



The origin of the Thoroughbred

by Izak Hofmeyr

Virtually all 500 000 of the world's Thoroughbred racehorses are descended from 28 ancestors, born in the 18th and 19th centuries. And up to 95% of male Thoroughbreds can be traced back to just one stallion, according to a study by geneticist Patrick Cunningham of Trinity College in Dublin, Ireland.

Thoroughbred horses were developed in 18th century in the UK. English mares were bred

with Arabian and other stallions to create horses with great stamina for distance racing. Today, Thoroughbreds are the most valuable of breeds, representing a multibillion dollar annual industry, worldwide.

To assess the genetic diversity of modern racing horses, Cunningham compared 13 micro satellite DNA loci – repeating sequences of DNA that vary in length – in 211 Thoroughbreds and 117 horses from breeds such as Shetland, Egyptian and Turkish horses.

A jockey in a blue uniform and helmet is riding a brown Thoroughbred horse on a dirt track. The horse is in motion, with its front legs lifted. The background shows a grassy field and a fence.

Up to 95% of male Thoroughbreds can be traced back to the Darley Arabian

He also examined studbooks dating back to 1791. He found the majority of the half a million progeny alive today are descended from just 28 “founder” horses.

It was already known that just a handful of stallions (but many mares) were used to found the Thoroughbred breed. But startlingly, the new research finds that, in 95% of modern racehorses, the Y-chromosome can be traced back to a single stallion – the Darley Arabian, born in 1700.

Of this remarkable horse, The Lady Wentworth, in her book *Thoroughbred Racing Stock and its Ancestors*, the authentic origin of pure blood, reports as follows: “The Darley was the most famous of all Arabians whose blood created the English Thoroughbred. His portrait shows him to have been of the highest Arabian quality and type, and though he served few mares, his stock has given him immortal fame.

The importer, Mr Thomas Darley, expressed the opinion that in England he would not be



The Darley Arabian

much disliked, a prophecy which appears somewhat mild in view of two centuries of celebrity achieved by the bay 3-year-old ‘with a blaze something of the largest’ and of the esteemed Managhi strain.”

A few pages further in the book, Lady Wentworth reports on some of the achievements of his get: “The influence of other Arabian sires swamps that of the Darley Arabian, when pedigrees are taken as a whole, but in the direct male line he stands supreme up to the year 1957”. (This was the year in which the book was published, shortly after Lady

Wentworth’s death.)

“A hundred and thirty-three out of a hundred and seventy-nine Derby winners and a hundred and seven of the Derby dams owe their male line to him, and other classic races show the same superiority.”

The results of the research of Patrick Cunningham, therefore should come as no surprise.

Speed and stamina

Related work on sequencing the horse genome is also uncovering genes in Thoroughbreds

TABLE 1: Illustrating the Darley Arabian’s superiority in the direct male line of Classic winners and dams of winners, Lady Wentworth provides the following table:

	Darley Arabian	Byerley Turk	Godolphin Arabian
Derby (179 winners)	240	89	27
Oaks (180)	238	93	27
One Thousand (144)	204	59	24
Two Thousand (149)	201	73	22
St Leger (181)	241	78	41
Ascot Gold Cup (149)	210	49	32

linked to speed and stamina. Screening for these traits could one day guide owners' and breeders' decisions when buying horses, which may sell for many millions of dollars.

"We hope to produce sounder, faster and better performing horses," says Cunningham. He and colleague Emmeline Hill at University College Dublin is also using the horse genome to uncover genes that explain why one animal runs faster than another.

"Horses are flight animals naturally selected for speed and stamina in the wild," explains Hill. "With domestic selection, speed was further augmented in the Thoroughbred."

Thirty-five per cent of the difference in racing performance between horses can be explained by genetics alone, says Hill. She is cross-referencing up to 140 recently discovered human genes for fitness and performance in a bid to track down equine equivalents. These genes are involved in traits related to the cardio-respiratory system, muscle strength and metabolism, she says.

Bleeding lungs

However, the analysis of Thoroughbred genetics is also revealing the other side of the coin, notes Matthew Binns of the Royal Veterinary College in London, UK. Many negative traits are associated with inbreeding in the diminutive gene pool, he says. "The selections we've made for fantastic beasts have had some detrimental consequences."

One tenth of Thoroughbreds suffer orthopaedic problems and fractures, 10% have low fertility, 5% have abnormally small hearts and the majority suffer bleeding in the lungs, says Binns. But as well as allowing breeders to select for performance-related genes, elucidating the horse genome may allow researchers to breed out negative traits, he says.

