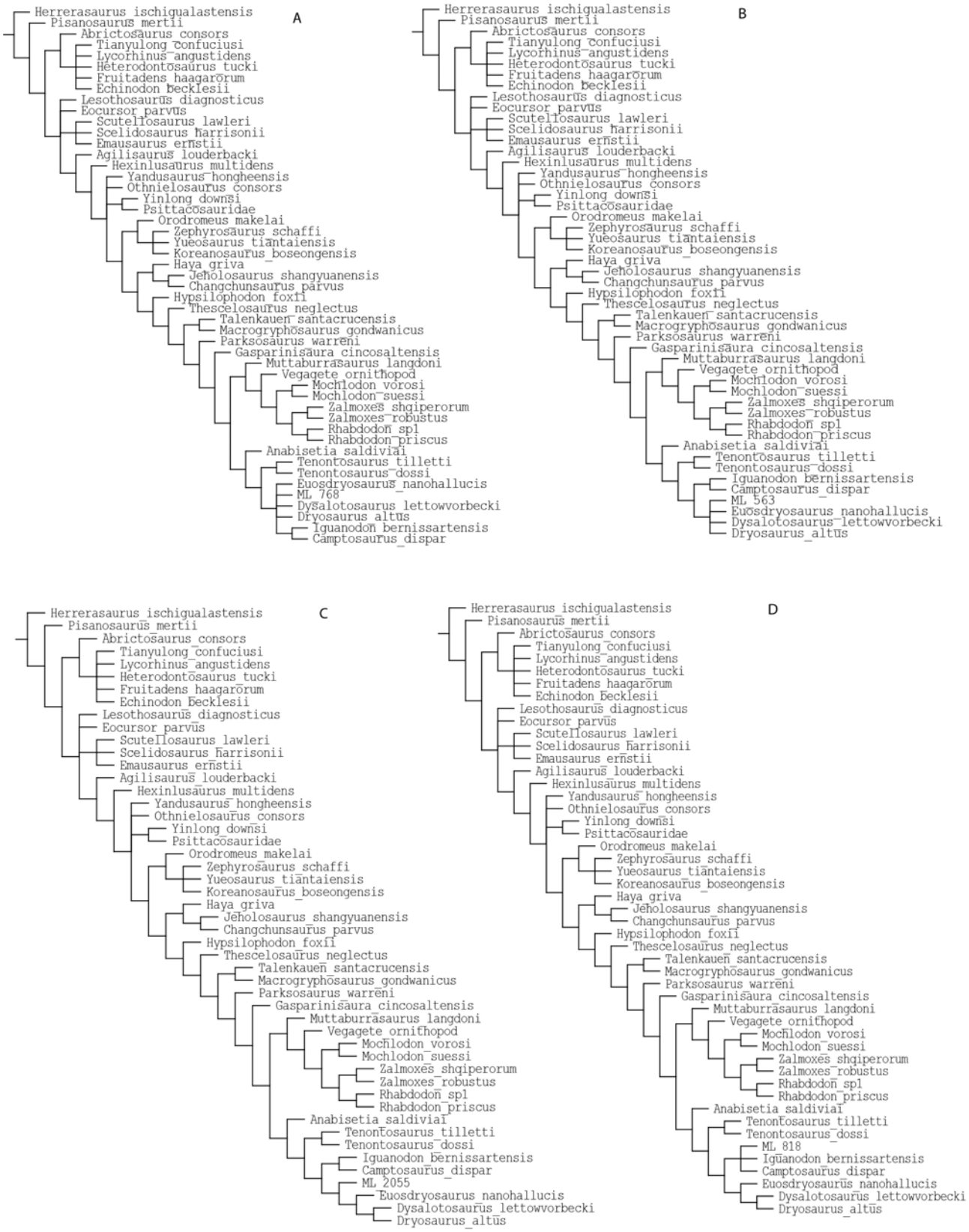
SOM 2. Full analysis consensus trees_ Dieudonné et al. 2016



Consensus trees of the full analyses including (A) ML 768, (B) ML 563, (C) ML 2055 and ML 818 (D).

SOM 3. Data Matrix_Bell et al. 2018

xread

255 82

Marasuchus_lilloensis
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Abrictosaurus_consors
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Agilisaurus_louderbacki
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10110110001000100000 1??000??1?????0100001 0?00?0???1001 1200?0200001??1?11??0?1?1?00
01000?01100?0000??000??10100100101?21?2110011000000?10000 1102?00?0001?2??000??????
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Albertadromeus_syntarsus
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Anabisetia_saldiviai
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Archaeoceratops_oshimai
011000110010100 0?1110010100020101000 01??0111000?010010?0?1010?0010111001 10?
110111100002000 0?00010???0??1?????0201?01??11?1?0??101141??0??10???0???2?0011??????
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Asilisaurus_kongwe
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Atlascopcosaurus_loadsi
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Burianosaurus_augustai
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Callovosaurus_leedsi
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Camptosaurus_dispar
1101?????????00?1????????001111??101??010???0??0??1011011?0011101?2?01?1??111?
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Changchunsaurus_parvus
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0111100120000?0??001??0????1???1?0100?010?01?0?0?10011200?0?01?0010??1?????????000?0
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0?1?001

Dryosaurus_altus
010020???00?100111110010000010100001101000010010?0101000100??1000?111101121
11011110100?11010110010000?111002011?011?211111111?111011?0111010?111?1?2101120?1
00?01?????011000?0??10???1101010111102111110[0
1]0101?10101100012121010101002103?010111111?001110110000

Dysalotosaurus_lettowvorbecki
010020???00?100111110010100110100001101000010011?0101010100???000?111101110
11011110110?11010110010000?111102211?0???21???11?1111011?0110010011??112?01121??0
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Echinodon_becklesii
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Elrhazosaurus_nigeriensis
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Emausaurus_ernesti
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Eocursor_parvus
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Eousdryosaurus_nanohallucis
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Fruitadens_haagarorum
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Gasparinisaura_cincosaltensis
01????????????????110?100?0111?0010010??0100000110???000000?0?0???????120?10
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0?????20?00?????????01010101111120021 11?01?01?00?111111212?00?00002210100021112110
1?1110?1000?

