Supplementary information

The tale of a short-tailed cat: new outstanding Late Pleistocene fossils of *Lynx pardinus* from southern Italy

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Supplementary note 1

Referred material

Crania:

FG102a, cranium; **FG108b**, fragment of neurocranium; **MGPT-PU 135415**, cranium; **ING75**, cranium; **ING76**, cranium; **IN517**, fragment of occipital; **INGND871**, splanchnocranium; **INGND1145**, fragment of parietal bone; **INGD1147**, fragment of parietal bone; **M693**, neurocranium.

Premaxillary-maxillary:

FG101, right maxillary with C^1-P^4; **FG102b**, left premaxillary-maxillary with C^1-P^4; **FG103**, left premaxillary-maxillary with I^1-P^4; **FG105**, right maxillary with P^4; **FG130**, maxillary with C^1-P^3; **ING82**, right maxillary with C^1-P^4; **ING83**, right maxillary with P^4; **ING84**, left maxillary with P^3-P^4; **ING85**, left maxillary with C^1-P^3; **ING86**, left premaxillary-maxillary with P^3; **ING87**, left premaxillary-maxillary with I^1-P^4; **ING88**, right maxillary with C^1-P^4; **INGND882**, left maxillary with C^1-P^4.

Upper isolated teeth:

FG104, right P^4; **FG109**, right P^4; **ING81**, left C^1; **INGND360**, upper left C^1; **INGND445**, left C^1; **INGND875**, right P^3; **INGND877**, right C^1; **INGND878**, left C^1.

Hemimandibles:

FG92, right hemimandible with P_4; **FG93**, left hemimandible with C_1-M_1; **FG107**, left hemimandible with C_1-M_1; **IN15NS**, right hemimandible with C_1-M_1; **ING61**, right hemimandible with C_1-M_1; **ING62**, left hemimandible with C_1-M_1; **ING63**, right hemimandible with P_3-M_1; **ING64**, left hemimandible with C_1-P_3; **ING65**, left hemimandible with P_3-P_4; **ING66**, left hemimandible with C_1; **ING67**, left hemimandible with M_1; **ING68**, right hemimandible with C_1-M_1; **ING69**, right hemimandible with C_1-M_1; **ING70**: right hemimandible with C_1-M_1; **ING71**, left hemimandible with C_1-M_1; **ING72**, right hemimandible with C_1-M_1; **ING73**, right hemimandible with C_1-M_1; **ING74**, right hemimandible with C_1-M_1; ; **ING75**, right hemimandible with C_1-P_4; **ING79**, right hemimandible with M_1; **INGND144**, left hemimandible with P_3-M_1; **INGND145**, left hemimandible with C_1-M_1; **INGND312**, left hemimandible with C_1-M_1; **INGND318**, left hemimandible with C_1-M_1; **INGND319**, left hemimandible with C_1-M_1; **INGND369**, right hemimandible with C_1-M_1; **INGND372**, left hemimandible with M_1; **INGND373**, left hemimandible with P_3-M_1; **INGND739**, right hemimandible with P_3-M_1; **INGND867**, left hemimandible with P_4-M_1; **INGND868**, left hemimandible with C_1-M_1; **INGND869**, right hemimandible with C_1-M_1; **INGND870**, right hemimandible with C_1-M_1; **MGPT-PU 135415**, complete mandible, with right C_1-M_1 and left C_1-M_1.

Lower isolated teeth:

FG108, left M_1; **ING59**, left C_1; **ING80**, right C_1; **INGND876**, left C_1; **INGND879**, right C_1; **INGND880**, right C_1; **INGND881**, left C_1.

Supplementary note 2

Abbreviations of craniodental measurements

Cranium:

TL: Total length

CBL: Condylobasal length

BL: Basion – Prosthion

BS: Basion – Synsphenion

SP: Synsphenion – Prosthion

BN: Neurocranium length

LN: Akrokranion – midpoint of the frontal bone

VL: Nasion – Prosthion

FL: midpoint of the frontal bone – Prosthion

MPL: Staphylion – Prosthion

GDB: Greatest diameter of tympanic bulla

LDB: Least diameter of tympanic bulla

GMB: Greatest breadth of mastoid

GBO: Greatest breadth of occipital condyle

GBF: Greatest breadth of magnum foramen

HF: Basion – Opisthion

GNB: Euryon – Euryion

ZB: Zygion – Zygion

OB: Entorbital – Entorbital

GPB: Greatest breadth of the palate at the level of P^4

GPC: Greatest breadth of the palate at the level of C^1

BPC: Greatest postorbital constriction

FB: Facial breadth at the level of infraorbital foramina

OL: Ectorbital – Entorbital

OA: Greatest inner breadth of the orbit

HTO: Akrokranion – Basion

LCS: Length of the sagittal crest

ALT: Breadth between the temporal lines at the level of coronal suture

LLT: Length of the temporal lines (from the midpoint of the frontal bone to their confluence)

Upper tooth row:

LP^3-M^1: Length of P^3-M^1

LP^4-M^1: Length of P^4-M^1

LP^3-P^4: Length of P^3-P^4

LAP^3-P^4: Alveolar length of P^3-P^4

C^1-P^3: Length of diastema between C^1-P^3

LAP^4: Alveolar length of P^4

BI^1-I^3: Breadth of I^1-I^3

LI^1-P^4: Length of I^1-P^4

LI^1-M^1: Length of I^1-M^1

Upper teeth:

I^1L: Length of I^1

I^1B: Breadth of I^1

I^2L: Length of I^2

I^2B: Breadth of I^2

I^3L: Length of I^3

I^3B: Breadth of I^3

C^1L: Length of C^1

C^1B: Breadth of C^1

P^3L: Length of P^3

P^3B: Breadth of P^3

P^3Lpro: Length of P^3 protocone

P^4L: Length of P^4

P^4B: Breadth of P^4

$P^4Bproto$: Breadth of P^4 at the level of protocone

P^4Lpara: Length of P^4 paracone

P^4Lmeta: Length of P^4 metacone

$P^4Lproto$: Length of P^4 protocone

M^1L: Length of M^1

M^1W: Breadth of M^1

Mandible:

TL: Total length

P_3-M_1: Length of P_3-M_1

HVR: Height of ramus

HM_1: Height of corpus behind M_1 (measured on the lingual side)

Lower teeth:

C_1L: Length of C_1

C_1B: Breadth of C_1

P_3L: Length of P_3

P_3B: Breadth of P_3

P_4L: Length of P_4

P_4B: Breadth of P_4

P_4Lprot: Length of P_4 protoconid

M_1L: Length of M_1

M_1B: Breadth of M_1

M_1Lpara: Length of M_1 paraconid

M_1Lprot: Length of M_1 protoconid

Supplementary note 3

Description of cranial material

MGPT-PU 135415 (***Figure 2***) is a well-preserved skull, missing the left zygomatic arch and the tympanic bullae, and part of the nasals, maxillae, palate, and basioccipital. The anteriormost portion of the nasals and maxillae is damaged, partially exposing the floor of the nasal cavity in dorsal view. The frontals are laterally expanded with well-developed triangular-shaped zygomatic processes; the right zygomatic arch is broad and semicircular in shape. The temporal ridges are lyre shaped and strongly marked, and converge caudally in a short sagittal crest which merges to a well-developed nuchal crest. In lateral view, the cranium is anteroposteriorly elongated with a rounded and domed profile. The orbits are large and rounded, but their surrounding bones are quite damaged. The right zygomatic arch is slightly dorsoventrally convex. In ventral view, the incisive line of the premaxillaries is projected anteriorly, displaying a well-developed notch at the level of the I^3-C diastema. Even if the tympanic bullae are broken, their outlines appear elliptical and elongated anteroposteriorly. In the posteromedial corner of the tympanic bullae, the jugular and hypoglossal foramina are located into the same depression. In posterior view, the foramen magnum is oval in shape, being slightly compressed dorsoventrally.

