

THREE NEW ROMAN PERIOD CAMEL (*CAMELUS* LINNÉ 1758) REMAINS FROM HUNGARY

HÁROM ÚJABB RÓMAI KORI TEVE (*CAMELUS* LINNÉ 1758) LELET MAGYARORSZÁGRÓL

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Abstract

Camels are known from the Roman and Ottoman Periods in Hungarian archaeology. The numbers of remains are very low, this species is very exotic. The three new remains (from Budapest–Mezőkövesd Street 1-3: mandible; Perkáta–Homokbánya: metacarpal; Budapest–Albertfalva, Hunyadi János road: metatarsal) are from the Roman Period, connected to the military functions and long-distance trade.

The metatarsal was recovered from a pit, while the metacarpal and mandible came from wells. Because no other archaeological evidence supports the hypothesis the remains found in the wells represent some kind of rites, no specific cultural role can be attributed to these camel bones. Most likely, they ended up in the wells as secondary fill. The two smaller measurable finds (the mandible and the metatarsal) probably originate from dromedaries, alluding to a North African and Southwest Asian connection. The slightly larger metacarpal may have belonged to a Bactrian camel, indicative of a relationship between Central Asia and Europe.

Kivonat

A hazánk területén egzotikus fajként előforduló tevék régészeti korú maradványai a római korból és a török korból ismertek, számuk igen alacsony. E három újonnan közölt leletanyag (Budapest–Mezőkövesd utca 1-3: mandibula; Perkáta–Homokbánya: metacarpus; Budapest–Albertfalva, Hunyadi János út: metatarsus) a római kori tevéleletek számát gyarapítják. Megjelenésük a katonai tevékenységhez és a hosszú távú kereskedelemhez köthető.

A csontok közül a metatarsus gödörből került elő, a metacarpus és a mandibula pedig kútból származott. Mivel egyéb régészeti bizonyíték nem támasztja alá, hogy a kútból előkerült tevémaradványok rítushoz kapcsolódnának, kultikus szerepet egyelőre nem lehet tulajdonítani nekik. A legvalószínűbb, hogy a kút feltöltődése során kerültek azok betöltésébe. A mandibula és a metatarsus kisebb méretük alapján vélhetően egyiptű tevé maradványai, így észak-afrikai és délnyugat-ázsiai kapcsolatokra utalnak. A metacarpus valamivel nagyobb mérete miatt a kétpű tevére, és ezáltal Közép-Ázsia felé mutató európai kapcsolatokra utal.

KEYWORDS: ROMAN PERIOD, HUNGARY, CAMEL, BACTRIAN, DROMEDARY, ARMY, LONG-DISTANCE TRADE, METACARPAL, METATARSAL, MANDIBLE, WELL

KULCSSZAVAK: RÓMAI KOR, MAGYARORSZÁG, TEVE, EGYPŰ TEVE, KÉTPŰ TEVE, HADSEREG, TÁVOLSÁGI KERESKEDELEM, KÉZKÖZÉPCSONT, LÁBKÖZÉPCSONT, ÁLLKAPOCS, KÚT

Introduction

In zoology, the *Cameloidea* sub-order is divided into three families: the *Oromerycidae*, the *Camelidae* and the *Protoceratidae* families. Of these three families only the *Camelids* are alive, including the camels (Géczy 1993, 401.). They appeared first about 40 million years ago, in Eocene of North America, when continents had already begun to occupy their places of today. In the Upper Oligocene and Miocene specialized forms evolved. The ancestors of Old World camels moved to Asia from North America through the Bering Strait

during the Miocene, 5 million years ago (Turner 2006, 150.).

Today, the *Camelus* genus includes two species: the dromedary or one-humped camel (*Camelus dromedarius* Linné, 1758) and the Bactrian two-humped camel (*Camelus bactrianus* Linné, 1758). Their areas of distribution partially overlap. The dromedary lives in North Africa, in South-western Asia and India, while Bactrian camels live in Central Asia (Fig. 1.). There are three wild two-humped camel (*Camelus ferus* Przewalski, 1878) populations in East China, and a smaller population near the Sino-Mongolian border.¹ These wild Bactrian populations, however, are unrelated to

domestic camels, since their genetic testing has shown that they are significantly different from domesticated forms. It is unclear whether the two species originate from a common ancestor and form a single species or not.