Gideonmantellia_amosanjuanae
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Haya_griva
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Herrerasaurus_ischigualastensis
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?002100000?000

Heterodontosaurus_tucki
010001111000 1?0100110010100010000000 03??000000000?0?00?010000?000110?0100?0
01011010000000010000000?00?100?0?2002110120?11?110011101?11000?110?100002??000010
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Hexinlusaurus_multidens
01?????????????0??11??1011001100?0?0?0??01??000????????0101?0?0001??????120100
11?????????0?00?00?????????????????0??1??00?000?10011300?0200?00101011??002????0010??
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1100000?00?

Hypsilophodon_foxii
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101001100000100010000000 0??0100010111112012110001101000111000121?000?00003210201
0011111100110001 10000

Iguanodon_bernissartensis

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Jeholosaurus_shanyuanensis

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Kaiparowits_orodromine

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Koreanosaurus_boseongensis

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Lycorhinus_angustidens

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Macrogryphosaurus_gondwanicus

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????????0101010111112011l1?00??111???

Manidens_condorensis

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Micropachycephalosaurus_hongtuyanensis

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Mochlodon_suessi

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Mochlodon_vorosi

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Morrosaurus_antarcticus

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Muttaburrasaurus_langdoni

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NewParksosaurus

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Notohypsilophodon_comodorensis

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Oryctodromeus_cubicularis
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Othnielosaurus_consors
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Ouranosaurus_nigeriensis
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Pegomastax_africanus
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Pisanosaurus_mertii
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Qantassaurus_intrepidus
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Rhabdodon_priscus
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Sanjuansaurus_gordilloi
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Scelidosaurus_harrisonii

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Scutellosaurus_lawleri

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Silesaurus_opolensis

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Stenopelix_valdensis

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Talenkauen_santacrusensis

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Tawa_hallae

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Tenontosaurus_dossi

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Tenontosaurus_tiletti

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Thescelosaurus_garbanii
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Tianyulong_confuciusi
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Trinisaura_santamartaensis
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Valdosaurus_canaliculatus
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Wannanosaurus_yansiensis
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Yandusaurus_hongheensis
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Yinlong_downsi
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Yueosaurus_tiantaiensis
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Zalmoxes_robustus
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Zalmoxes_shqiperorum

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Zephyrosaurus_schaffi

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Weewarrasaurus

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'ML_818'

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'ML_2042'

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ML_2055

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ML_563

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Ancstates

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-20 -21 -22 -23 -24 -25 -26 -27 -28 -29

-30 -31 -32 -33 -34 -35 -36 -37 -38 -39

-40 -41 -42 -43 -44 -45 -46 -47 -48 -49

-50 -51 -52 -53 -54 -55 -56 -57 -58 -59

-60 -61 -62 -63 -64 -65 -66 -67 -68 -69

-70 -71 -72 -73 -74 -75 -76 -77 -78 -79

-80 -81 -82 -83 -84 -85 -86 -87 -88 -89

-90 -91 -92 -93 -94 -95 -96 -97 -98 -99

-100 -101 -102 -103 -104 -105 -106 -107 -108 -109

-110 -111 -112 -113 -114 -115 -116 -117 -118 -119

-120 -121 -122 -123 -124 -125 -126 -127 -128 -129

-130 -131 -132 -133 -134 -135 -136 -137 -138 -139

-140 -141 -142 -143 -144 -145 -146 -147 -148 -149

-150 -151 -152 -153 -154 -155 -156 -157 -158 -159

-160 -161 -162 -163 -164 -165 -166 -167 -168 -169

-170 -171 -172 -173 -174 -175 -176 -177 -178 -179

-180 -181 -182 -183 -184 -185 -186 -187 -188 -189

-190 -191 -192 -193 -194 -195 -196 -197 -198 -199

-200 -201 -202 -203 -204 -205 -206 -207 -208 -209

-210 -211 -212 -213 -214 -215 -216 -217 -218 -219

-220 -221 -222 -223 -224 -225 -226 -227 -228 -229

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+37 +38 +40 +43 +44 +45 +46 +47