ING75 (*Figure 2*) is a nearly complete cranium with some encrusting sediments on its surface. It only lacks part of the maxillae, frontals, parietals and the right tympanic bulla. In dorsal view, the nasals are semi-triangular in shape. The frontal bones are mediolaterally expanded and arched anteroposteriorly. As in MGPT-PU 135415, the temporal ridges are lyre shaped and well-marked converging posteriorly. In ING75, the zygomatic arches are strong, mediolaterally broad and semicircular in shape. The mediolateral width of the cranium measured at this point is almost equivalent to the anteroposterior total length (*Supplementary table 1*). In lateral view, ING75 is anteroposteriorly elongated and domed, with dorsoventrally arched zygomatic bones, as in MGPT-PU 135415. In ventral view, an encrusting patina prevents the observation of the palate surface, the presphenoid and the posteromedial corner of the tympanic bullae. However, the CT images allowed to partially remove the encrusting material highlighting the jugular and hypoglossal foramina located into the same depression (*Figure 6*). The outline of the tympanic bullae appears anteroposteriorly elongated. Rostrally, the incisive line of the premaxillaries is projected anteriorly with a well-developed notch at the level of the I^3-C diastema. In posterior view, the foramen magnum is oval in shape and laterally expanded.

ING76 (*Figure 2*) is a partial cranium in which the muzzle, the left zygomatic arch and the occipital portion are missing. The nasals are almost completely lacking, exposing the underlying turbinates in dorsal and frontal views. The frontals are mediolaterally enlarged and arched anteroposteriorly. Together with the parietals, they impart a convex profile to the dorsal cranial roof in lateral view. The right zygomatic arch of ING76 is similar in shape to those of ING75 and MGPT-PU 135415. In ventral view, even if the left tympanic bulla is broken, its profile appears rounded in shape and anteroposteriorly elongated. The jugular and hypoglossal foramina are not observable.

M693 (*Figure 2*) is a well preserved neurocranium, missing the ventral portion of the tympanic bullae. In dorsal view, the temporal ridges are elongated and strongly marked

converging caudally in a short sagittal crest, as in ING75 and MGPT-PU 135415. In lateral view, M693 possesses a rounded and domed neurocranium. Ventrally, the tympanic bullae are anteroposteriorly elongated and their outline is elliptical. The jugular and hypoglossal foramina are located into the same depression. In posterior view, the nuchal crest is strongly developed and the occipital is triangular shaped; the foramen magnum is slightly compressed dorsoventrally.

FG102 (***Supplementary figure 1***) is bad preserved cranium consisting of two fragments: a partial neurocranium and a left maxillary. The morphology of the ventral part is completely obliterated by an encrusting reddish patina. In dorsal view, the temporal rides seem to converge caudally in a sagittal crest, which is quite damaged; anteriorly the temporal ridges are well seprated and are laterally directed. The left maxillary preserves the canine, the P^3 and the P^4.

IN517 (***Supplementary figure 1***) is an isolated fragment of basicranium in which only some features in the auditory region can be observed. Among them, the profile of the tympanic bullae appears anteroposteriorly enlarged and the jugular and hypoglossal foramina converge into the same depression.

INGND1150 (***Supplementary figure 1***) is an isolated fragment of splancnocranium, where the ventral portion is completely encrusted by a reddish patina. The nasals and maxillae are strongly damaged, partially exposing the floor of the nasal cavity in dorsal view. Laterally, the nasals are quite inclined anteriorly. Only the left P^3 and P^4 are preserved.

Supplementary note 4

aDNA methods

Ancient DNA (aDNA) extraction was attempted at the Archaeological Research Laboratory, University of Stockholm (Sweden), on micro-drilled samples of tooth roots considered as one of the most informative skeletal elements for this analysis (Hansen et

al., 2017; Damgaard et al., 2015; Adler et al., 2011). We obtained ca. 80 mg of tooth powder on which a pre-digestion step was conducted in order to reduce exogenous DNA and microbial DNA following Allentoft et al. (2015). The aDNA was extracted and purified using a silica-binding method optimized for short DNA fragments (Yang et al., 1998; Dabney et al., 2013). We got a final volume of 44 ml of aDNA extract. We targeted 183 bp of the mitochondrial control region and a 152 bp fragment of the cytochrome b using six non-overlapping primer pairs (Rodríguez-Varela et al., 2015). DNA amplification and cycling conditions were performed following Rodríguez-Varela et al. (2015). Amplicons were purified using ExoSAP-It (GE Healthcare) following the manufacturer's instructions and directly sequenced in forward and reverse orientations on an automated DNA sequencer (ABI-3730xl) using the Big Dye 3.1 sequencing kit (Applied Biosystems). Sequences were edited with Sequencher v.4.7 (Gene Codes Corporation, Ann Arbor, MI, USA) and manually aligned using the software MEGA version 6 (Tamura et al., 2013).

aDNA results

Unfortunately, we were not able to recover any reliable genetic sequence with this PCR-Sanger sequencing approach. It is possible that, in the next future, the Next Generation Sequencing techniques open up the possibility to test these samples again.

Supplementary tables

Catologue number	TL	CL	BL	BS	SP	BN	LN	VL	FL	LLS	MPL	GDB	LDB	GMB	GBO	GBF	HF	GNB	ZB	OB	GPB	GPC	BPC	FB	OL	OA	HTO	LCS	ALT	LLT
MGPT-PU 135415	157.6	148.6	131.4	44.9	85.6	136.8	86.1	71.8	28.7	43.3		16.7	28.5	59.7	35.3	19.0	10.8	62.2		41.1	66.3	41.4	40.3	44.9	37.1	33.6		28.2	16.8	67.6
ING75	163.4	151.1	134.9	48.0	93.9	144.7		71.0		47.4	69.6	34.5	24.4	60.5	35.8	18.6	12.7	62.7	117.2	37.3	65.2	41.7		45.7						
ING76												17.6	24.9		34.0	18.8	15.5			37.8	66.9				34.4					
M693			118,5									17.0	28.9	61.2	32.8	15.9	7.4	60.3		37.8	66.9				34.4		44.0	25.6	20.3	

Supplementary table 1. Measurements (mm) of the crania of *Lynx pardinus* from Ingarano.

Catalogue number	Side	LP^3-M^1	LP^4-M^1	LP^3-P^4	LAP^3-P^4	LC^1-P^3	LAP^4	WI^1-I^3	LI^1-P^4	LI^1-M^1
FG101b	Dx	29.6	17.0	28.2	27.5	8.0	15.4			
FG102	Sx									
FG103	Sx			28.0	27.7	1.7	16.7	7.8	49.4	
FG105	Dx	19.8								
FG130	Dx					3.0				
ING75	Dx	30.9	18.0	28.7	27.2	5.7	15.1	9.0	60.4	61.3
ING75	Sx	28.7	19.4	29.2	28.5	6.8	16.7	8.9	60.9	62.6
ING76	Dx			29.5			17.8			
ING76	Sx						17.9			
ING82	Dx	29.3	18.6	28.4	27.6	3.7	16.1			
ING83	Dx		19.3							
ING84	Sx				26.9		15.4			
ING86	Sx					4.3				
ING87	Sx	31.0	19.4	28.6	29.1	8.0	16.9	9.3	59.6	61.7
ING88	Sx	29.5	17.9	26.6	25.9	6.2	14.7			
INGND882	Sx									
MGPT-PU 135415	Sx	30.1	18.3	29.7	29.9	7.2	16.7	7.6	59.1	59.9
MGPT-PU 135415	Dx			29.3	29.6	7.7	16.7	8.2	59.9	

Supplementary table 2. Measurements (mm) of the upper tooth rows of *Lynx pardinus* from Ingarano.