The camel may have been domesticated approximately 5000 years ago, although the place and time of domestication are debated. The Bactrian camel may have been domesticated in Central Asia and the Middle East around 2,500-2,000 BC. The domestication of dromedary may have taken place in Arabia around the 2nd millennium BC (Bökönyi 1989, 402-403.).

Hybrids of the two forms can be cross-bred only to a limited extent (Bartosiewicz 2006, 130.). Recently a population of feral dromedaries evolved in Australia, originating from animals imported during the 1840s to be used as beasts of burden in conquering the outback.²

Both species have a body length of about 3 m, their height at the hump is 2 m (the hump itself is about 0.20 m tall). Body dimensions published by the San Diego Zoo³ and mean live weights (Baimuranov 1989, 350.) show that Bactrian camels are larger (**Table 1.**):

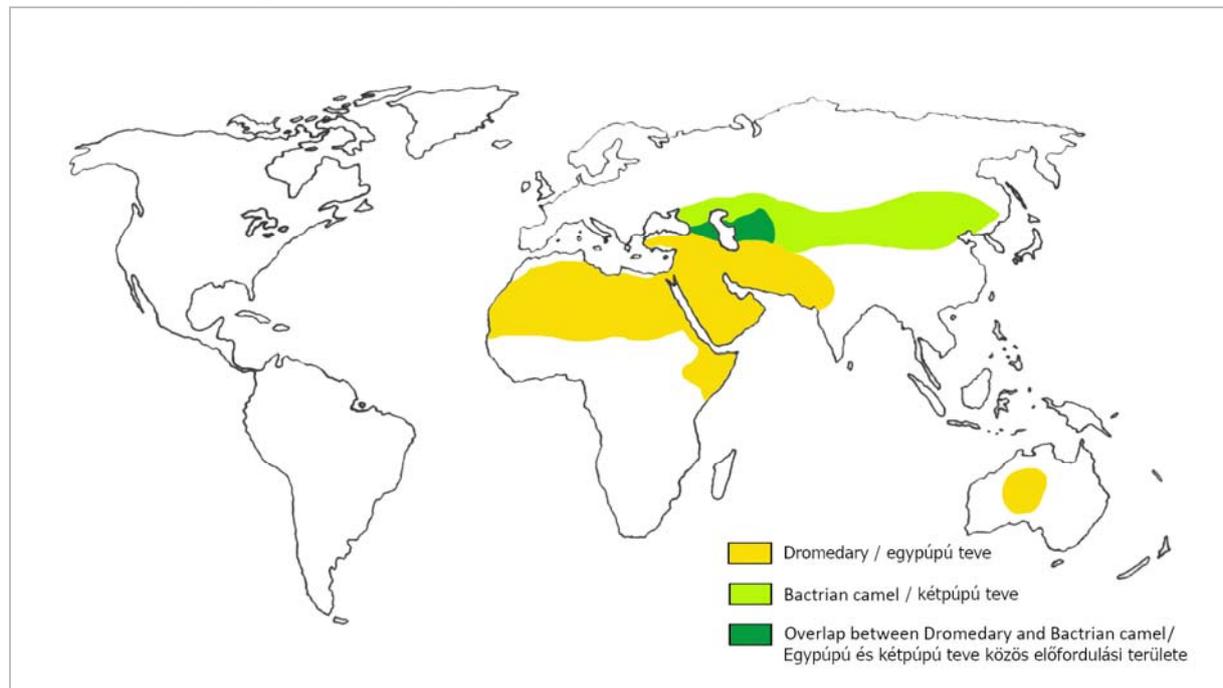


Fig 1.: Distribution areas of Bactrian camels and dromedaries (after Steiger 1990. 9. Karte 1.)

1. ábra: Az egy- és a kétfűpű teve elterjedési területe (Steiger 1990. 9. Karte 1. nyomán)

This size difference is, to some extent, reflected in the robusticity of bones (Bartosiewicz and Dirjec 2001, 281.). While the weight of the females is ca 10% less than that of males, size overlaps occur not only due to sexual dimorphism: hybrids and castrates tend to grow larger.

