

Isaiah Odhiambo Nengo (1961–2022)

Primate palaeontologist and passionate advocate for diversity in human origins research.

Isaiah Odhiambo Nengo unexpectedly passed away in January 2022. He was an expert on the early evolution of apes in Africa and led fieldwork expeditions that resulted in important fossil discoveries at Songhor, Buluk, Napudet and other Miocene sites in Kenya. Isaiah was never afraid to think big — this is most clearly evinced by his recent formation of the multiyear Turkana Miocene Project. The Turkana Miocene Project comprises a multidisciplinary team of more than 60 members and unites nearly all fieldwork projects investigating sites from 30 to 5 million years ago in the Turkana Basin, spanning from the earliest evolution of apes all the way to the origin of the human lineage. That the Turkana Miocene Project hinged on the surprising discovery of a 17-million-year-old fossil whale in Turkana, presumably far upstream from the Indian Ocean coast at the time, never bothered Isaiah. The fossil whale presented an irresistibly exciting tectonic, climatic and ecological puzzle — and he was determined to solve it.

Isaiah's big thinking extended well beyond research. Concerned about the underrepresentation of African scientists in human origins research, Isaiah took it upon himself to build a graduate programme in Kenya. His several years of exhausting work — and the overcoming of many logistical and bureaucratic obstacles — resulted in the establishment of a master's programme in human evolutionary biology at Turkana University College, now in its fourth year. Until his passing, Isaiah shepherded several key aspects of the programme — the recruitment of students, admission decisions, identifying funding sources (all students receive full scholarships), curriculum development, student mentorship and recruiting faculty. The students adored him, and the affection was mutual. It wasn't just the warm, patient and generous human being that he was, it was what he represented as a brilliant Kenyan scientist rising to a top position in his field.

Born into poverty in the Nairobi Eastlands, Isaiah was first exposed to science by a high-school trip to the Nairobi National Museum in 1979. He was enthralled by the exhibits, and also riveted by the words of Richard Leakey, who gave a talk revealing the vast world of our ancestors that can be accessed only by science. In retelling the story, Isaiah would say that, although he had never spoken to a white man before,



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Leakey was so compelling as to overcome any concerns. Isaiah set his life's course then and there, but he did not speak with Leakey again for five years. He knew he needed a college degree, so he majored in zoology and botany at the University of Nairobi. After graduating he returned to the museum and knocked on Leakey's door asking for a job. Richard promptly turned him down. But Isaiah persisted, eventually won a coveted museum position and became a protégé of both Richard and Meave Leakey. His interest in Miocene primates was inspired by Meave handing him a copy of Maglio and Cooke's classic volume *Evolution of African Mammals*, and tasking him with the curation of fossils dating to the epoch. His first field experience came on an expedition to Mfangano Island with Alan Walker, Kamoya Kimeu and the rest of the 'hominid gang'. The team was continuing excavation of an *Ekembo nyanzae* skeleton. Isaiah discovered a nearly complete hipbone, which remains the best-known pelvis of an Early Miocene ape today.

Following his success at the museum, in 1993 Isaiah completed his PhD on catarrhine hands and feet at Harvard University with David Pilbeam. There followed a faculty position at Miami University of Ohio, and Directorship of the University's Hefner Museum of Natural History. After a few unfortunate incidents, he and his wife Ann chose to raise their three children in a more diverse environment, so they settled in the Bay Area of California. Isaiah taught high-school biology in Oakland, and then accepted tenure at De Anza College. A 2010 visit from Louise

Leakey (Richard and Meave's daughter) convinced Isaiah to reignite his research programme, which had been largely side-lined owing to family and teaching obligations. He won a Fulbright and spent 2012–2013 teaching at the University of Nairobi, studying primate fossils at the Nairobi National Museum and scouting new field sites. A few years later, he was appointed Associate Director of the Turkana Basin Institute and joined the faculty of Stony Brook University.

Isaiah's greatest scientific achievement was the discovery of a 13-million-year-old cranium of an infant ape at Napudet, which was attributed to a new species, *Nyanzapithecus alesi*. This nearly complete cranium was a spectacular find, considering most fossil apes are known only from a handful of isolated teeth and jaws. Using X-ray synchrotron microtomography, Isaiah's team extracted high-resolution 3D imagery of the unerupted adult teeth, semicircular canals and other key aspects of internal anatomy. Their study of the *N. alesi* cranium, published in *Nature* in 2017, revealed new and unparalleled information about the growth and development, encephalization and ecology of early apes. It also helped to resolve outstanding questions in fossil ape phylogeny.

Isaiah's life was cut tragically short. After returning to Nairobi from fieldwork in January 2022, he suffered unexpected heart failure, robbing the world of a brilliant researcher and champion of Kenyan science just coming to the height of his powers. That his death came just a few weeks after the passing of his mentor, Richard Leakey, is an especially cruel blow to the world. Isaiah was a shining star. It falls to us to continue his work — both as scientists and as human beings. □

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Published online: 12 April 2022
<https://doi.org/10.1038/s41559-022-01741-y>