Catalogue number	I^1L	I^1B	I^2L	I^2B	I^3L	I^3B	C^1L	C^1B	P^3L	P^3B	P^3L pro	P^4L	P^4B	P^4B proto	P^4L para	P^4L meta	P^4L proto	M^1L	M^1B
FG101							8,7	7,2		5,5	4,6	15,6	8,0	6,2	6,7	6,6	2,6	2,1	4,6
FG102							9,1	7,5	9,8	5,4		16,9	8,4						
FG103							7,9	5,6		5,0	4,8	17,2	8,1	5,9	6,8	6,8	2,8		
FG104												17,1	8,4	6,3	7,2	7,2			
FG105												16,3	9,1	6,7	6,6	6,7	2,8		
FG130										6,1									
ING75	2,0	2,5	2,1	2,8	4,2	4,6				6,0	5,5	16,9	9,1	8,2	7,0		2,6	3,2	4,2
ING75	1,9	2,8	2,2	3,0	4,0	4,9				5,6	5,0	16,4	8,4	8,0	6,5	6,3		2,5	4,2
ING76										6,0		16,9	9,4	8,3	6,9	6,5			
ING80							8,7	7,0											
ING81							9,0	6,7											
ING82										5,2	5,1	16,4	8,2	5,3	7,0	6,1	2,8		
ING83												16,7	7,7	6,3	6,7	6,8	2,5		
ING84										5,8	5,3	15,3							
ING86										5.4									
ING87							9.2	6.9		5.5	5.2	17.1	8.0	6.0	6.9	7.6	2.2		
ING88										5.4	4.9	15.6	7.6	6.1	6.7	6.1	2.8		
INGND360							7.3	6.1											
INGND445							9.2	6.9											
INGND880								8.5											
INGND881																			
INGND882							8.0	5.0											
MGPT-PU 135415			2.0	2.7	2.8	4.5	9.0	7.9		5.7	5.4	17.4	8.7	8.7	7.0	6.6	3.1		
MGPT-PU 135415	1.5	2.3	2.3	2.9	2.7	4.5	9.0	7.5		5.5	5.4	17.9	8.9	8.8	7.0	6.4	3.4	2.4	4.7

Supplementary table 3. Measurements (mm) of the upper teeth of *Lynx pardinus* from Ingarano.

Catalogue number	Side	TL	P_3-M_1	HVR	HM_1	C_1L	C_1B	P_3L	P_3B	P_4L	P_4B	P_4L prot	M_1L	M_1B	M_1L para	M_1L prot
FG92	Sx									11.3	5.7	5.2				
FG107	Sx		34.1		17.7	8.5	7.5	9.6	5.0	11.0	5.6	5.6	14.3	5.6	5.6	6.8
FG108	Sx												15.3	6.4	6.0	6.8
ING61	Sx		29.7		12.7			10.0	5.1	10.7	5.4	4.3	13.6	5.8	5.7	6.6
ING62	Sx		33.7			7.8	7.2	9.5	5.2	10.8	5.8	5.1	14.7	6.0	6.9	6.3
ING63	Dx		34.5					10.3	5.0	11.8	5.9	5.6	15.0	6.1	6.6	7.0
ING64	Sx					8.2	8.0	10.3	5.9							
ING65	Sx									11.2	5.5	4.9				
ING66	Sx					7.3	6.3									
ING67	Sx												14.7	6.1		6.1
ING68	Dx	111.4	34.7	46.6	18.7			9.8	5.1	11.5	5.4	5.2	13.5	5.6	5.3	5.9
ING69	Dx	93.3	32.1	39.1	19.5	8.9	7.6	9.5	5.0	10.6	5.7	4.6	13.5	5.6	6.1	6.9
ING70	Dx		33.7		12.9	8.0	6.6	9.5	5.0	10.3			12.8	6.1		7.2
ING71	Sx		32.4		19.4	8.9	8.0	9.5	5.5	11.2	5.7	5.3	14.1	6.3	5.3	6.8
ING71	Sx		33.8					9.3		10.5			13.1			
ING79	Dx				10.6								14.1	5.8	4.8	5.7
ING715	Sx					7.2	6.2	8.3	5.0	10.7	5.4					
INGND144	Sx		34.0		18.5			8.6	4.5	10.5	4.9	5.3	13.2	5.8	5.7	6.8
INGND145	Sx		37.0		21.1	8.6	7.8	8.7	4.9	11.0	5.9	5.9	13.9	6.0	5.6	6.1
INGND312	Sx	93.9	32.3		19.0	7.5	6.4	9.2	4.5	10.3	5.4	5.7	13.4	5.5	6.0	7.5
INGND318	Sx		36.3			8.7	7.4	10.1	5.3	12.0	5.8	6.2	15.1	6.6	5.1	6.2
INGND319	Sx		36.0			8.3	7.4	9.2	5.2	11.0	5.8	5.7	16.3	6.2	5.5	6.6
INGND369	Dx		35.9					9.7	4.4				12.5	6.7	5.4	6.1
INGND372	Dx												14.6	5.7	5.6	6.9
INGND373	Sx		37.8					10.2	5.9	12.5	6.0	5.7	14.3	7.2	5.7	6.6
INGND867	Sx				21.3					11.5	5.1	5.0	14.4	6.5	5.9	6.1
INGND868	Sx		31.1		17.7			8.5	4.9	10.2	5.3	5.1	13.4	5.5	5.2	5.6
INGND869	Dx		30.9		17.3			8.2	4.1	10.3	5.1	5.1	13.7	6.1	5.1	6.8
INGND876	Sx					7.3	6.0									
MGPT-PU 135415	Dx	106.0	35.1	45.7	20.2	8.8	7.3	9.9	5.3	12.0	5.6	5.3	14.0	5.4	5.5	5.9
MGPT-PU 135415	Sx		35.3		20.1			9.7	5.3	12.0	5.8	5.7	13.0	6.0	5.2	5.8
IN 15 NS	Dx	77.0	33.2	32.2	14.8	6.8	5.5	8.7	4.7	11.2	5.4	4.9	12.6	5.9	5.8	6.4

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234 **Supplementary table 4.** Measurements (mm) of the mandibles and lower teeth of *Lynx*
235 *pardinus* from Ingarano.

