

World's first successful artificial insemination of southern rockhopper penguin

June 28 2016



A southern rockhopper penguin chick conceived through artificial insemination.
Credit: Osaka Aquarium Kaiyukan

DNA tests have confirmed that one of the three southern rockhopper penguin chicks born at Osaka Aquarium Kaiyukan between June 4 and 6

was conceived through artificial insemination. This is the result of a project led by Kaiyukan with the collaboration of Associate Professor KUSUNOKI Hiroshi (Kobe University Graduate School of Agricultural Science). It is the world's first successful case of a southern rockhopper penguin being conceived through artificial insemination.

Southern rockhopper penguins are a species of birds approximately 50cm in height which inhabit southern islands near Antarctica such as the Falkland Islands. They are on the red list of the International Union for Conservation of Nature as a threatened species.

Kaiyukan and Associate Professor Kusunoki began their joint research in 2011, aiming to elucidate the breeding habits of southern rockhopper penguins and develop the technology for their [artificial insemination](#). In spring 2015 the group obtained a fertilized egg, but the chick did not hatch, and DNA tests determined that the unborn chick was the result of natural reproduction.

This time multiple penguins were selected for breeding, and the group enlisted the cooperation of Tokyo Sea Life Park, where scientists had previously succeeded in breeding species through natural reproduction. At the end of April they obtained a healthy sperm sample from a male penguin at Tokyo Sea Life Park and transported it to Kaiyukan without loss of quality. At Kaiyukan they used blood tests to estimate the laying days of three female penguins and determine the best timing for artificial insemination.

Between April 28 and May 4 the three female [penguins](#) laid five eggs between them. These were incubated by the penguin couples for approximately one month, and three chicks hatched between June 4 and 6. Results of DNA tests carried out on blood samples taken from inside the eggshells revealed that one of these chicks was conceived through artificial insemination.

Provided by Kobe University

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