+48 +49 +50 +53 +54 +55 +56 +57

+59 +60 +61 +62 +63 +64 +65 +66

+67 +68 +69 +70 +71 +72 +73 +74

+75 +76 +77 +78

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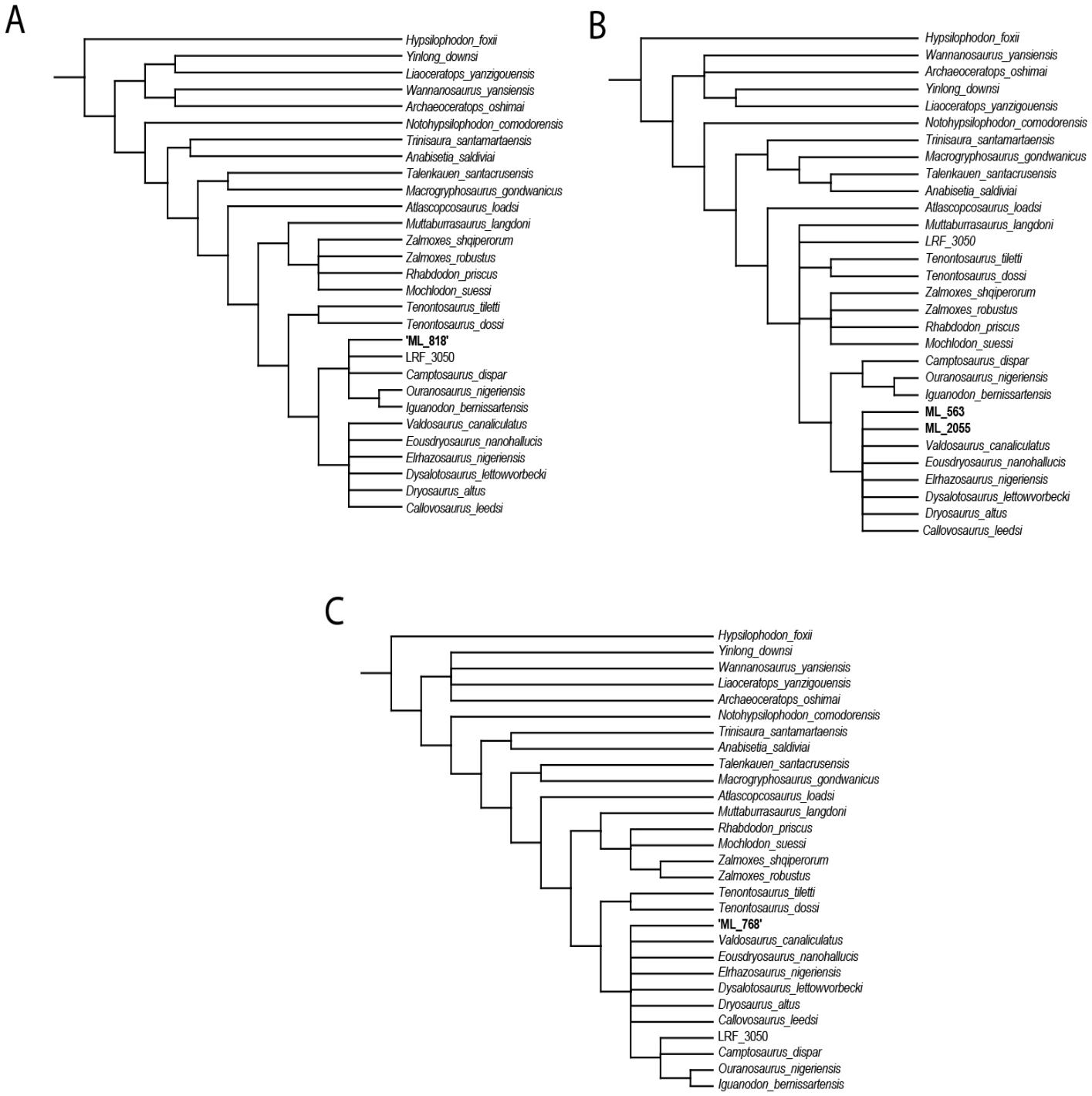
SOM 4. Consensus trees_Bell et al. 2018



Pruned consensus trees of the analyses in the dataset of Bell et al. (2018) including (A) ML 818, (B) ML 563 and ML 2055, (C) ML (818),

SOM 5. Femur variates (PCA)