Site	Age	Species		Reference	Biometric data	Number of specimens	P^4L	Ectoparastyle on P^4			Number of specimens	M_1L	Metaconid on M_1		
		Attribution suggested in this work	Original attribution					Absent	Few marked	Present	No data			Cuspid-like	Present	No data
La Gloria 4	Early Pliocene		*Lynx issiodorensis*	Alcalá (1994)							1	15.9	1	1		
La Calera	Early Pliocene		*Lynx issiodorensis*	Alcalá (1994)							2	14.5	1	1		
Almenzora	Early Pliocene		*Lynx issiodorensis*	Montoya et al. (1991)	This work						1	13.6	1			
	Early Pliocene		*Caracal depereli*	Morales et al. (2003)												
Layna	Early Pliocene		*Lynx issiodorensis*	Cipullo (2010); Boscaini et al. (2016)	Morales (2003)	1	17.0	1			4	13.2	2	2		
Calta	Late Pliocene		*Lynx issiodorensis*	Ginsburg (1998)	Ginsburg (1998)	1	19.3		1		2	14.9		2		
Garraguana	Late Pliocene		*Lynx issiodorensis issiodorensis*	Cipullo (2010)	Cipullo (2010)	1	20.0			1	1	14.2		1		
Les Etouaires	Late Pliocene		*Lynx issiodorensis*	Kurtén (1978)	This work	3	19.9	1		2	5	15.0	3	2		
Pardines	Late Pliocene		*Lynx issiodorensis*	Kurtén (1963)	This work						1	14.0	1			
	Late Pliocene	*Lynx issiodorensis*	*Caracal brevirostris*	Depret (1890)												
Serrat d'en Vacquer	Late Pliocene		*Caracal depereli*	Morales et al. (2003)	This work	1	20.1	1			1	13.8	1			
	Late Pliocene		*Lynx issiodorensis* ssp.1	Cipullo (2010)												
Fonelas P-1	Early Pleistocene		*Lynx issiodorensis valdemensis*	Garrido (2008)	Garrido (2008)						1	14.1		1		
Puebla Valverde	Early Pleistocene		*Lynx issiodorensis*	Kurtén & Crusafont Pairó (1987)	This work						3	14.2	1		2	
Matassino	Early Pleistocene		*Lynx issiodorensis valdemensis*	Cipullo (2010)	This work						1	13.2			1	
Olivola	Early Pleistocene		*Lynx issiodorensis valdemensis*	Cipullo (2010)	This work	2	19.0		2		1	15.3			1	
Pantalla	Early Pleistocene		*Lynx issiodorensis valdemensis*	Cherin et al. (2013)	Cherin et al. (2013)	1	18.1		1		1	14.5		1		
Sant Vallier	Early Pleistocene		*Lynx issiodorensis*	Viret (1954)	This work	5	19.3	1		4	7	15.0	2	4	1	
Tourkovounia	Early Pleistocene		*Lynx* cf. *issiodorensis*	Symeonidis & De Vos (1977)	Koufos (1992, 2014)						1	16.3		1		
Upper Valdarno	Early Pleistocene		*Lynx issiodorensis valdemensis*	Cipullo (2010)	This work	3	17.2	2	1		4	14.4		2	2	
Cueva Victoria	Early Pleistocene		*Lynx* sp.	Pons-Moya et al. (1978)												
			Lynx spelaea	Pons-Moya (1983)	Boscaini et al. (2016)	4	16.7	2	1	1	5	13.4	1	2	1	
			Lynx pardinus	Madurell-Malapeira et al. (2012)												
Sierra de Quibas	Early Pleistocene		*Lynx pardinus*	Montoya et al. (1999)	Montoya et al. (1999)	1	15.5		1		1	12.8		1		
Vallparadis Estació	Early Pleistocene	*Lynx pardinus*	*Lynx* sp.	Madurell-Malapeira et al. (2010)	Boscaini et al. (2016)	4	18.2	3	1		2	14.4		2		
			Lynx pardinus	Boscaini et al. (2016)												
Aldène	Middle Pleistocene		*Lynx spelaeus*	Testu (2006)	Testu (2006)						1	13.4			1	
Caune de l'Arago	Middle Pleistocene		*Lynx spelaeus*	Moigne et al. (2006); Testu (2006)	Testu (2006)	4	17.3	1	1	1	5	13.1	1	2		2
L'Escale	Middle Pleistocene		*Lynx spelaeus*	Testu (2006)	Testu (2006)	6	17.4	2	4		8	14.1	1	6	1	
Pirro Nord	Early Pleistocene		*Lynx issiodorensis*	Petrucci et al. (2013)												
			Lynx issiodorensis ssp.2	Cipullo (2010)	This work	2	19.3	2			2	16.3		2		
Apollonia	Early Pleistocene		*Lynx issiodorensis*	Koufos (1992)	Koufos (1992)						1	13.8	1			
			Lynx issiodorensis	Sardella (2008)												
Argentario	Early Pleistocene		*Lynx issiodorensis* ssp.2	Cipullo (2010)	Cipullo (2010)	2	16.9	1		1	1	14.0				1
			Lynx spelaeus	Testu (2006)	Testu (2006)	1	16.9			1						
Le Vallonnet	Early Pleistocene		*Lynx spelaeus*	Kurtén (1957)							1		1			
Solehac	Early Pleistocene		*Lynx issiodorensis* ssp.	Gaspark & Pazonyi (2016)	Gaspark & Pazonyi (2016)						1	14.7		1		
Somssich Hill	Early Pleistocene	*Lynx* sp.	*Lynx* sp.	Martínez-Navarro et al. (2008)							1		1			
Ubeidiya	Early Pleistocene		*Lynx issiodorensis* ssp. ex aff. *spelaeus*	Hemmer (2001)	Hemmer (2001)						2	13.4		1		1
			Lynx issiodorensis ssp.2	Cipullo (2010)												
Venta Micena	Early Pleistocene		*Lynx* sp.	Moya-Solà et al. (1981)												
Mosbach	Middle Pleistocene		*Lynx issiodorensis* ssp.	Voeckler (1930); Kurtén (1957)	Voeckler (1930)						1	16.0				
Mauer	Middle Pleistocene		*Lynx issiodorensis* ssp.	Voeckler (1930); Kurtén (1957)	Voeckler (1930)						1	15.5		1		
Sima de Los Huesos	Middle Pleistocene		*Lynx pardina spelaeus*	Garcia et al. (1997); Garcia & Arsuaga (2001)	Garcia et al. (1997)						1	14.4	1			
			Lynx gr. *spelaea*	Sala (1992)												
Valdemino	Middle Pleistocene		*Lynx spelaeus*	Ghezzo et al. (2014)	Ghezzo et al. (2014)	2	16.1	1		1	1	13.1	1			
Ingarano	Late Pleistocene	*Lynx pardinus*	*Lynx lynx*	Petronio et al. (1996)	This work	15	16.6	13	2		26	14.0	12	6	8	
	Extant	*Lynx pardinus*		García-Perea et al. (1985); Boscaini et al. 2016; Werdelin pers. comm.		21	15.3	x			16	13	83%	14%	3%	
	Extant	*Lynx lynx*		Kurtén (1963, 1978)	Werdelin pers. comm.	187	15.8			x	173	15.7			100%	

Supplementary table 5. Morphological comparison of the P^4 and M_1.

