

Lost chimpanzees of Tenerife: Scientists piece together story of animals who redefined human intelligence

April 4 2023



Chimpanzee Sultan photographed in Tenerife circa 1914. Credit: Zentrum für Geschichte der Psychologie, Julius-Maximilians-Universität Würzburg

Chimpanzees in seminal early 20th century psychology research showing their problem-solving capabilities are being honored in a research project capturing their full and sometimes tragic life stories.

Sleuthing by Associate Professor Javier Virués-Ortega has already led to the rediscovery of remains from five of the [chimpanzees](#) in German psychologist Wolfgang Köhler's research, left forgotten in a Berlin museum's storage for 100 years.

"These are the lost chimpanzees of Tenerife," says Virués-Ortega, a behavioral psychologist at Waipapa Taumata Rau, University of Auckland. "Köhler's breakthrough research featured in psychology textbooks everywhere, but the animals were forgotten."

Virués-Ortega is directing a documentary and writing papers about the chimpanzees, whose problem-solving abilities were studied at a [research station](#) on the island of Tenerife in Spain's Canary Islands off West Africa from 1914 to 1920.

"With this work, we will attempt to dignify the memory of these individuals that redefined the very nature of human and animal intelligence; they played a critical role in the emerging study of intelligence, comparative psychology, and primatology," he says.

After the publication of Darwin's [theory of evolution](#) in the mid-19th century, scientists wanted to discover whether complex behavioral repertoires could be identified in our closest evolutionary relatives, the

great apes.



This skull of the chimpanzee named Rana-Loca was rediscovered in the Museum für Naturkunde Berlin. Credit: Javier Virués-Ortega

In one of the most famous episodes during Köhler's research, a chimpanzee named Sultan realized that putting two hollow reeds together enabled him to reach bananas outside of his cage. This modest feat meant that tool building was not the sole province of humans.

Köhler's 1925 book "The Mentality of Apes" proposed that chimpanzees were capable of creative on-the-spot problem solving (what Köhler called "insight").

"This notion had a tremendous impact on comparative psychology over

the next century and fueled much research," says Virués-Ortega. "Köhler provided proof that some intelligent and complex problem-solving behaviors are recognizable in our closest relatives and are not unique to humans."

Close observations of the animals by Köhler were foundational for primatologist Jane Goodall's studies of chimpanzees in the wild in the 1960s. Scientist and science communicator Carl Sagan cited Köhler's work in his book on the evolution of human intelligence, "The Dragons of Eden."

However, researching the chimpanzees' entire lives reveals "untold suffering," Virués-Ortega says.

"They were captured from the wild in Cameroon as juveniles, mostly aged from 2 to 3, which means that almost certainly the mothers were shot dead to acquire the babies."



Derelict research station in Tenerife, once used for studying chimpanzees.
Credit: Javier Virués-Ortega

After the research station closed in 1920, six surviving chimpanzees were shipped by steamer to Europe and sold to the Berlin Zoological Gardens, where research continued but the animals were sometimes treated as comical attractions.

Studying [historical documents](#), Virués-Ortega and zoo historian Clemens Maier-Wolthausen traced remains of five of the six chimpanzees to the Museum für Naturkunde (Natural History Museum) Berlin, where catalogs had recorded the animals' names but not their significance.

The remains include one complete skeleton (Tschego), one skull (Rana-Loca), and five full-body skins (Sultan, Tschego, Rana-Loca, Chica, and Grande). There is also a stillborn fetus (Tschego's) preserved in alcohol.

On Tenerife, Köhler's treatment of the chimpanzees was humane by the standards of the time, according to Virués-Ortega.

"He made some pioneering contributions to the welfare of captive chimpanzees in terms of medical care, quarantining, ample and communal playgrounds and sleeping quarters, and non-punishment-based interaction with humans," he says.

"But at the zoo, the animals had a difficult time. The starch-based diet didn't suit them, their habitats had no heating, which was especially cruel in winter, and they dwelled in empty environments with little to do."



Skeleton of chimpanzee named Tschego in Museum für Naturkunde Berlin.
Credit: Javier Virués-Ortega

All died at least 20 years ahead of the typical chimpanzee life expectancy, with Sultan succumbing last, in 1923.

Virués-Ortega is from Cadiz in Spain, has personal ties to the Canary Islands, and visited the derelict Tenerife research station during the COVID-19 pandemic. Bringing renewed attention to Köhler's work and the chimpanzees could lead to the station being preserved, he hopes.

In a draft of a paper, Virués-Ortega says his research is a "modest homage" to the animals. His collaborators include comparative psychology expert Dr. Alex Taylor, of the University of Auckland, anthropological archaeologist David García Gonzalez, of the Universidad de Granada, Spain, and zoo historian Dr. Maier-

Wolthausen.

Research into the behavior and cognition of chimpanzees continues today in places such as the Wolfgang Köhler Primate Research Center in Leipzig, Germany.

However, chimpanzees have also been used for biomedical research, a controversial practice that some countries have banned or severely restricted. In 1999, New Zealand was the first country to institute a ban on invasive research using great apes.

Provided by University of Auckland

Citation: Lost chimpanzees of Tenerife: Scientists piece together story of animals who redefined human intelligence (2023, April 4) retrieved 27 June 2024 from <https://phys.org/news/2023-04-lost-chimpanzees-tenerife-scientists-piece.html>

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