"Now we have a good amount of the horse genome, there are interesting times ahead," says Binns. "Over the next ten years there will be some changes in this very traditional industry." (Adapted from an article in *NewScientist*. 6 September 2005)



History of the Darley Arabian

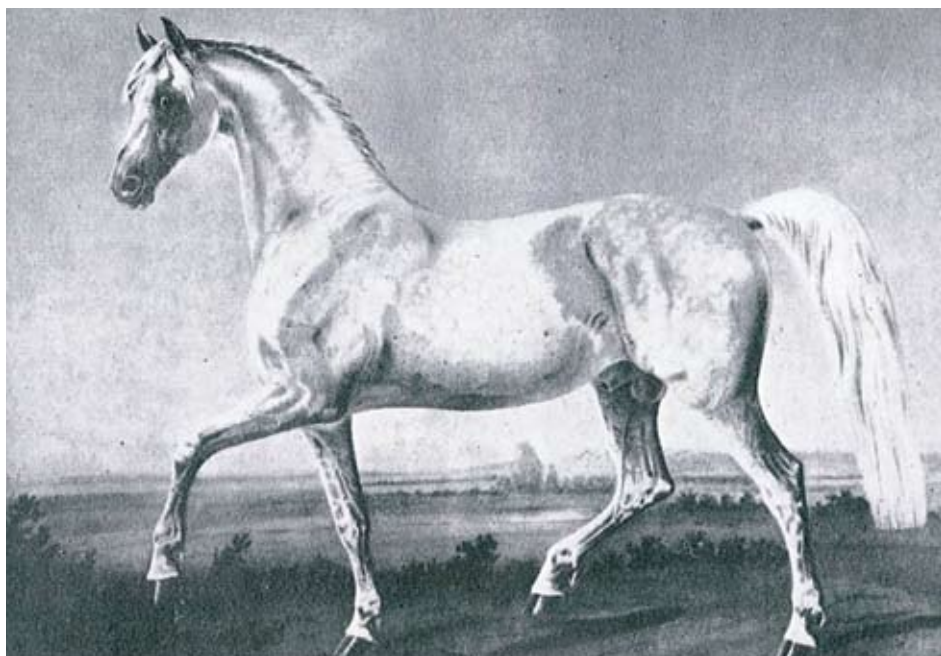
The Darley Arabian's story begins on the Syrian desert outside Aleppo, among the herds and tents of the Fedan Bedouins. Their Sheikh Mirza II owned a fine bay colt that caught the attention of the British Consul, Thomas Darley, a merchant and member of a local hunting club. One story says that Darley arranged for the purchase of the colt, then a yearling, for 300 golden sovereigns. Awaiting delivery of his prize, Darley learned that the Sheikh had reneged on the deal, claiming it impossible for him to part with his finest colt. Having the right sort of connections, Darley arranged with some sailors to acquire the colt by their own means and smuggle him out through Smyrna, which is apparently how the young stallion arrived in England, in 1704.

Thomas Darley explained to his brother Richard that the colt was believed to be from one of the purest of Arabian strains, and his name was Manak or Manica, obviously a reference to the famed "Muniqui" strain of Arabians noted for their swift paces.

The Darley Arabian is known to have covered mares between the years 1706 to as late as 1719. He is said to have stood at Aldby until his death at the advanced age of 30 in 1730, at the end of his life the property of John Brewster Darley.

The General Stud Book (GSB) notes that "he covered very few mares except Mr Darley's, who had very few well bred besides Almanzor's dam". Despite this disadvantage, the Darley Arabian sired a tremendous number of good runners: Childers, Almanzor, Aleppo, Cupid, Brisk, Daedalus, Dart, Skipjack, Manica, Lord Lonsdale's Mare, and Lord Tracy's Mare.

The Childers noted above, was the bay colt bred by Leonard Childers of Cantley Hall,



Messenger was a Thoroughbred sire, bred in England in 1780. It was the founder of the American trotting horse

Doncaster, purchased from him by the Duke of Devonshire and then known as Devonshire Childers, but history remembers him as “Flying” Childers (foaled 1715 out of Betty Leedes by Old Careless).

At stud, Flying Childers was very successful, the sire of Plaistow, Blacklegs, Second, Snip, Commoner, Blaze, Winall, Spanking Roger, Poppet, Fleec’em, and Steady. His influence (especially through Blaze, dam’s sire of Herod, and Snip’s son Snap) became widespread, but was overshadowed by that of his full brother Bartlett’s Childers. Blaze’s male line went on with some strength in other breeds. His son Old Shales became an important trotting sire and is the foundation sire of the Hackney breed. Blaze’s great grandson Messenger became a foundation sire for the American Standardbred, and his daughter, the outstanding racemare Miller’s Damsel became the dam of the racing legend, American Eclipse.

Betty Leedes produced another son of the Darley Arabian the following season (1716). Known to history as Bartlett’s Childers, he was unraced, the reason for which might lie in one of his names, “Bleeding Childers”. He was for a

time known as “Young Childers”, but came out from his older brother’s shadow as a tremendous stallion for his owner, Mr Bartlett. Standing at Nutwith Coate near Masham in Yorkshire, he sired a string of first rate runners such as Squirt, Oedipus and the Little Hartley Mare. Squirt sired Marske, who sired Eclipse and Shark.

The Darleys themselves produced the next most significant son of their famous Arabian, a colt named Almanzor, foaled in 1713 out of his dam, the famous Hautboy mare. Almanzor sired Spinner, his sister, and several other useful daughters.

Other Darley Arabian sons of influence include Brisk, sire of Cole’s Foxhunter, besides Lord Malpas’ Horse, Skipjack, Danger, and Gander. Another son, Manica, is remembered as a foundation sire of the Cleveland Bay horse, a breed developed in the Cleveland Hills of Yorkshire. One final son is noteworthy, Bulle Rocke, said to be the first Thoroughbred stallion imported into America, although he does not appear in the General Stud Book and exerted no influence as a sire. (From www.tbheritage.com) SAH