Species	Site	Specimen number	References	Age	Total length	Condylobasal length	Zigomatic breadth	Sagittal crest length
Lynx pardinus	Ingarano	MGPT-PU 135415	This work	Late Pleistocene	157.6	148.6		25.6
Lynx pardinus	Ingarano	ING75	This work	Late Pleistocene	163.4	151.1	117.2	28.2
Lynx issiodorensis	Les Etouaires	MNB Prr 200	This work	latest Pliocene	185.7	168.0	120.0	63.0
Lynx issiodorensis	Les Etouaires	MNB Prr 441	This work	latest Pliocene	172.0	144.7		57.0
Lynx issiodorensis	La Côte d'Ardé	n/a	Viret (1954)	latest Pliocene		145.0		
Lynx issiodorensis	Saint Vallier	MNB StV 767	This work	Early Pleistocene			112.0	
Lynx issiodorensis	Saint Vallier	QSV 1133	Viret (1954)	Early Pleistocene		143.0	115.0	
Lynx issiodorensis	Olivola	MNB Ol 1	This work	Early Pleistocene	156.0	144.4	112.0	50.5
Lynx issiodorensis	Olivola	IGF 4399	Cherin et al. (2013)	Early Pleistocene	148.0			
Lynx issiodorensis	Upper Valdarno	IGF 12777	This work	Early Pleistocene	155.0	139.0	111.1	51.9
Lynx issiodorensis	Pantalla	SBAU337653	Cherin et al. (2013)	Early Pleistocene	147.0	140.0	102.0	
Lynx sp.	Pirro Nord	DE 04 Liv II	This work	Early Pleistocene		151.9		
Lynx pardinus	Avenc Marcel	IPS 4170	Boscaini et al. (2015)	Early Pleistocene				12.5
Lynx pardinus	L'Escale	H7622	Bonifay (1971); this work	Middle Pleistocene	138.0	132.5	119.0	
Lynx pardinus	L'Escale	B611	Bonifay (1971); this work	Middle Pleistocene		145.0		
Lynx pardinus	Grotte de l'Observatoire	n/a	Boule and Villenueve (1927)	Midde?-Late Pleistocene		128.0	100.0	20.5*
Lynx pardinus	Grotte de l'Observatoire	n/a	Boule and Villenueve (1927)	Midde?-Late Pleistocene		124.0		
Lynx pardinus	Grotta del Principe	n/a	Boule (1909)	Late Pleistocene		128.0		23.2*
Lynx pardinus	Puech-Margal	n/a	Kurtèn and Granqvist (1987)	Late Pleistocene	155.0		119.0	
L. lynx	Pagolusieta	n/a	Altuna (1980)	Late Pleistocene	164.0	145.0	118.0	
L. lynx	Arene Candide	n/a	Cassoli and Tagliacozzo (1994a)	Late Pleistocene			114.0	
L. lynx	Beeston Tor	BM M13/36	Werdelin pers. Comm.	Late Pleistocene	158.0	141.0	110.0	
L. lynx	Neale's Cave	BM	Werdelin pers. Comm.	Late Pleistocene	160.0	147.0		
L. lynx	Col d'Aran	n/a	de Beaufort (1965)	Late Pleistocene	160.0	145.0	105.0	
L. lynx	Rèseau du Cèbèri	n/a	Clot and Besson (1974)	Late Pleistocene	152.0	139.0	101.9	
L. lynx	Grotte de l'Observatoire	n/a	Boule and Villenueve (1927)	Late Pleistocene		140.0		
extant *L. pardinus*	Spain		Werdelin pers. comm.; Garcia-Perea (1996)		130.2 (119.0-142.0; n= 13)	118.6 (109.4 - 128.0; n = 12)	92.3 (81.0 - 101.0; n = 17)	21.1 (14.0 - 28.0; n = 29)
extant *L. lynx*	Europe		Werdelin pers. comm.; Garcia-Perea (1996)		146.7 (127.0 - 167.0; n=146)	133.4 (120.0 - 147.0; n = 111)	100.9 (85.0 - 115.0; n=157)	49.5 (22.0 - 73.0; n = 59)

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239 **Supplementary table 6.** Comparative cranial measurements (mm) of Pleistocene lynxes.

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Species	Age	Number of specimens		P.values	
		P^4	M_1	P^4	M_1
Lynx pardinus **Ingarano**	Late Pleistocene	15	30		
Lynx issiodorensis issiodorensis	late Pliocene - Early Pleistocene	14	28	**0,00**	0,02
Lynx issiodorensis valdarnensis	Early Pleistocene	8	8	**0,01**	0,47
Lynx sp.	Early - Middle Pleistocene	7	11	0,48	0,29
Lynx pardinus	Early Pleistocene	8	6	0,12	0,33
Lynx pardinus	Middle Pleistocene	20	38	**0,01**	0,69
Lynx pardinus	Late Pleistocene	17	58	0,41	0,79
Extant *Lynx pardinus*		21	16	**0,00**	**0,00**
Lynx lynx	Late Pleistocene	12	18	**0,00**	**0,00**
Extant *Lynx lynx*		187	173	**0,00**	**0,00**

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242 **Supplementary table 7.** Results of the statistical analysis.

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Species	Locality	Specimen	Age	CBL (mm)	BM (kg)
L. pardinus	Ingarano	MGPT-PU 135415	Late Pleistocene	148.6	23.7
L. pardinus	Ingarano	ING75	Late Pleistocene	151.1	25.0
L. issiodorensis	Les Etouaires	MNB Prr 200	latest Pliocene	168.0	34.7
L. issiodorensis	Les Etouaires	MNB Prr 411	latest Pliocene	144.7	21.8
L. issiodorensis	La Côte d'Ardé	n/a	latest Pliocene	145.0	22.0
L. issiodorensis	Saint Vallier	NMB StV.767	Early Pleistocene	143.0	21.0
L. issiodorensis	Olivola	MNB Ol 1	Early Pleistocene	144.4	21.7
L. issiodorensis	Pantalla	SABAP_UMB 337653	Early Pleistocene	140.0	19.7
Lynx sp.	Pirro Nord	DE 04 Liv II	Early Pleistocene	151.9	25.4
L. pardinus	L'Escale	H7622	Middle Pleistocene	132.5	16.6
L. pardinus	L'Escale	B611	Middle Pleistocene	145.0	22.0
L. pardinus	Grotte de l'Observatoire	n/a	Middle?-Late Pleistocene	128.0	14.9
L. pardinus	Grotte de l'Observatoire	n/a	Middle?-Late Pleistocene	124.0	13.5
L. pardinus	Grotta del Principe	n/a	Late Pleistocene	128.0	14.9
L. lynx	Pagolusieta	n/a	Late Pleistocene	145.0	22.0
L. lynx	Beeston Tor	BM M13/36	Late Pleistocene	141.0	20.1
L. lynx	Neale's Cave	BM	Late Pleistocene	147.0	22.9
L. lynx	Col d'Aran	n/a	Late Pleistocene	145.0	22.0
L. lynx	Rèseau du Cèbèri	n/a	Late Pleistocene	139.0	19.3
L. lynx	Grotte de l'Observatoire A-F	n/a	Late Pleistocene	140.0	19.7

Supplementary table 8. Body mass estimates (BM) based on condylobasal length (CBL) for *Lynx pardinus* from Ingarano and other fossil lynx specimens.