Femur	9	10	18	19	20	21	22	28	29	30	31	GM
ML 563	32	22	29	5	13	31	4	31	15	4	5	12,81468865
ML 2055	39	20	51	7	22	47	15	44	17	12	8	20,76889565
MB.R.2511r	73,1	44,7	79	18,5	32	68,5	13,5	73,2	32,9	21,5	9,5	33,97011425
MB.R.2517l	38	22,5	42,2	8,2	18,3	39	6,7	38,2	16,7	10,5	5	17,5080738
MB.R.2519l	27,1	15,7	28	6,3	12,2	23,7	3,2	27,2	11,2	5	2,8	11,03741396
MB.R.3299l		25,8	44,1	9	19,5	39,7	7,2		18,5	11	5	15,70359927
MB.R.3302l	57	37	65,7	17	31,4	60,3	5,2	56	26,2	14,4	9	26,43756233
MB.R.2144l			90	21,2	45,2	83,3	11		37	22	11	30,28457252
MB.R.2508r	65	40,2	79	18	34,1	66,2	13,9	65,3	31,3	27,9	7	32,75343879
MB.R.2507l			71,4						28,6		8,3	25,68704298
MB.R.2506l		40	72,8	13	32	63,6	15		27,5	16,1	10,4	25,94195945
MB.R.1502l	58,3	39,5	74,5	14,3	34	64,6	11,9	61	27,2	16	10	29,89156431
MB.R.2503r	62,6	40.2	69	15,9	32	64,9	10	63	28,7	15,7	10	28,88908137
MB.R.2500r	47,8	31,1	53,5	11,4	24,8	47,1	8,8	47,8	21,4	12,9	7,1	33,5866277
MB.R.2509r	36,3	23,9	40	9,2	17	36,2	7	36,6	16	10,9	4,2	17,11334776
MB.R.2501r		29,2	49,2		23,9	44			20,5		6,6	24,27072343
MB.R.5099r (dyI)	55	37	65,2	13,9	25,5	56,9	10,8	55,6	26	15,8	8	26,87424068
MB.R.5100l (dyI)	55	36,2	64,3	13,5	29,6	57,3	12	56,6	27	16,1	7,3	27,31591061
NHMUK R12278r		43,5	77,8		35,7	75,1	13,6	63,5		22		40,29174215
NHMUK R12277r	69,3	45,3	84	19,2	38,8	73,5	12,6	69,4			10,7	37,15965263
NHMUK R6861r		25	44		19.6	40			16.6	9.8	5.5	35,30348335
GZG.V.6273l	55,2	37	71,9	14	35,9	61,9	13,2	55,2	28,5	14,8	6,8	28,36084793
GZG.V.6277l	63,4	40,8	78,1		36	65,4		63,4	34,5		9	41,8243255
GZG.V.6574r		20	34,4		16,2	31,2			15	7,8	3	14,29629808
GZG.V.6211r		25	43,2	9,8	19	37,2	18,1		18,2	11,9	4,9	17,36662739
GZG.V.6314l	54	36,3	68,9	13,1	31,6	59,1					7,2	30,36285224
GPIT/RE/4156r	14,8	10,3	18,7	3,5	7	16	5	15	6,8	4,3	2	7,602141186
GPIT/RE/3524l	27	17,7	31,6	6,9	12,9	27,8	6,2	27	13	7,9	2,9	13,04594672
GPIT/RE/3522r	20	13	29,1	7,9	12,5	23,7	4,2	20,5	10,7	6,9	3,1	11,20316839
GPIT/RE/3584l	42	26,5	46,1	10.1	18,7	43,5	6,7	41,2	17,5	11	6,9	20,81986359
GPIT/RE/3586r	39,1	26,1	45	9,3			5,8	39,8	17,8	8,8	5,9	16,50938677
GPIT/RE/3580r	28	17,1	33,2	7,5	14,8	29,8	6,9	28,2	12,8	8	4	14,04367835
GPIT/RE/3582r	41,5	27,3	50	12,8	21,2	42,3	7,9	42	18,6	10,3	6,3	20,44147293
SMNSoN1l		41,8	70,8		33,9	65,6			25,2		8,8	33,67953202
SMNSoN2r		18	36		17.2	30.8			15.1		4.2	25,45584412
SMNS7855l	40	25	46,9	11,2	20,3	40,2				8,2	5,1	19,12877343
SMNSoN3l	43,2	28,2	52	11,8	22,2	46,9	9,3	43,9	22		7	23,3862841
SMNSoN4l		34,6	63,3						27,2		7,8	26, 10873492
SMNSoN5l		34	70			66,2		63,2			7,2	37,24748074
SMNSoN6l	56,9	34,1	61,8	13	28,1	57,2	9,2	55,8				32,6336278
SMNSoN7r	58	37,5	61,2	13,3	26,2	57	13	57,9	24,2	16	9,2	27,60337224
SMNSoN8l	24,7	14	29,2	5,8	12,9	27,3		25,3				17,59374882

Variates utilized for Principal Component Analysis of the femora. All the measurements are in mm. GM = Geometric Mean relatively of each specimen.

SOM 6. Tibia variates (PCA)

Tibia	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	GM
ML 505	235	230	22	41	20	17	11		7	11	17	7								24,20477488
ML 2055													40	11	25	18		12	9	16,66024911
MB.R.2510l	174	168	16,1						15	13,2	12,3		39,3	12,2	24	15,5	7,6	14,6	10	21,62992998
MB.R.2512r	340	326	31		58.8	41	24	27		32.4	35	13	89	31	51	38	12.5	26	20.3	47,20218464
MB.R.2513r	325	307	26.7							30.8	33.4		79.6	25	44	30.5		26	20.8	77,81755009
MB.R.2514r	300	286	23.6							28.7			76.4	25	45	29	15.5	22.6		77,5188929
MB.R.2515r	265	250									30		61.5	20.5	41	20		23	16.8	57,85063597
MB.R.2516r	200	190		48,8	28,3	22,2	11	11,7	16,3	15,3	18,9	6	49	13	30	19,3	7,9	15,5	11	22,45485025
MB.R.2523l	165	160	13,5	39,6	27	16,3	11,2	10,8		13	15,3	6	38,2	11,3	22,3	15,9	6,8	15,2	9,2	19,2397661
MB.R.2522r			10,8		18,2	13,8	9	8,8			11,5	5								10,30646204
MB.R.2520r			10,7										28,9	9,9	17	11,8	4,9	12,3	8,2	11,4886857
MB.R.1709l	116	111	9,9	30,7	17	12,5	7,3	7,3	9	8,5	10,4	4,8	25,3	8,8	16	9,5		10,5	7,6	14,05318344
MB.R.5101.1r	325	310	25.4	89.6	53.6	37.7	22	23	32.7	31.8	37.7	11	75.8	25	43.5	31.4				49,10450953
MB.R.5102l			27	77	53	31	22	22	30	31	30,6	12,8	77,8	28	47,3	31	10		20,8	29,86317452
NHMUK R12279r	370	360	29.6	97.2	65.3	44.7	27	30.1	37.8				89.5	30.9	51.9	38.5		28.8	23.9	153,2107821
NHMUK R8351r			16,5	54,2		23,8	15,8			18,6	20,2	7,9								19,30195239
GZG.V.6613r			14,9	51,8	32	23,5	13,3		15,7	11	20,5							19.7		20,16410562
SMNSoN1r			13,7	46,8	28,7		10,7		14,8	12,9			36,7	11,3	21	14,8	6	15,9	10,8	16,12724152
SMNSoN2l	173	163	15,4	42,8	26,9		9,2		13,5		14,3		38,1	12	24,1	14,3		14,9	9,8	23,95000988
SMNSoN3r	166	160	12,5	40,1	24,1	15.3	8,7	10.2	13,5	11	12,1		35,9	11,9	21,8	13,6		14,3	9,1	21,27271824
SMNSoN4r	296	280	22,4	77,1	43,7	33.4	18,2	19.4	24,2	23.5	31,3	10	69,2	23,9	42,1	26	10	27	18	35,89250532
SMNSoN5l				79,8	47,2	34.8	14,7	21	25,4	25	30,9	9,8	70,4	24	40,1	28,3	10,9	26,1	18.1	27,21009814