Camels are known to tolerate well drought and extreme heat. Bactrians, however fare better under the extreme heat fluctuations of continental climate, while dromedaries are drought-tolerant but are typical of the warm-climatic zone. This difference

is well reflected in their areas of distribution (Bartosiewicz 2006, 131.). Camels also have a high daily milk yield. Their meat, blood, fat, and skin (primary products) as well as hair, manure and their labour (secondary products) can also be used. A good example of the early utilization of the camel hair a find of mixed sheep and camel wool from the Bronze Age settlement of Shahr-i Sokhta in Iran (Compagnoni and Tosi 1978, 97. Fig. 4a.). Camels are important in several mobile pastoral economies (Bartosiewicz 2006, 132.).

Table 1.: Weight and body-size data of the dromedary and the Bactrian camel

1. táblázat: Az egyfűpű és a kétfűpű tevék súly- és testméret adatai

	Shoulder height	Live weight range	Live weight mean
Dromedary	2.0 m	400–600 kg	560 kg
Bactrian camel	1.8 m	600–1,000 kg	610 kg

A brief overview of camel finds from Hungary in the time of the Roman Period and the Ottoman Turkish Era

Most camel remains from Hungary seem to originate from dromedaries based on the relatively small size of bones. These finds can be correlated with movements related to military conquests and long-distance trade at the time (Bartosiewicz 2006, 132.). Apparently, in Hungary the main use of camels was the physical strength, rather than their meat, milk or wool. This is one of the main reason why are only few remains of camels on the – mostly kitchen waste – bone materials of the archaeological sites (Daróczi-Szabó et al., 2014, pp. 266-267.). Mediaeval documentary sources refer to camels several times (Bartosiewicz 1995, 119.). They mention, among others, camels given or received as high-status gifts. For example, that when Frederick Barbarossa passed through Hungary with the Crusaders, King Béla III. presented three camels to him (Bökönyi 1974, 228.). However, no camel remains are known from medieval archaeological materials.

Camel remains in Hungary originate from the Roman Period (1st to 4th centuries BC) and from the Turkish Period (16th to 17th century). In the Roman Period archaeological record camels are associated with military activity and long-distance trading.

This may explain why their bones were found close to main roads and occurred outside the *limes* of the Roman Empire, in the Barbaricum, too. Although the first occurrence was recorded in a Roman villa at Tác–Fövenypusztá, it is more typical to find camel remains near military establishments (Dunaújváros–Intercisa, Tác–Fövenypusztá, Heténypusztá, Budapest–Aquincum, Balatonlelle–Kenderföld, Dunavecse–Ugordáció, Daruszentmiklós–Alsó Pázmánd, Budaörs–Kamaraerdei-dűlő, Keszthely–Fenekpusztá; **Fig. 2, Table 2.**) (Daróczi-Szabó et al., 2014, 279.).

Aside from establishment of Pannonia province by the Romans, the second wave of camels into the Carpathian Basin followed as Ottoman Turkish armed forces advanced into the Carpathian Basin during the mid-16th century. Documentary sources reveal, that camels were used mainly for military purposes, but played a significant role in civilian long-distance trade, too. In the Ottoman Turkish Period camel meat may have been part of the diet. Cut marks observed on the surface of camel bones are indicative of this possibility (Daróczi-Szabó et al., 2014, 271.). However, after the Ottoman Turkish occupation camel bones disappeared from the archaeological record. This may have as much to do with a dislike for the Turks, as with the relatively humid climate of Hungary not being ideal for camels (Daróczi-Szabó et al., 2014, 271.).