New attribution	Previous identification	Region	Site	Age	Biochron	References
			Les Etouaires	late Pliocene	Early Villafranchian	Kurtén 1978
			Serrat d'en Vaquer	late Pliocene	Ruscinian	Cipullo (2010); this work
		France	La Côte d'Ardé	late Pliocene		
			Pardines	late Pliocene	Early Villafranchian	
			Saint-Vallier	Early Pleistocene	Middle Villafranchian	This work
		Grecce	Tourkovounia	Early Pleistocene	Early Villafranchian	Koufos (1992, 2014)
			Garfagnana	late Pliocene	Early Villafranchian	Cipullo (2010);
			Olivola	Early Pleistocene	Late Villafranchian	Cipullo (2010); this work
		Italy	Pantalla	Early Pleistocene	Late Villafranchian	Cherin et al. (2013)
Lynx issiodorensis	*Lynx issiodorensis* ssp.		Valdarno Superiore	Early Pleistocene	Late Villafranchian	Cipullo (2010); this work
			Figline	Early Pleistocene	Late Villafranchian	Cipullo (2010); this work
			Matassino	Early Pleistocene	Late Villafranchian	Cipullo (2010); this work
		Spain	Layna	late Pliocene	Early Villafranchian	
			Almanzora	early Pliocene	Ruscinian	This work
			LA Gloria 4	early Pliocene		
			La Calera	early Pliocene		
			La Puebla de Valverde	Early Pleistocene	Middle Villafranchian	This work
			Fonelas P-1	Early Pleistocene	Middle Villafranchian	Garrido and Arribas (2008)
			Villaroya	Early Pleistocene	Early Villafranchian	Kurtén and Crusafont (1977)
		Turkey	Calta	late Pliocene		Ginsburg (1998)
	Lynx spelaeus		Aldene - Lower levels	Middle Pleistocene	Galerian	Testu (2006)
	Lynx spelaeus		Caune de l'Arago	Middle Pleistocene	Galerian	Testu (2006)
	Lynx spelaeus		l'Escale	Middle Pleistocene	Galerian	Testu (2006); this work
	Lynx spelaeus		Lazaret	Middle Pleistocene	Aurelian	Valensi (1994)
	Lynx spelaeus		Lunel-Viel	Middle Pleistocene	Aurelian	Bonifay (1971); Testu (2006)
	Lynx spelaeus		Abri Cornille	Late Pleistocene	Aurelian	Bonifay and Leucortis-Ducgoninaz (1976)
	Lynx spelaeus		Aldene - upper level	Late Pleistocene	Aurelian	Testu (2006)
	Lynx spelaeus		Baume-Longue	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
	Lynx pardinus		Campfiel	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
	Lynx pardinus		Grotte Balauziere	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
	Lynx pardinus	France	Grotte de la Sartenette	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
	Lynx pardinus		Grotte de l'Observatoire	Late Pleistocene	Aurelian	Boule and Villenueve (1927); Testu (2006)
	Lynx spelaeus		Grotta de Reihac	Late Pleistocene	Aurelian	Werdelin pers. comm.
	Lynx spelaeus		Grotte Vaufrey	Late Pleistocene	Aurelian	Delpech (1988)
	Lynx spelaeus		Hortus	Late Pleistocene	Aurelian	Testu (2006)
	Lynx spelaeus		La Crouzade	Late Pleistocene	Aurelian	Testu (2006)
	Lynx pardinus		La Salpetrière	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
	Lynx spelaeus		Moula Guercy-Baume	Late Pleistocene	Aurelian	Defleur et al. (2001)
	Lynx pardinus		Orgnac 3	Late Pleistocene	Aurelian	Testu (2006)
	Lynx pardinus		Portel Ouest	Late Pleistocene	Aurelian	Testu (2006)
	Lynx spelaeus		Puech-Margal	Late Pleistocene	Aurelian	Kurtén and Granqvist (1987)
	Lynx spelaeus		Ponte Molle	Middle Pleistocene	Galerian	Capasso et al. (1998)
	Lynx spelaeus		Grotta del Principe	Late Pleistocene	Aurelian	Boule (1909); Testu (2006)
	Lynx spelaeus	Italy	Grotta della Masseria del Monte	Late Pleistocene	Aurelian	Anelli (1959)
	Lynx spelaeus		Monte Tignoso	Late Pleistocene	Aurelian	This work
	Lynx spelaeus		Valle Radice	Late Pleistocene	Aurelian	Biddittu et al. (1967)
	Lynx pardinus		Avenc Marcel	Early Pleistocene	Late Villafranchian	Boscaini et al. (2015)
	Lynx pardinus		Cal Guardiola	Early Pleistocene	Epivillafranchian	Boscaini et al. (2016)
Lynx pardinus	*Lynx pardinus*		Cueva Victoria	Early Pleistocene	Epivillafranchian	Boscaini et al. (2016)
	Lynx pardinus		Vallparadís Estació	Early Pleistocene	Epivillafranchian	Boscaini et al. (2016)
	Lynx pardinus		Villacastín	Middle Pleistocene	Aurelian	Arribas (1994)
	Lynx pardinus		Abric Romaní	Late Pleistocene	Aurelian	Testu (2006)
	Lynx pardinus		Almada	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Cau d'en Borràs	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Cau del Duc	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Cova de l'Arbreda	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Cova Negra	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus	Spain	Cova Toll	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Cova Toixoneres	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Cueva de Chaves	Late Pleistocene	Aurelian	Castaños (2004)
	Lynx pardinus		Cueva del Puerto	Late Pleistocene	Aurelian	Sarrion (1978)
	Lynx pardinus		Devil's Tower	Late Pleistocene	Aurelian	Werdelin pers. comm.
	Lynx pardinus		El Escarche	Late Pleistocene	Aurelian	This work
	Lynx pardinus		El Miscle	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Ermittia	Late Pleistocene	Aurelian	Altuna (1972)
	Lynx pardinus		Erralla	Late Pleistocene	Aurelian	Altuna and Mariezkurrena (1985)
	Lynx pardinus		Gorham'sCave	Late Pleistocene	Aurelian	Werdelin pers. comm.
	Lynx pardinus		Pena de Estebanvela	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Turó del Moro	Late Pleistocene	Aurelian	This work
	Lynx pardinus		Windmill Hill	Late Pleistocene	Aurelian	Werdelin pers. comm.
	Lynx pardinus		Alargo do Casais	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Caldeirao	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Casa do Moira	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus	Portugual	Columbeira	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Escoural	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Furinha	Late Pleistocene	Aurelian	Yravedra (2005)
	Lynx pardinus		Prado des Salemas	Late Pleistocene	Aurelian	Yravedra (2005)
			Arene Candide	Late Pleistocene	Aurelian	Cassoli and Tagliacozzo (1994a)
			Buca della Iena	Late Pleistocene	Aurelian	Pitti and Tozzi (1971)
			Grotta della Madonna	Late Pleistocene	Aurelian	Rodriguez-Varela et al. (2015)
			Grotta delle Striare	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Grotta dei Colombi	Late Pleistocene	Aurelian	Rustioni et al. (1995)
		Italy	Grotta di Equi	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Grotta Polesini	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Grotta Sant'Agostino	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Grotta Tina di Camerota	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Melpignano	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Riparo Fumane	Late Pleistocene	Aurelian	Cassoli and Tagliacozzo (1994b)
			San Sidero	Late Pleistocene	Aurelian	Rustioni et al. (1995)
			Balauziere	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
			Campfiel	Late Pleistocene	Aurelian	Paulus and Tronn (1945)
Lynx lynx	*Lynx lynx*		Col d'Aran	Late Pleistocene	Aurelian	de Beafourt (1965)
		France	Groutte de Pène	Late Pleistocene	Aurelian	Clot and Besson (1974)
			Grotte de l'Observatoire	Late Pleistocene	Aurelian	Boule and Villenueve (1927)
			La Crouzade	Late Pleistocene	Aurelian	Testu (2006)
			Mostayous	Late Pleistocene	Aurelian	Clot (1988)
			Réseau du Cébéri	Late Pleistocene	Aurelian	Clot and Besson (1974)
		Germany	Willendorf	Late Pleistocene	Aurelian	Werdelin pers. comm.
			Beeston Tor	Late Pleistocene	Aurelian	Werdelin pers. comm.
		Great Britain	Lynx Cave	Late Pleistocene	Aurelian	Werdelin pers. comm.
			Neale's Cave	Late Pleistocene	Aurelian	Werdelin pers. comm.
			Sewell's Cave	Late Pleistocene	Aurelian	Werdelin pers. comm.