Variates utilized for Principal Component Analysis of the tibiae. All the measurements are in mm. GM = Geometric Mean relatively of each specimen.

SOM 7. Principal Components (femora analysis)

Femur	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10	PC 11
ML 563	-0.71625	-0.30137	-0.083921	0.19573	0.064434	-0.034032	0.016784	-0.0012676	-0.022542	0.04116	0.017293
ML 2055	-0.031376	0.2344	-0.14325	0.17265	-0.013909	0.036789	-0.084095	-0.11593	0.00055804	-0.029816	0.0054434
MB.R.2511r	0.67668	0.058566	0.073437	-0.033716	0.089036	-0.043034	-0.012633	0.03162	0.01734	-0.0012401	0.015696
MB.R.2517l	-0.26978	-0.016317	-0.00014992	-0.021629	-0.0040815	-0.061969	-0.032229	-0.028709	-0.011989	-0.013769	0.014444
MB.R.2519l	-0.93085	-0.22105	0.077098	-0.054632	-0.011406	-0.028374	0.01708	-0.030912	0.0019948	-0.017213	-0.015497
MB.R.3299l	-0.16461	-0.019207	0.051395	-0.0072042	0.021084	-0.079186	-0.0070682	-0.01535	-0.013322	-0.0064972	-0.0019632
MB.R.3302l	0.3401	-0.27813	0.013486	-0.16397	0.044778	-0.026427	-0.065334	4,56E-01	-0.014648	0.0039392	-0.013793
MB.R.2144l	0.62062	0.033257	-0.20047	-0.26832	-0.059923	0.11534	0.047034	-0.075731	0.013914	0.030804	0.023734
MB.R.2508r	0.62531	0.16455	0.10366	-0.14271	0.0045073	-0.098791	0.020245	0.0099936	-0.0059326	-0.019216	0.016039
MB.R.2507l	0.12948	-0.045083	-0.13999	0.0015348	0.066282	-0.00037369	0.064819	-0.00294	0.082407	-0.065901	-0.011112
MB.R.2506l	0.43472	0.11024	-0.1613	0.04014	-0.055878	0.051629	0.021428	0.081321	-0.015997	0.014735	-0.0056989
MB.R.1502l	0.50208	-0.0011033	-0.025618	0.030488	0.011463	0.0098987	-0.023028	-0.0036524	-0.01184	-0.0078791	-0.016691
MB.R.2503r	0.49612	-0.069363	0.0057026	-0.011742	0.064174	-0.00013389	-0.033261	0.0081975	-0.011256	0.016864	-0.0005595
MB.R.2500r	0.11143	-0.015365	0.001717	-0.0048984	0.025225	-0.018513	-0.02653	0.01123	-0.02815	-0.0074395	-0.015961
MB.R.2509r	-0.30665	0.024919	0.064353	-0.060249	-0.015494	-0.057836	-0.0087906	0.031226	-0.0066052	0.00030124	0.010732
MB.R.2501r	0.012352	-0.0081205	-0.01222	0.007138	0.012445	0.003006	-0.0032261	0.013087	-0.032448	0.0095137	-0.02647
MB.R.5099r (dyI)	0.34324	0.023495	0.018512	-0.0093036	0.04593	-0.03138	-0.014019	0.042796	0.021512	-0.0013346	0.017189
MB.R.5100l (dyI)	0.36535	0.063803	0.034096	-0.0029556	0.017251	-0.031501	0.031626	0.0035949	-0.014832	0.0077915	-0.00059395
NHMUK R12278r	0.43427	0.15265	0.040701	0.021426	-0.24314	-0.14579	-0.037357	-0.013031	0.004248	0.019872	-0.032418
NHMUK R12277r	0.58138	-0.10323	0.10442	0.11886	-0.046673	0.18279	-0.071632	0.0099936	0.0020042	-0.014888	-0.011641
NHMUK R6861r	-0.1396	0.017702	0.070906	0.026681	0.025774	0.042109	-0.029488	0.0019049	0.00091348	0.0076644	-0.0042987
GZG.V.6273l	0.4209	0.059996	0.041965	0.012169	-0.042774	0.010619	0.10662	-0.025826	-0.029488	0.0014105	-0.00092546
GZG.V.6277l	0.43602	-0.17966	-0.049483	0.10756	0.030244	-0.0726	0.099736	-0.076425	-0.017745	-0.022648	-0.0063248
GZG.V.6574r	-0.3968	0.078432	0.26161	0.0096202	0.052495	0.046703	0.07612	-0.035275	0.011006	0.028428	0.0036981
GZG.V.6211r	-0.068477	0.32181	0.082756	0.12205	0.034735	0.045576	0.049488	0.025887	-0.0095494	0.0089109	-0.0011981
GZG.V.6314l	0.23494	-0.10517	0.025704	0.011246	-0.086488	0.058734	0.0070679	0.015479	-0.047332	-0.05103	0.034739
GPIT/RE/4156r	-14.789	0.12477	-0.049183	0.04857	-0.099288	0.01057	-0.0016526	0.045166	0.0070461	-0.020126	0.012243
GPIT/RE/3524l	-0.70013	0.058155	0.051141	-0.049264	-0.048092	-0.042242	0.046778	0.023168	0.0048735	-0.0014571	0.021051
GPIT/RE/3522r	-0.90518	-0.034176	-0.033204	-0.19891	-0.067929	0.072759	-0.012298	0.013841	0.015513	-0.0085433	-0.01888
GPIT/RE/3584l	-0.11188	-0.074494	-0.027742	-0.018698	0.03789	-0.016397	-0.096848	0.025777	0.0036853	-0.0048513	0.018032
GPIT/RE/3586r	-0.17081	-0.16117	-0.020434	-0.005048	-0.032965	-0.0058795	-0.019245	-0.031435	-0.032226	0.023365	0.0038938
GPIT/RE/3580r	-0.59051	0.058471	-0.013759	-0.02395	-0.029608	0.037699	-0.01537	-0.0029646	-0.010709	-0.0019051	0.00048897
GPIT/RE/3582r	-0.047251	-0.045233	0.027953	-0.038776	0.022013	0.068858	-0.019086	0.039378	0.016181	0.0031949	-0.011906
SMNSoN1l	0.28556	-0.13186	-0.12993	0.059733	-0.11555	-0.0034916	0.044005	0.031922	-0.035948	0.012175	-0.0057695
SMNSoN2r	-0.29681	0.13707	0.15113	-0.068087	0.09076	0.019328	-0.045138	-0.0579	-0.011581	-0.012446	-0.024953
SMNS7855l	-0.13747	-0.020504	0.060808	0.033468	0.03267	0.06756	0.080167	-0.0081531	0.037354	0.03102	-0.01305
SMNSoN3l	0.050829	0.0046981	-0.026029	-0.002653	0.039519	0.033099	0.0025082	0.020197	0.011477	0.017007	0.006424
SMNSoN4l	0.12669	-0.056612	-0.096791	0.027044	0.044166	-0.031154	0.061687	0.068915	0.038098	-0.024691	-0.019778
SMNSoN5l	0.18507	-0.07745	0.011477	0.085697	-0.07485	-0.0484	-0.055435	-0.026615	0.13516	0.034132	0.012251
SMNSoN6l	0.20735	-0.066226	0.11982	0.036339	-0.03428	0.016875	0.00098169	-0.025783	-0.0073255	-0.0085909	0.021885
SMNSoN7r	0.37852	0.078574	0.0057847	0.057962	0.062748	-0.0039474	-0.060436	0.041371	-0.010667	0.0054027	0.0089236
SMNSoN8l	-0.53566	0.22531	-0.28616	-0.039386	0.14271	-0.048491	-0.019974	-0.018207	-0.023155	0.02379	-0.0047158

