

**OSTEOLOGICAL AND HISTORICAL  
IMPLICATIONS OF THE CASPIAN HORSE  
TO EARLY DOMESTICATION IN IRAN**

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Louise Firouz

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# OSTEOLOGICAL AND HISTORICAL IMPLICATIONS OF THE CASPIAN MINIATURE HORSE TO EARLY HORSE DOMESTICATION IN IRAN

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LOUISE L. FIROUZ

The Royal Horse Society of Iran, Teheran, Iran

The discovery of a miniature horse on the shores of the Caspian Sea in the northern part of Iran in 1965 raised some interesting questions — and possibly solved a few problems — regarding early horse domestication in Iran. The minute size of this horse is reminiscent of graphic representations of horses from early 2nd millennium B.C. Mesopotamian terracotta relief plaques (MOOREY, 1970) to 8th century B.C. Assyrian and 6th century B.C. Persian reliefs, seals and statuettes (LITTAUER, 1971). Further, the peculiar forehead construction of the Caspian pony is evident in the figured evidence of the ancient tiny horse.

Due to the distinctive small size and perfectly proportioned conformation of the Caspian, studies were initiated to determine what, if any, characteristics



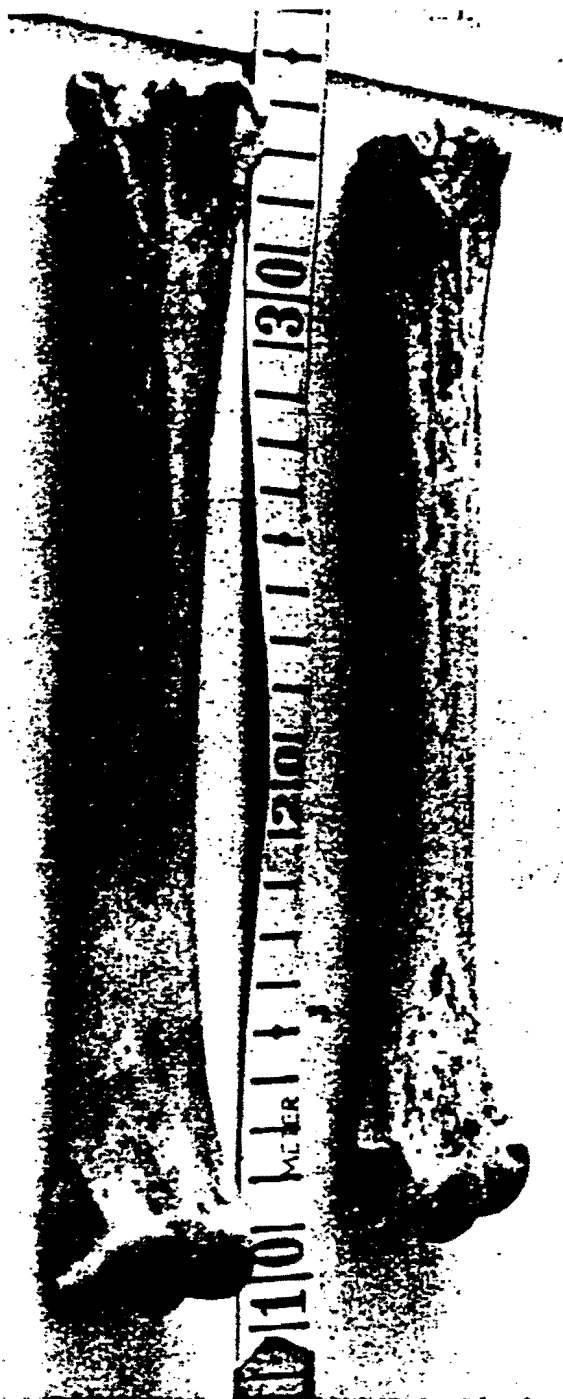


Fig. 2. Metacarpals of Caspian and *Equus hemionus onager*; the Caspian is the smaller of the two

distinguished them from other types of horses both in Iran and Europe. It was also hoped that some positive correlation between these small horses and the tiny horse of the Achamaenians might be found.