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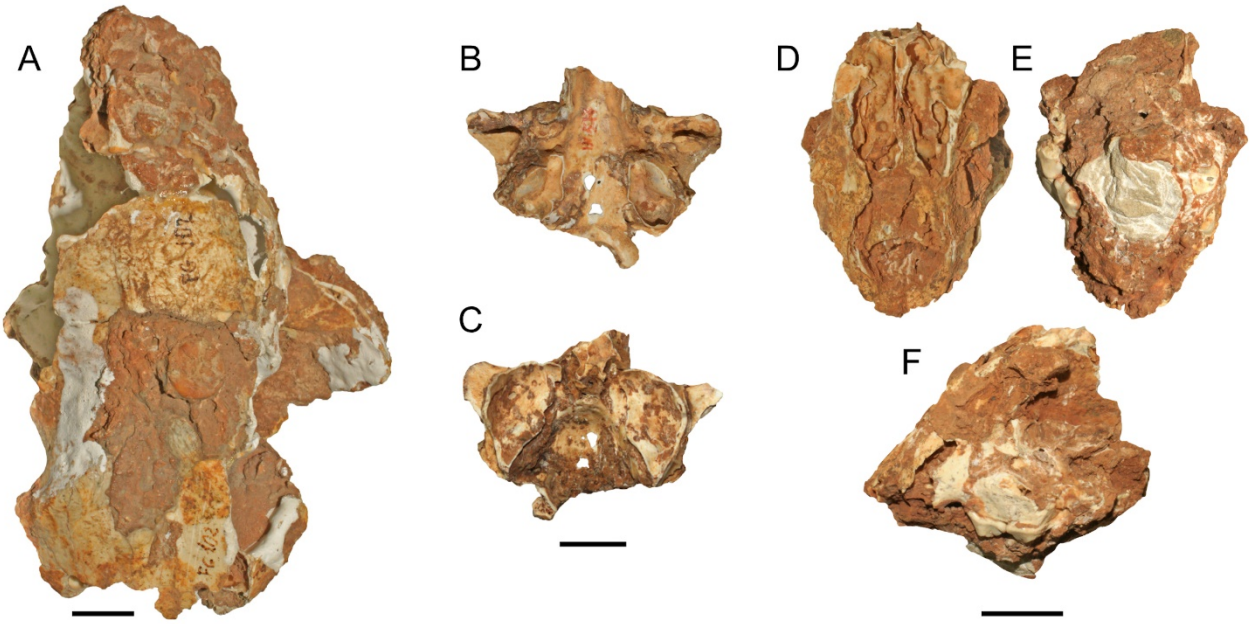
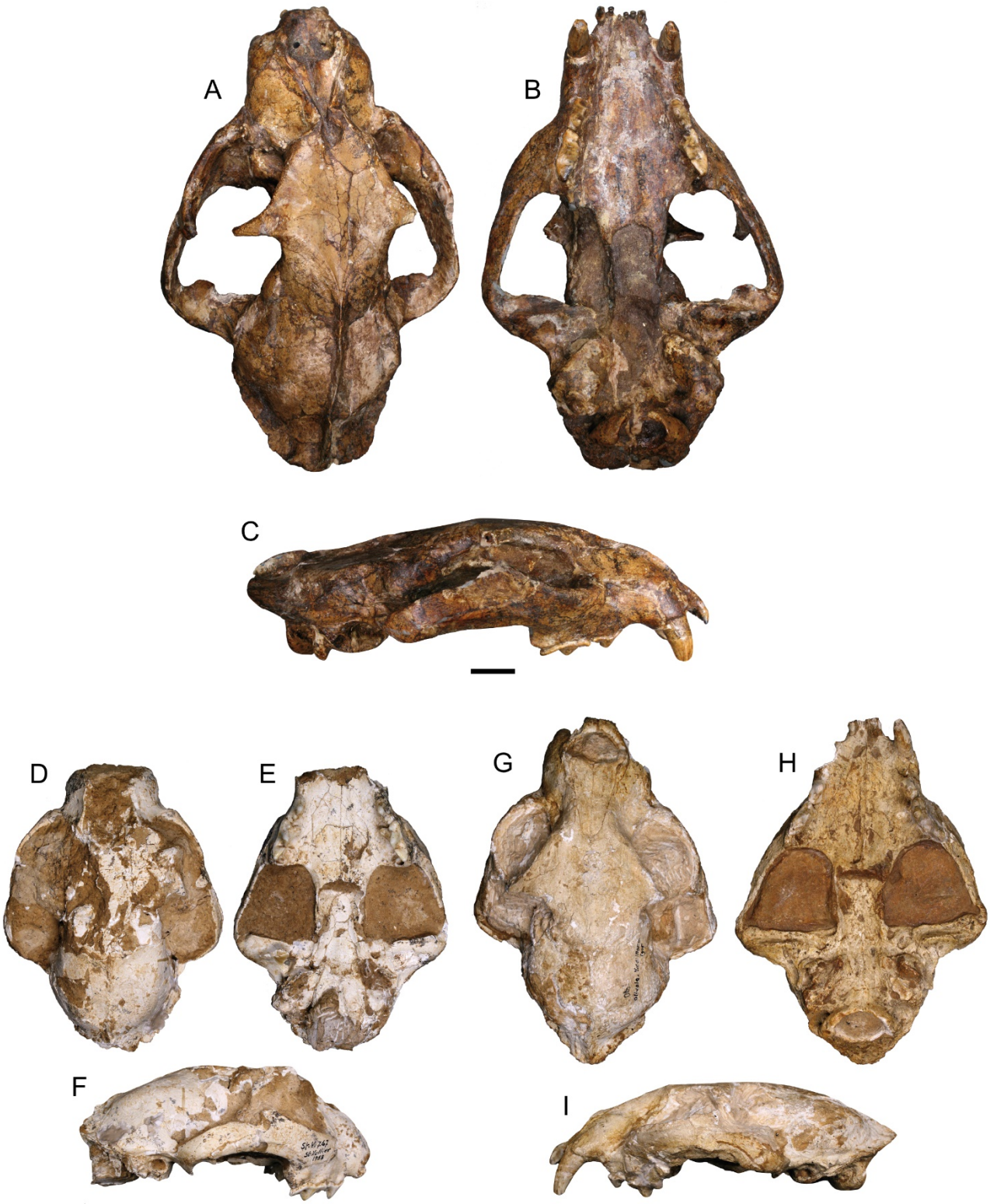
Lynx sp.			Cueva de Los Casares	Late Pleistocene	Aurelian	Altuna (1972)
		Spain	Pagolusieta	Late Pleistocene	Aurelian	Altuna (1980)
			Cueva de Santimamine	Late Pleistocene	Aurelian	Castaños (1984)
		Russian	Kostenki 21	Late Pleistocene	Aurelian	Sablin (2001)
	Lynx pardina spelaea		Sainzelles	Early Pleistocene	Late Villafranchian	Palombo & Valli (2004)
	Lynx pardina spelaea		La Sartanette	Early Pleistocene	Epivillafranchian	Palombo & Valli (2004)
	Lynx spelaeus	France	Vallonnet	Early Pleistocene	Epivillafranchian	Testu (2006)
	Lynx issiodorensis ssp.		Soleilhac	Early Pleistocene	Epivillafranchian	Kurten (1957)
	Lynx sp.		Grotte du Bourrouilla	Late Pleistocene	Aurelian	Fosse (1999)
	Lynx issiodorensis ssp.		Untermassfeld	Early Pleistocene	Epivillafranchian	Hemmer (2001)
	Lynx issiodorensis ssp.	Germany	Mosbach	Middle Pleistocene	Galerian	Voelckler (1930)
	Lynx issiodorensis ssp.		Mauer	Middle Pleistocene	Galerian	Voelckler (1930)
	Lynx issiodorensis ssp.	Grecce	Apollonia	Early Pleistocene	Late Villafranchian	Koufos (1992)
	Lynx issiodorensis ssp.		Pirro Nord	Early Pleistocene	Late Villafranchian	Cipullo (2010); this work
	Lynx issiodorensis ssp.	Italy	Argentario	Early Pleistocene	Late Villafranchian	Cipullo (2010); this work
	Lynx spelaeus		Valdemino - lower levels	Middle Pleistocene	Galerian	Ghezzo et al. (2015)
	Lynx sp.		Valdemino - upper level	Late Pleistocene	Aurelian	Ghezzo et al. (2015)
	Lynx sp.	Hungary	Somssich Hill	Early Pleistocene	Epivillafranchian	Gasparik & Pazonyi (2018)
	Lynx sp.	Israel	'Ubeidiya	Early Pleistocene	late Villafranchian	Martinez-Navarro et al. (2008)
	Lynx sp.		Venta Micena	Early Pleistocene	late Villafranchian	Moya-Sola et al. (1981)
	Lynx sp.		Trinchera Dolina 6	Early Pleistocene	Epivillafranchian	Garcia & Arsuaga (1998)
	Lynx pardinus	Spain	Sierra de Quibas	Early Pleistocene	Epivillafranchian	Montoya (1999)
	Lynx sp.		Sima de Los Huesos	Middle Pleistocene	Galerian	Garcia et al. (1997)
	Lynx sp.		Trinchera Galeria	Middle Pleistocene	Aurelian	Garcia & Arsuaga (1998)
	extant *Lynx pardinus*	Spain				Werdelin pers. comm.
	extant *Lynx lynx*	Europe				Werdelin pers. comm.