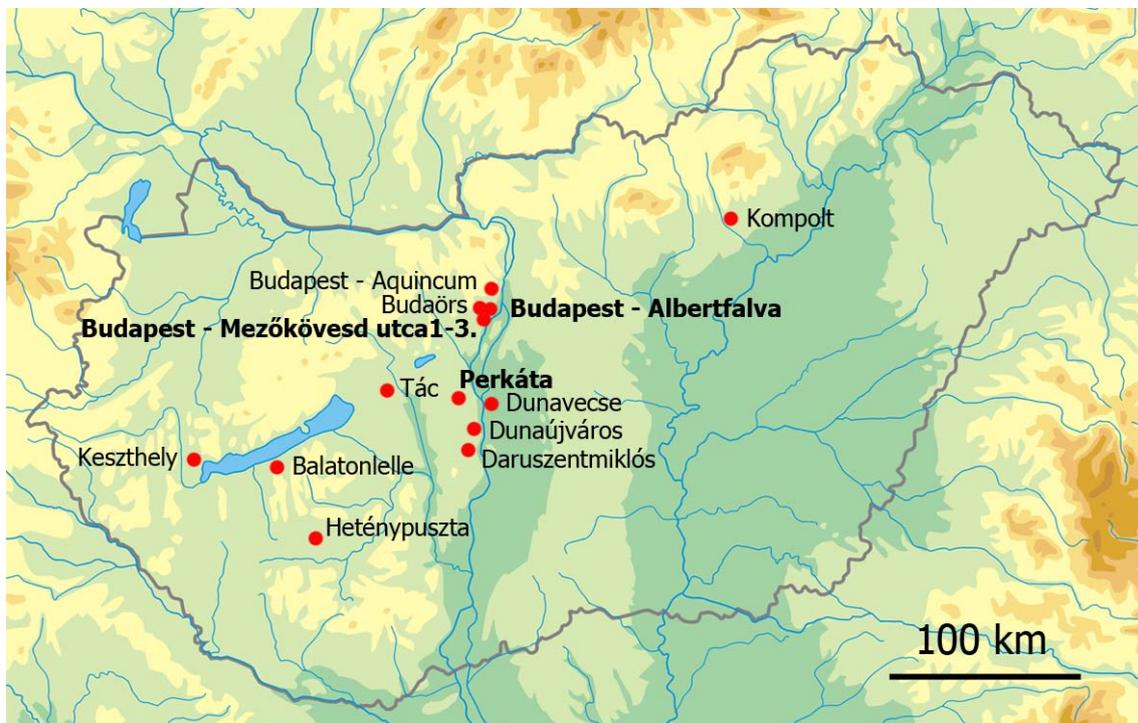


Fig. 2.: Camel finds from Roman Period sites in Hungary

2. ábra: Római kori teve lelőhelyek Magyarországon

Table 2.: Camel finds from Roman Period sites in Hungary**2. táblázat:** Római kori tevéletek Magyarországon

Site	Type of site	Date	Skeletal part	Dromedary or Bactrian? / age	Reference
Tác–Fövenypuszta	villa	2nd-3rd century	mandibula	? / age?	BARTOSIEWICZ 1996. 449.
Dunaújváros–Intercisa	civil town	2nd-3rd century	maxilla + mandibula frag. + axis (cutmarks) + limb bone	? / maturus	BÖKÖNYI 1989. 402.
Heténypuszta	fort	Roman Period	cranium	? / adult	KIRCHHOF 1999. 88.
Budapest (District III)–Aquincum, Szentendrei Road–Záhony Street crossing	southern part of the civil town	2nd-4th century?	distal fragment of a metacarpal	? / adult	DARÓCZI-SZABÓ et al. 2014. 267-268.
Balatonlelle–Kenderföld (B-470)	settlement	2nd-3rd century / 4th century	left mandibula fragment	? / adult	DARÓCZI-SZABÓ et al. 2014. 268.
Dunavecse–Ugordáció, site I, Roman Barbaricum	settlement	2nd-3rd century	right scapula fragment + 8 vertebra thoracic	Bactrian / adult	TUGYA–LICHTENSTEIN 2011. 149.
Kompolt–Kistér, Barbaricum	settlement - well	2nd-3rd century	distal fragment of a right tibia	? / adult	BARTOSIEWICZ 1999. 327-328.
Daruszentmiklós–Alsó Pázmánd	settlement	Roman / Avar Period	proximal fragment of a phalanx I (cutmarks)	dromedary / adult?	DARÓCZI-SZABÓ et al. 2014. 268-269.
Budaörs–Kamaraerdei-dűlő, site II	vicus	2nd-3rd century	distal part of a right radius	Bactrian / 4 years	DARÓCZI-SZABÓ et al. 2014. 269-270.
Keszthely–Fenekpuszta	settlement	3rd-5th century	right phalanx I	Bactrian / adult female	KÖRÖSI 2013.
Budapest (District XI)–Albertfalva, Hunyadi János Road	military camp-pit	From the first part of the 1st century till the middle of the 3rd century	proximal fragment of a left metatarsal + diaphysis fragment	dromedary? / adult?	Examined by Kyra Lyublyanovics
Budapest (District XI)–Mezőkövesd Street 1-3.	settlement - well	Roman Period	left mandibula fragment	dromedary? / adult	Examined by Anna Zsófia Biller
Perkáta–Homokbánya	settlement-well	Roman Period	proximal fragment of a right metacarpal	Bactrian? / adult?	Examined by Anna Zsófia Biller

