The warrah—shrinking dates for the Falkland Islands wolf

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The warrah, or Falkland Islands wolf (*Dusicyon australis,* originally *Canis antarcticus*), aka the Falkland fox, was present on the Falkland Islands when the first European settlers arrived in the 18th and 19th centuries. At the time, they believed they were the earliest to arrive on the uninhabited group of islands. These isolated islands are located at the bottom of the South Atlantic Ocean, several hundred kilometres east of South America. The first recorded landing was by Captain John Strong in 1690, and the early settlers were mainly British, French, and Spanish. Some gaucho farmers from the South American mainland were also hired because of their ranching and horse-riding expertise.

The common name warrah (figures 1, 2) is an anglicized form of *aguará*, which means 'fox' in the Guaraní language. It was so named because the gauchos saw similarities to the mainland maned wolf *Chrysocyon brachyurus*—called a*guará guazú*, meaning large fox.

With the *Beagle* voyage, Captain Robert FitzRoy brought back several specimens of the warrah to the UK. A number of others followed in subsequent years, one presented to the London Zoo in 1868.

Regrettably, the warrah became extinct by 1876. This was a fate Darwin had warned about because of the activity of the settlers. The animal was hunted for its desirable fur, and to protect the imported sheep. And it was not afraid of humans, which made it easy prey. Its diet mainly consisted of penguins, geese, flightless ducks, and small seals.

Where did the warrah come from?

From the time Darwin and FitzRoy arrived on the *Beagle*, attempts have been made to explain how and when the warrah first came to the islands. Darwin commented on the unusual presence of such an animal on the isolated islands. "As far as I am aware, there is no other instance in any part of the world, of so small a mass of broken land, distant from a continent, possessing so large a quadruped peculiar to itself."[1] Somehow the warrah had managed to cross the ocean from South America, the nearest part of which is some 500 km (300 miles) away.

There are various proposals as to how this occurred. One suggestion is that an ice bridge from Patagonia had developed at the peak of the Ice Age when sea levels were significantly lower.

Recent research

Recent analysis of mutational changes in mitochondrial DNA (mtDNA), using DNA from four museum exhibits, enabled comparison with living canids in South America. The closest living relative was identified to be the maned wolf.[2] The study estimated the date of divergence between it and the warrah to be between 4.2–8.9 Ma, giving a median of 6.7 Ma. The problem with this estimate is that the evolutionary narrative proposes that canids did not enter South America until after the Panamanian land bridge had been formed, around 3 Ma. This would locate the common ancestor of both in North America, which appears wholly unrealistic.

The most recent common ancestor of the warrah specimens was estimated to have lived 330 ka ago, with a 95% probability range of 70–640 ka. The study's authors suggest the animal arrived in the Falkland Islands on glacial ice, whether as a bridge or rafting.[2]

However, another comparison of mtDNA, taken from remains of an extinct continental relative species *Dusicyon avus*, leads to an estimate for isolation from the South American common ancestor at 16 ka, with a range 8–31 ka. This correlates with the evolutionary dates for the Ice Age of the late Pleistocene, when transit across an ice bridge may have been feasible.[3] *Dusicyon avus* was once believed to have become extinct several thousand years ago, but another study using calibrated carbon dating has suggested it survived until

Figure 1. Drawing of the warrah (from Darwin[10])

Figure 2. Warrah specimen located in the Otago museum, Dunedin, New Zealand

324–496 years BP. A combination of hunting and climate change may have been the reason for its demise.[4] There is however good reason to believe that mtDNA analyses are unreliable, and that the presence of the animal in such a remote spot can be readily fitted within the biblical timeframe. Morphological and 'microevolutionary' changes, and mutational changes in recent generations, are found to vary with time, and found to be far greater than those inferred from the fossil record. This supports the view that the long ages imputed into the fossil record by secular science are greatly exaggerated.[5,6]

Recent discoveries raise new possibility

More recently, archaeological evidence has come to light that Fuegian Indians (figure 3) may have arrived in the Falkland Islands several centuries earlier than the Europeans, and brought with them their hunting dogs.[7,8] Unlike European domesticated dogs, these were thought likely to be "domesticated *Dusicyon* stock" that could thus readily have been ancestral to *D. australis*.[7]

Figure 3. Fuegian of Tierra del Fuego, painted in watercolour by Conrad Martens as part of the Beagle voyage (1832–1834)

Evidence of settlement by Fuegians has been found on several islands, including a spear point and carbon-dated charcoal on the western New Island. Evidence of fire activity has been found, together with mixed marine vertebrate bones, dated to a time prior to European settlement. The fires, bones and artefacts are consistent with the culture of the Yaghan (Yámana) people from Tierra del Fuego.

The New Island bone remains give dates between 675 and 530 BP (AD 1275 to 1420), and are consistent with the age of the charcoal. Darwin also reported that tree trunks and canoes had washed ashore from Tierra del Fuego in previous times. Instead, the evidence tentatively supports the idea that those dug-out vessels had transported the Fuegians to the oceanic islands.[9]

Summary

The presence of the warrah in the Falkland Islands can be explained better within the biblical timeframe, whether the animals arrived over an ice bridge, or were brought as hunting dogs by the Fuegians. As new evidence has arisen, dating methods applied to the warrah that once yielded ages of millions of years, are brought down to several thousand years, or even a few hundred.

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