The present habitat of the tentatively named Caspian pony is encompassed within the provinces of Mazanderan and Gilan along the Northern slopes of the Elbruz mountains and the South Caspian littoral (FIROUZ, 1969). Although very few specimens of this rare animal remain, the nucleus of a breeding herd was collected from isolated areas in this forested region and was transported to Norouzabad near Teheran for preservation, increase of population and study. The original herd of three stallions and three mares now numbers a total of 25 of which 12 have been born at Norouzabad. These animals are all registered in a Stud Book of their own, a branch of which was opened in Bermuda in 1970 with the purchase of two mares and a stallion from Norouzabad.

The Caspian stands from about 100 to 122 cm at the withers. His head is characterized by a broad bulging forehead, tiny ears and tapering to a small muzzle. The body is small and horse, rather than pony, shaped; relatively high set tail and very slim dense bone in the legs. The hoof is oval shaped, more closely resembling the hoof of an onager than a horse.

Although the chromosome and blood enzyme studies (Dr. JAMES BOWMAN, Professor of Pathology at the University of Chicago, personal communication) were not conclusive, the different results obtained on each of the three separate tests suggest room for further study.

Tests for differences in the haemoglobin (University of Liverpool, HOSSEINION, personal communication) showed that whereas the normal reaction time on the starch gel electrophoresis for *Equus caballus* was 60–40 the Caspian exhibited a so far unique 80–20.

In the summer of 1969 a mature Caspian skeleton was studied in comparison with *Equus hemionus onager* bones discovered in first-century B.C. graves of Shahr-e-Qumis, near Damghan, a predominantly Parthian site being dug by Dr. DAVID STRONACH and Dr. JOHN HANSMAN of the British Institute of Persian Studies in Teheran (HANSMAN and STRONACH, 1970). The study concluded (BÖKÖNYI, unpublished) that since the slenderness index of the metacarpal and metatarsal bones of the Caspian fell within the range of that considered normal for *Equus asinus* und *Equus hemionus onager*, particular care should be taken in evaluating equid remains from archaeological sites in the future, as identification on the basis of slenderness index alone was no longer conclusive evidence of the particular species of *equidae*.

A preliminary comparative anatomy study (SHAHRASEVI and HOSSEINION, unpublished) of Caspian, Turkoman, Plateau Persian and one Percheron skeleton along with live comparisons concluded that there were four basic skeletal differences between the Caspian and all other breeds of horses studied.

1. The Caspian skull shows a pronounced elevation or bulging of the interparietal and parietal bones resulting in a difference of elevation of from 1.5 to 2.30 cm over the frontal bone. Most distinctive of all, however, is that the Caspian possesses no parietal crest, the interparietal continuing unbroken to the nuchal crest of the occiput. The interparietal at its narrowest point measures between 1.0 and 1.5 cm.



Fig. 3. Skulls of (from left to right) *Equus asinus*, Caspian, normal sized *Equus caballus* from Iran

