

New insights into an old bird

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The dodo is among the most famous extinct creatures, and a poster child for human-caused extinction events. Despite its notoriety, and the fact that the species was alive during recorded human history, little is actually known about how this animal lived, looked, and behaved. A new study of the only known complete skeleton from a single bird takes advantage of modern 3-D laser scanning technology to open a new window into the life of this famous extinct bird. The study was presented at the 74th Annual Meeting of the Society of Vertebrate Paleontology in Estrel, Berlin.

Leon Claessens, Associate Professor at the College of the Holy Cross, and lead researcher on the study said that, "the 3-D laser surface scans we made of the fragile Thirioux [dodo](#) skeletons enable us to reconstruct how the dodo walked, moved and lived to a level of detail that has never been possible before. There are so many outstanding questions about the dodo bird that we can answer with this new knowledge."

A complete dodo skeleton, found by an amateur collector and barber, Etienne Thirioux, on the island of Mauritius between 1899 and 1917, has remained unstudied, even though it is the only complete dodo skeleton from a single individual bird known to exist. All other skeletons are incomplete composites, meaning that they are compiled from more than one individual. In addition, Thirioux constructed a second, partially composite skeleton, which contains many bones that also belong to a single bird. "Being able to examine the [skeleton](#) of a single, individual dodo, which is not made up from as many individual birds as there are bones, as is the case in all those other composite skeletons, truly allows

us to appreciate the way the dodo looked and see how tall or rotund it really was," said Juilan Hume, of the Natural History Museum UK, a co-author on the study.

The scans were performed on site in Port Louis, Mauritius and Durban, South Africa, and allow examination of the biology of this enigmatic [extinct bird](#) in detail for the first time. Using the newest digital tools and techniques, the scans provide an insight into how the flightless dodo may have evolved its giant size, and how it walked and lived in its forest home. According to Kenneth Rijdsdijk, of an Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam and a study author, "the skull of the dodo is so large and its beak so robust, that it is easy to understand that the earliest naturalists thought it was related to vultures and other birds of prey, rather than the pigeon family."

Having a complete single individual has allowed study of the dodo's sternum (breastbone) in context. Its size relative to the closely related extinct flightless Rodrigues solitaire, which was known to have used its wings in combat, but lacking a keel on the sternum, unlike flying pigeons and the Rodrigues solitaire indicates that the dodo may have shown less intraspecific antagonistic behavior. Together with new information regarding dodo population structure, derived from the study of disarticulated remains from another locality, the Thirioux dodos open a new window upon an evolutionary experiment in rapid increase in body size and shift in locomotor mode, cut short by human-induced ecosystem destruction.

"The history of the dodo provides an important case study of the effects of human disturbance of the ecosystem, from which there is still much to learn that can inform modern conservation efforts for today's endangered animals," said Claessens.

Provided by Society of Vertebrate Paleontology

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