The camel metatarsal from Budapest–Albertfalva, Hunyadi János Road

A left metatarsal of a camel (**Fig. 3.**) turned up in 2003 from Budapest–Albertfalva (first half of the 1st to the middle of the 3rd century), a military camp along the Pannonian limes (Szirmai 1995, 11.). The excavation was directed by Krisztina Szirmai and József Beszédés, archaeologists at the Aquincum Museum of the Budapest History Museum. Animal bones from the excavation were identified by Kyra Lyublyanovics. The unpublished camel bones had been in storage for years. Upon

rediscovering them I asked the permission of Kyra Lyublyanovics and József Beszédés for publication which was granted.

The camel bone originated from the top of Pit 51. A horse femur fragment and a large ungulate femur fragment were also found in the same pit. The bone material was very poorly preserved, also shown by cracks on the surface of the camel metatarsal. Metatarsal is relatively small, and thus its gracile morphology is more similar to that of dromedary (Steiger 1990, 68-69.). For measurements see **Table 3.**

Table 3.: Measurements of the new Roman Period camel finds

3. táblázat: Az újabb római kori teveleletek méretei

Site	Skeleton part	Breadth of the proximal epiphysis (mm)	Depth of the proximal epiphysis (mm)	Smallest breadth of the diaphysis (mm)	Breadth of the articular surface of the mandibula (mm)	M ₃ tooth (mm)
Budapest (District XI)–Mezőkövesd Street 1-3.	Mandibula	-	-	-	47	53x25
Perkáta–Homokbánya	Metacarpal	79	53	-	-	-
Budapest (District XI)–Albertfalva, Hunyadi János Road	Metatarsal	65	49	31	-	-



Fig. 3.:

Camel metatarsal from Budapest–Albertfalva, Hunyadi János Road (photo by the author)

3. ábra:

A Budapest–Albertfalva, Hunyadi János útról előkerült teve metatarsus (a szerző fotója)



Fig. 4.: Camel metacarpal from Perkáta – Homokbánya (photo by the author)

4. ábra: A Perkáta – homokbányai teve metacarpus (a szerző fotója)

The camel metacarpal from Perkáta–Homokbánya

The area of Perkáta–Homokbánya was excavated in 2009-2011 by Katalin Kovács, Hungarian Heritage Center of the Hungarian National Museum. During this excavation 17,385 animal remains were brought to light from 536 archaeological features (607 stratigraphic unit). Roman Period features (49 pits, 7 wells, 26 buildings, 1 furnace, 3 houses, 21 trenches) yielded altogether 2089 bone fragments, 46 of which were related skeletal parts. Three quarters (76.5%) of this material could be attributed to the Roman Period, 1.4 % originated from indigenous Celtic features, and 22% belonged to Romanized Celts. Roman Period domesticates represented by bone fragments cattle (801), followed by small ruminants (225), horse (183), pig (133), dog (74), donkey (8), cat (2) and camel (1). Among wild animals the remains of red deer (5), aurochs (4), hare (1) and micromammals (4) were encountered.

The right metacarpal (**Fig. 4.**) of a probably adult camel originated from 737 stratigraphic unit, from a well, along with 205 other animal remains. For

measurements see **Table 3.** Because of its largish size and morphological characteristics (Steiger 1990, 68-69.) it is possible that this bone belonged to a Bactrian camel.

The well also contained a small set of other animal remains, probably from domesticates. They included bones of cattle (82), dog (45), horse (21), small ruminants (12), pig (4), Anseriform birds (5), domestic hen (1), large ungulates (32) and dog sized mammals (3). Cutmarks were identified on a cattle mandibula and a radius.