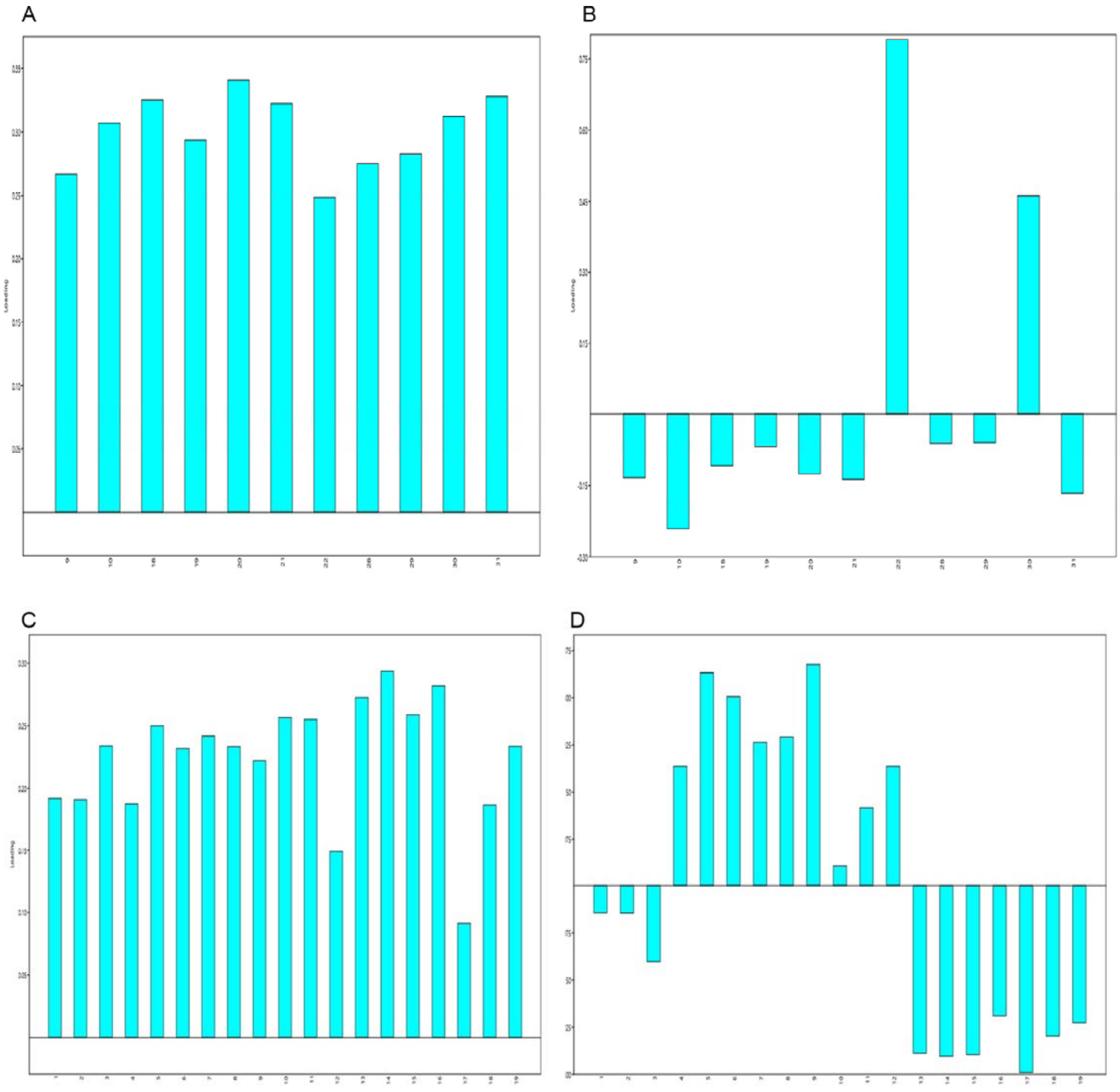
Principal Components (PC) values of the PCA of the femora.

