

Fossil that most likely belonged to oldest-known swan species found at St. Bathans

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Researchers believe the Coscoroba Swan of South America, *Coscoroba coscoroba*, is the closest living relative of the ancient Bannockburn Swan. Credit: Olaf Oliviero Riemer, CC BY-SA 3.0

Paleontologists digging near St. Bathans in Central Otago have discovered a fossil that probably belonged to the Southern Hemisphere's

oldest-known swan species.

The Bannockburn Swan, *Notochen bannockburnensis*, lived between 16 and 19 million years ago on Lake Manuherikia, a huge lake covering most of modern Central Otago. Scientists from New Zealand and Australia have described the bird from a fossilized wing bone, preserved near St. Bathans in a layer of prehistoric mud called the Bannockburn Formation. Although damage to the wing bone makes determining this animal's exact size difficult, it was probably slightly larger than the Black Swans that are common in Aotearoa New Zealand today.

Scientists have now discovered nine ancient waterfowl species at St. Bathans, and the Bannockburn Swan is the largest. Like today's swans, it would have foraged for food in the water, but also probably spent some of its time grazing on land. *Notochen bannockburnensis* was described in a paper published this week in the journal *Zootaxa*.

The paper's lead author, Dr. Trevor Worthy of Flinders University, Adelaide, says the wing bone's shape and large size suggest it belonged to a prehistoric [swan](#).

"This bone is rather damaged but it clearly belonged to a member of the geese and swans group of waterfowl. We can't say with total certainty what sort of giant waterfowl this bird was, but we think a swan is most likely which is why we've called it the Bannockburn Swan."

Today, the Southern Hemisphere's only native swans are Australasia's Black Swan and the Coscoroba Swan of South America—the Bannockburn Swan's closest living relative. These birds are a separate group from Northern Hemisphere swans.

Canterbury Museum Senior Curator Natural History Dr. Paul Scofield says the discovery of the Bannockburn Swan provides a clearer picture

of how swans, geese and their close relatives evolved.

"This swan and another goose-like bird we've found at St. Bathans are the oldest members of the Anserinae family, which contains swans and geese, found in the Southern Hemisphere. They show a long history of the group in the southern half of the world. This is another example of finds from St. Bathans helping us understand bird evolution."

More information: Trevor H. Worthy et al, A swan-sized fossil anatid (Aves: Anatidae) from the early Miocene St Bathans Fauna of New Zealand, *Zootaxa* (2022). [DOI: 10.11646/zootaxa.5168.1.3](https://doi.org/10.11646/zootaxa.5168.1.3)

Provided by Canterbury Museum

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