The age distribution of the remains was as follows (**Table 4.**).

The camel mandible from Budapest–Mezőkövesd Street 1-3.

The 2010 excavation of this site was directed by József Beszédes, Aquincum Museum of the Budapest Historical Museum. Only three stratigraphical units were discovered at the site which contained animal bones and scattered artefacts. The archaeozoological material consists of 53 remains. This site is very close to Budapest–Albertfalva, Hunyadi János Road site.

Table 4.: The age distribution of the remains of the stratigraphic unit 737, Perkáta – Homokbánya**4. táblázat:** Perkáta–Homokbánya lelőhely 737. stratigráfiai egységének állatmaradványainak életkor szerinti megoszlása

	juvenile	subadult	adult	mature	non-id.	Total
Cattle	1	1	1	1	78	82
Sheep			1			1
small ruminant	1	1	1		8	11
Pig				1	3	4
Horse		1	1		19	21
Dog	3		12	1	29	45
Camel			1			1
dog-size mammal					3	3
large ungulate					32	32
domestic hen	1					1
Anseriform bird	1				4	5
Total	7	3	17	3	176	206

**Fig. 5.:** Camel mandible from Budapest–Mezőkövesd Street 1-3. (photo by the author)**5. ábra:** A Budapest–Mezőkövesd utca 1-3. szám alatt előkerült teve állkapocs (a szerző fotója)

The bone material came from pits, culture bearing layers and a well. At this site were artefacts from the Neolithic and Roman Period. The latter was represented only by 40 remains, a very small assemblage (essentially the material of 025 stratigraphic unit, a well). The few identifiable fragments are not suitable for detailed analysis.

Among the domestic animal bones the number of the cattle (5) and horse (5) remains were highest. There were furthermore remains of pig (2), small ruminant (1) and camel (1) (Fig. 5.). There was a red deer bone, too, and a dog size mammal remain, just as 24 large ungulate bone fragments. There were a red deer bone, too, and a dog size mammal

remain, just as 24 large ungulate bone fragments. Due to its relatively small size (Table 3.), the mandible of an adult camel may have originated from a dromedary.

The age distribution of the remains was as follows (Table 5.).

The remains were from the bones of fleshy limbs, trunk, dry limbs and head. Three times (a cattle humerus, a red deer humerus and a large ungulate cervical vertebra fragment) marks of cutting and hacking could be observed.

Table 5.: The age distribution of the remains of the stratigraphic unit 025, Budapest–Mezőkövesd Street 1-3.**5. táblázat:** A Budapest–Mezőkövesd utca 1-3. szám alatti lelőhely 025. stratigráfiai egységének állatmaradványainak életkor szerinti megoszlása

	juvenile	subadult	adult	non-id.	Total
Cattle			1	4	5
small ruminant			1		1
Pig	1	1			2
Horse			1	4	5
Camel			1		1
Red deer			1		1
dog-size mammal				1	1
large ungulate				24	24
Total	1	1	5	33	40

Since this feature is also a well – as was the case in Perkáta –, it is possible that the camel bone fell into the well posteriorly. Alternatively, the bones may have been thrown into the well with the soft tissue still on to contaminate the water of the well, i.e. making it undrinkable.

Summary

The newly identified camel finds from Hungary further increase the number of rare Roman Period camel remains. As in previous cases, the arrival of these three animals to the Carpathian Basin may be attributed to army movements or long-distance trade. Their secondary exploitation as beasts of burden must have been most significant, therefore only a few of their bones ended up in the food refuse. The metatarsal came to light from a pit, the metacarpal and the mandible, similarly to a previous camel find from Kompolt–Kistér, originated from a well. Since, aside from this phenomenon no other archaeological evidence supports their possible relation to a rite, although Bökönyi raised the possibility of camel sacrifice, possibly by Syrian troops, in Roman Dunaújváros–Intercisa. However, for the time being it is not possible to ascribe them to special cultic role to the camel bones found in wells. Due to their smaller measurements, the mandible and the metatarsal probably belonged to dromedaries, suggesting a contact with North Africa or Southwest Asia. Since the metacarpal is somewhat larger, it is possible that it originates from a Bactrian camel pointing toward Central Asia, although hybrids and castrates also have relatively robust bones.

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Notes

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