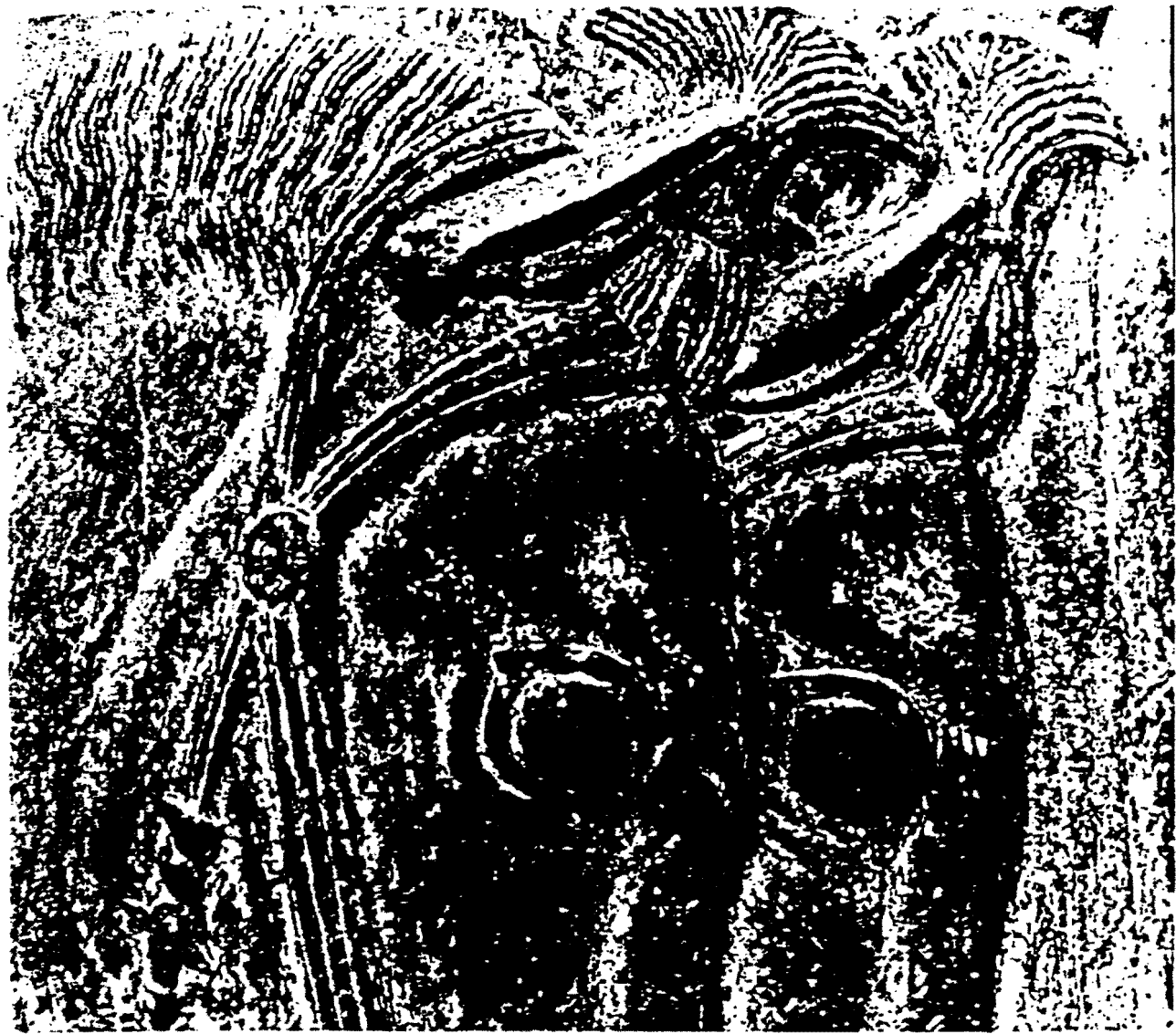


*Fig. 4. Terra-cotta plaque from 2nd millennium B.C. Mesopotamia showing small horse ridden with nose ring. (Courtesy of the Trustees of the British Museum)*