SOM 8. Principal Components (tibiae analysis)

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17	PC 18	PC 19
ML 505	-0.28401	-0.34593	0.25625	0.17947	-0.074871	0.059716	-0.040731	-0.027317	0.039057	0.078317	-0.01762	-0.020735	-0.018951	0.0080762	-0.014581	0.010311	-0.001767 4	-0.001 9495	0.000 45707
ML 2055	-0.20132	0.19965	0.06 8492	-0.070508	0.01 9027	0.13 288	-0.040522	0.06 7265	-0.016673	0.02 9911	-0.00 3854 1	0.01 9796	0.05 483	0.024 691	0.01 1819	0.03 0774	-0.00 6172 4	-0.001 8504	-0.000 34769
MB.R.25 10l	-0.35619	0.15526	1,94 E-01	0.13692	0.13 12	0.04 647 2	0.02 0087	-0.05 7162	-0.000 8463 4	0.02 0728	-0.01 3446	0.00 0647 76	-0.03 8537	0.015 615	0.03 5724	-0.00 9509	-0.01 0722	0.003 3235	-0.000 19152
MB.R.25 12r	0.86313	-0.06 866 1	0.24037	-0.001 3667	0.07 7868	0.02 121 3	0.03 8867	-0.01 6462	0.025 287	-0.10384	-0.00 9758 7	-0.02 8865	0.02 3459	-0.003 6882	0.01 6186	-0.01 4918	0.00 1111 2	-0.003 851	0.000 45345
MB.R.25 13r	0.47024	-0.24 96	0.05 489	-0.145 48	-0.15 394	-0.02 339 2	-0.06 0643	-0.08 0558	-0.059 385	-0.01 5649	0.02 3504	0.01 359	0.00 2444 8	0.025 266	-0.00 8541 2	-0.01 2671	-0.00 6105 2	0.002 3205	-0.001 3427
MB.R.25 14r	0.33817	-0.27597	-0.00 2396 2	-0.129 67	0.09 4037	0.14 747	0.08 0302	0.07 2566	-0.011 274	-0.02 4121	0.00 7566 1	0.02 1378	-0.01 9386	-0.003 4672	-0.01 8807	0.00 516	-0.00 5731	0.004 5357	0.000 30951
MB.R.25 15r	0.17581	-0.10124	0.02 3822	-0.016 862	-0.11 734	-0.13 406	-0.00 9567 1	0.03 4376	0.004 1304	-0.00 3961 5	-0.01 563	0.04 8388	-0.01 1823	-0.049 519	0.01 4351	0.01 7874	-0.01 5632	-0.000 7084 6	0.000 51853
MB.R.25 16r	-0.25531	-0.03 450 3	-0.03 7163	-0.020 709	-0.00 4744 5	0.01 254 7	-0.09 6802	0.03 4709	-0.104 02	0.01 5592	-0.00 6131 2	-0.01 7274	0.00 6652 2	-0.011 749	0.03 6414	-0.02 3549	-0.00 3480 2	-0.000 2585 2	0.000 56998
MB.R.25 23l	-0.53766	0.04 891 3	-0.09 5311	-0.009 5443	0.01 2661	-0.02 701 8	-0.10 08	0.00 1576 7	-0.029 309	-0.08 084	0.03 8889	-0.04 279	-0.03 7038	0.007 4153	-0.01 3876	0.03 1691	0.00 2077 2	-0.002 0331	0.000 2447
MB.R.25 22r	-0.3681	-0.30596	-0.33073	-0.096895	-0.09 5634	0.07 375 1	0.05 2536	-0.05 0241	0.056 865	0.01 6502	-0.01 3864	-0.02 2973	0.02 1818	-0.005 2067	0.01 6436	-0.00 1544 7	0.00 5534 7	-0.002 5226	0.000 22519
MB.R.25 20r	-0.43027	0.44	0.03 778	-0.089 73	-0.18 143	0.04 583 7	0.05 0097	-0.04 6664	0.047 491	-0.02 9602	-0.03 53	0.00 3205 5	-0.01 3606	-0.000 2852 4	-0.01 1911	-0.00 6669 6	-0.01 2828	-0.001 2612	-0.000 29322
MB.R.17 09l	-12.008	-0.08 903 9	-0.00 4403 9	-0.000 4212 4	0.11 77	-0.06 551 4	-0.04 3432	0.02 8928	-0.007 3683	-0.02 9764	-0.07 3768	0.02 8562	0.01 5231	0.004 1578	-0.03 1588	-0.02 2676	0.00 6365 9	-0.000 3464 9	-6,50E-01