Supplementary table 9. Complete list of the lynx specimens considered in this study.

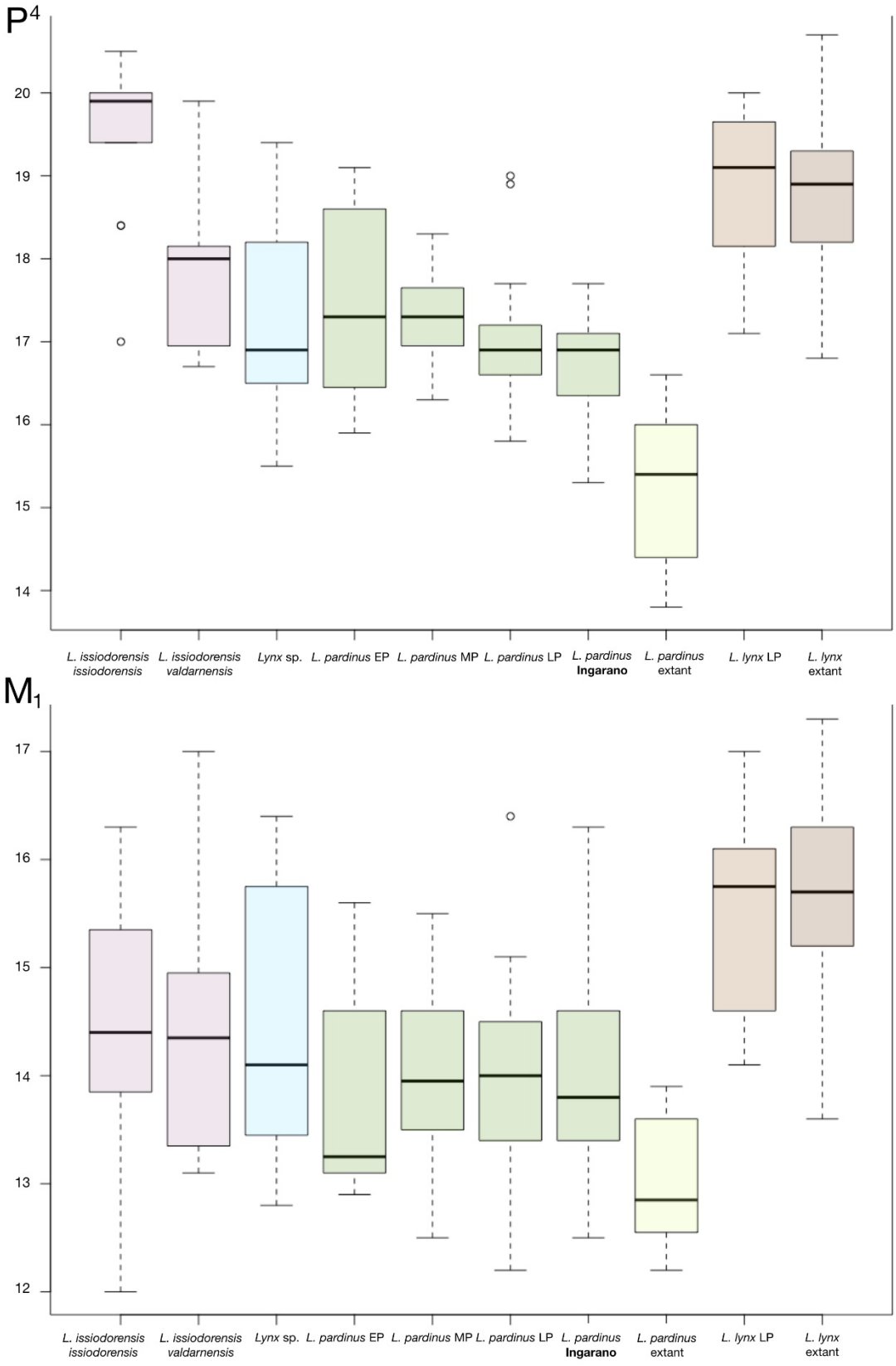
Supplementary figures



Supplementary figure 1. Fragmented crania of *Lynx pardinus* from Ingarano (Italy). A, FG102 in dorsal view; B-C, IN517 in ventral (B) and dorsal (C) views; D-F, INGND1150 in dorsal (D), ventral (E) and left lateral (F) views. Scale bars 3 cm.



Supplementary figure 2. Comparative crania of *Lynx issiodorensis*. A-C, MNB Prr 200 from Les Etouaires in dorsal (A), ventral (B), and right lateral (C) views; D-F, MNB StV.767 from Saint Vallier in dorsal (D), ventral (E), and right lateral (F) views; G-I, MNB Ol 1 from Olivola in dorsal (G), ventral (H), and left lateral (I) views. Scale bar 2 cm.



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268 **Supplementary figure 3.** Boxplot of P^4 and M_1 of extant and fossil lynxes. EP, Early
269 Pleistocene; MP, Middle Pleistocene; LP, Late Pleistocene.

270

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