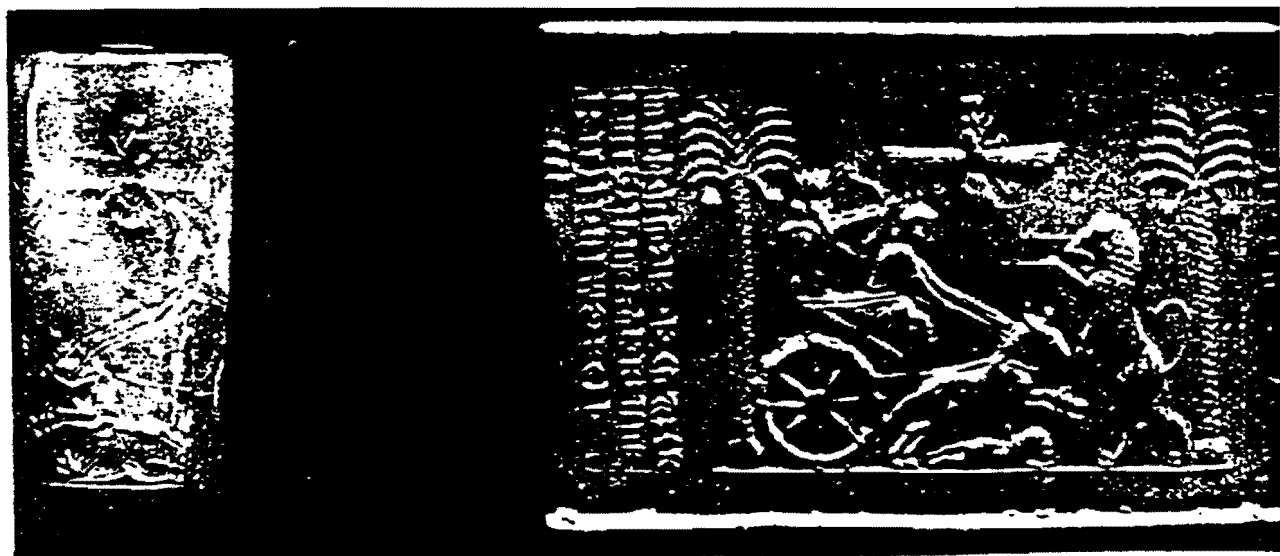
2. The scapula of the Caspian is wider than in other Iranian breeds, forming an isosceles triangle, with the neck of the scapula being narrower and the head much wider. Altogether it was noticed that the scapula of the Caspian more closely resembled that of a ruminant than that of a horse.
3. The metacarpal and metatarsal bones of the Caspian are much longer and slimmer than those of other Iranian or foreign breeds.
4. In the Caspian the spinous processes of the first six Thoracic vertebrae (T. 1 to T. 6) show a pronounced elongation as compared with other Iranian breeds. Because of this difference, the withers of the Caspian are much higher than the croup.

These distinctive skeletal differences of the Caspian should enable researchers to differentiate between Caspian and other horse remains in archaeological sites and possibly trace a progression for the Caspian from the ancient tiny horse of the Achamaenians and early 2nd millennium Mesopotamia.

Only a detailed analysis of equid bones from archaeological sites will firmly establish whether or not the Caspian is a remnant of the small horse of early Iran. The presence, however, of a miniature horse from about 3000 B.C. is amply supported by the graphic evidence of seals, statuettes



*Fig. 5. Forehead study of "Lydian" tribute ponies from the East stairway of Persepolis*



*Fig. 6. Trilingual cylinder seal of Darius, ca. 500 B.C. (Courtesy of the Trustees of the British Museum)*

