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DNA search gives hope to tortoise

By **Paul Rincon**

Science Reporter, BBC News

The giant Galapagos tortoise that became a conservation icon when it appeared he was the last of his kind is not so alone after all.

"Lonesome George" was thought to be the only survivor of a tortoise species native to the isle of Pinta.

Now, the journal *Current Biology* reports the discovery of a hybrid - the offspring from the union of a Pinta tortoise and another island species.

The "new" animal thus shares about half its genes in common with George.

Unfortunately for efforts to get George to reproduce, this hybrid tortoise, recently found on Isabela isle, is also a male.

Nonetheless, its discovery in a relatively small sample of tortoises raises fresh hope for the future of George's species (*Geochelone abingdoni*).

A more thorough sampling of the 2,000 tortoises living on Isabela could yet reveal a genetically pure Pinta tortoise, say the researchers.

Population revival?

But even if they did find one, getting George to mate with it could be an uphill struggle: he has a stubborn aversion to the opposite sex.

When George was placed in captivity at the Charles Darwin Research Station on the island of Santa Cruz, he was housed with two female tortoises from a species taken from Isabela.



George lives at the Charles Darwin Research Station

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After 35 years, he has failed to produce any offspring; though, admittedly, none of these tortoises has belonged to George's species.



Surprising find

The researchers, led by Michael Russello from the University of British Columbia Okanagan, Canada, took DNA samples from tortoises living around Wolf Volcano on Isabela.

Most of these tortoises are thought to belong to a distinct species called *Geochelone becki*.

The scientists analysed 89 of these tortoises and compared their genetic codes with those of other Galapagos tortoises that are held in a database.

The database includes DNA from six *G. abingdoni* specimens held in museums, and Lonesome George.

Genetic analysis revealed that one of the Isabela animals was a first-generation hybrid between native tortoises from the islands of Isabela and Pinta.

"It's extraordinary. I, and everyone involved with George, never imagined that something like this could happen," said Henry Nicholls, who has written a biography of the octogenarian tortoise called *Lonesome George: The Life and Loves of a Conservation Icon*.

"It is surprising to find a hybrid on Isabela. It raises questions about how it got there," he told the BBC News website.

Whaling link

According to Dr Nicholls, none of the prevailing sea currents would be capable of carrying tortoises from Pinta to Isabela.

But, Dr Nicholls added, any project to search for a pure Pinta tortoise on Isabela, or other hybrids, would be expensive and time-consuming.

"The continuing saga surrounding the search for a mate has positioned Lonesome George as a potent conservation icon, not just for Galapagos, but worldwide," said Dr Russello.

Upwards of 50,000 people visit George each year at his home on the Charles Darwin Research Station.

'LONESOME GEORGE' SPECIES



Size: 102cm across shell, 88kg in weight; not the biggest
 Age: Not known exactly, but probably 60-90 years
 Whalers and sealers destroyed the Pinta population
 Invasive species have since disturbed the natural habitat

The collapse of the giant tortoise population on Pinta is thought to have been due in large part to whaling activities in the Pacific during the 18th and 19th Centuries.

Sailors would preferentially take female animals to store as food on their ships - the females of the species were smaller and easier targets in lowland areas during the egg-laying season.

By the middle of the 20th Century, only male giant tortoises were left on Pinta. George is thought to have been born in the 1920s.

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