MB.R.51 01.1r	0.70972	0.22571	-0.02 2278	-0.124 21	-0.01 1393	0.07 773 1	-0.06 4306	0.07 0327	0.027 571	0.05 6989	0.00 7224 7	-0.02 3833	-0.03 283	-0.021 048	-0.01 6506	-0.02 3717	0.00 8114 3	-0.001 0957	-2,23E-01
MB.R.51 02l	0.67766	0.09 067 7	-0.03 0884	-0.077 561	0.17 771	-0.07 776 9	-0.10 929	-0.08 8503	0.076 382	0.03 5716	0.00 7646 2	0.01 4482	0.02 5011	-0.009 097	-0.00 5759 9	0.00 7754 8	0.00 2134 3	0.001 7436	0.000 15488
NHMUK R12279r	0.89595	0.08 467	-0.21 221	0.34498	-0.01 9012	0.07 839	-0.00 4489 3	-0.02 2554	-0.044 64	-0.02 2823	-0.00 3302 8	0.02 3725	0.01 3817	-0.005 7316	-0.02 3316	-0.00 2034 8	-0.00 3454 1	-0.000 916	3,07E-01
NHMUK R8351r	0.00 7172 1	0.01 468 2	-0.01 0906	0.000 1233 4	0.00 0984 96	0.00 909 75	-0.00 2645 2	-0.00 6388 2	0.035 978	-0.03 8069	-0.03 8413	-0.01 0834	-0.00 8783 5	-0.000 9315 9	0.01 6122	0.01 8505	0.01 2284	0.006 1478	7,36E-01
GZG.V.6 613r	-0.09 0197	-0.03 829 8	0.01 0153	0.15663	-0.04 6531	-0.07 782 8	0.01 6182	0.09 4824	0.049 203	-0.00 3087 9	0.01 6544	-0.03 1341	0.01 6678	-0.013 933	0.00 8003 1	-0.00 2143 5	0.00 4088 9	0.001 8446	-0.001 9829
SMNSoN 1r	-0.35864	0.17128	0.09 1137	0.047 557	-0.16 199	-0.03 521 7	0.04 0956	-0.00 8650 5	-0.022 432	0.00 9549 5	0.04 7973	-0.00 1386 3	0.03 143	0.001 1239	-0.00 8083 3	-0.00 6855 5	0.01 514	0.004 6719	0.001 4313
SMNSoN 2l	-0.41675	0.05 887 1	0.08 3583	-0.048 046	0.12 119	0.01 368 4	0.10 528	-0.07 6197	-0.085 436	0.03 3989	0.01 9951	0.00 0636 7	-0.00 2770 6	-0.040 416	-0.00 5725 9	0.01 1988	0.01 2167	-0.002 3861	-0.000 86082
SMNSoN 3r	-0.66496	-0.04 042 3	-0.02 9157	0.020 055	0.09 0604	-0.03 180 9	0.02 9575	0.01 9006	0.063 437	-0.00 4949	0.09 7327	0.02 6849	-0.00 1842	0.012 03	0.00 0926 13	-0.01 6706	-0.01 0941	-0.001 7944	0.000 22655
SMNSoN 4r	0.53506	0.01 954 7	-0.01 9605	-0.005 4162	-0.03 7128	-0.07 728 8	0.03 9312	0.03 1811	-0.003 9857	0.01 1459	-0.00 9719 1	0.05 1188	-0.03 3646	0.039 434	0.01 7984	0.00 3511 5	0.02 2431	-0.003 7188	-2,39E-01
SMNSoN 5l	0.49134	0.04 036 8	-0.07 1455	-0.049 321	0.06 1042	-0.16 889	0.10 003	0.02 5305	-0.040 029	0.04 7957	-0.02 5817	-0.05 2416	0.00 7840 6	0.027 264	-0.01 527	0.00 5425 9	-0.01 4616	0.000 1046 6	0.000 43458

Principal Components (PC) values of the PCA of the tibiae.

SOM 9. Loading scores of Principal Components



Loading scores of the Principal Component Analyses. A, B: PCA of the femora analysis. A, loadings of the PCA of the femora analysis. B, loadings of the PC2 of the femora analysis. C, D: loadings of the PCA of the tibiae analysis. C, loadings of the PC1 of the tibiae analysis. D, loadings of the PC2 of the tibiae analysis.