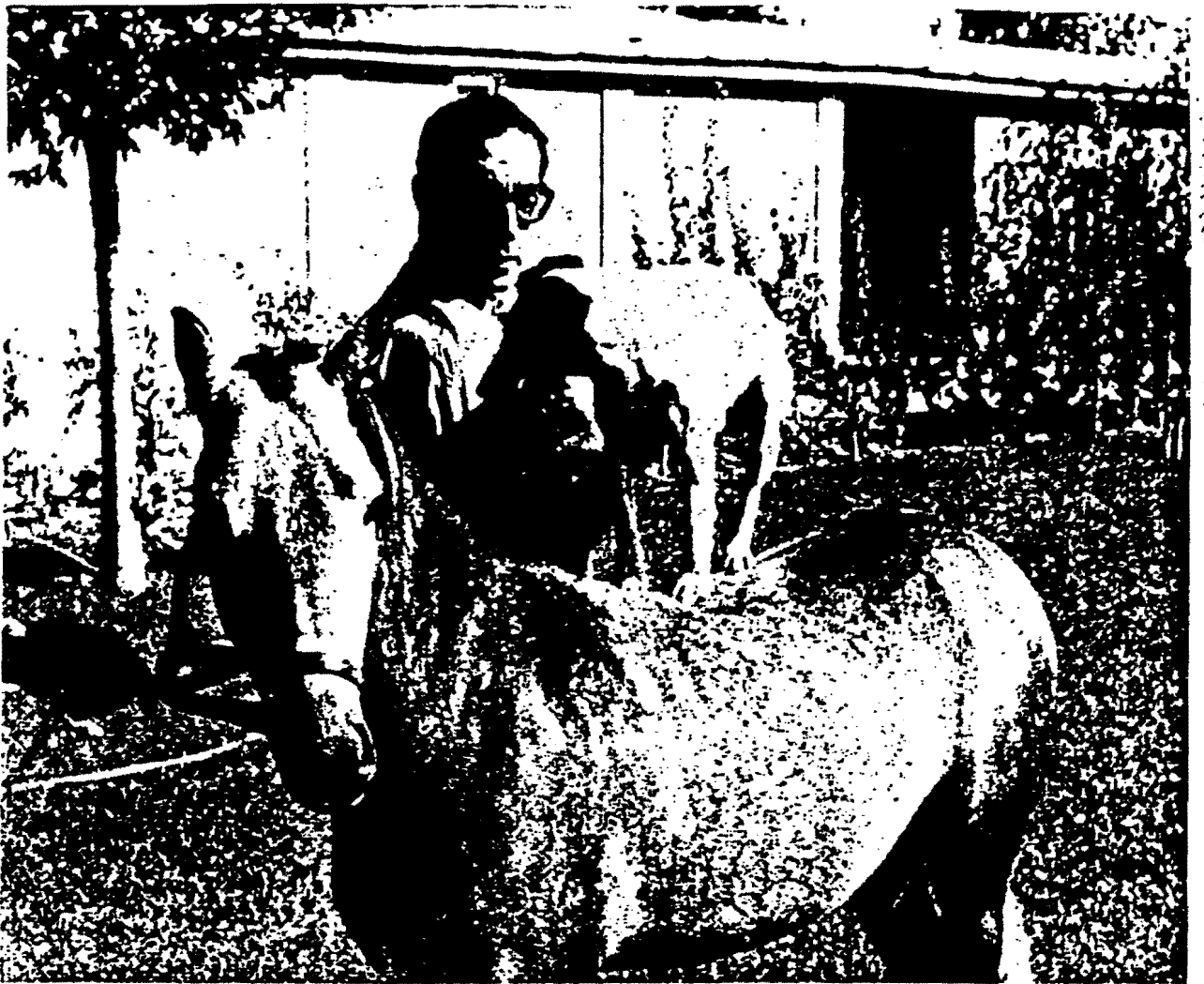


Fig. 7. Modern Caspian head showing the exaggerated development of the parietal and interparietal bones

and rock reliefs of Mesopotamia, Assyria and Iran (MOOREY, 1970; LITTAUER 1971), and it has been suggested that these tiny horses were probably bred in Iran and sent to neighbouring countries as tribute animals (LITTAUER, 1971). A further possibility of a link between the present Caspian and the ancient horse is furnished by the head structure of the small horses on the Persepolis reliefs and the tiny horses pulling King Darius' chariot on the trilingual seal now in the British Museum. The same exaggerated development of the parietal and interparietal bones is clearly visible today in the Caspian.

The evidence furnished by the slenderness index of the modern Caspian suggests that equid bones from various sites may have been mistakenly identified in the past. This would account for the paucity of horse bones from early sites when graphic evidence clearly shows that a small horse existed and was used for riding purposes. It would now seem very possible that Dr. WILCKEN's *Equus fossilis persicus* (DUERST, 1908) from Maragha and the small horse from Anau, *Equus caballus pumpellii* (DUERST, 1908) were horses as stated and not onagers as later corrected by Hilzheimer (HILZHEIMER, 1921) on the basis of the slenderness index.

If this progression for the Caspian can be traced from the ancient tiny horse, the implications to the early history of horse domestication and development of the ancient breeds of horses in the Near East would be most interesting and the perplexing question of the early origins of the Arab horse might also lend itself to solution.

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