Kites, drones, armchair finders in Turkana Basin fossil search

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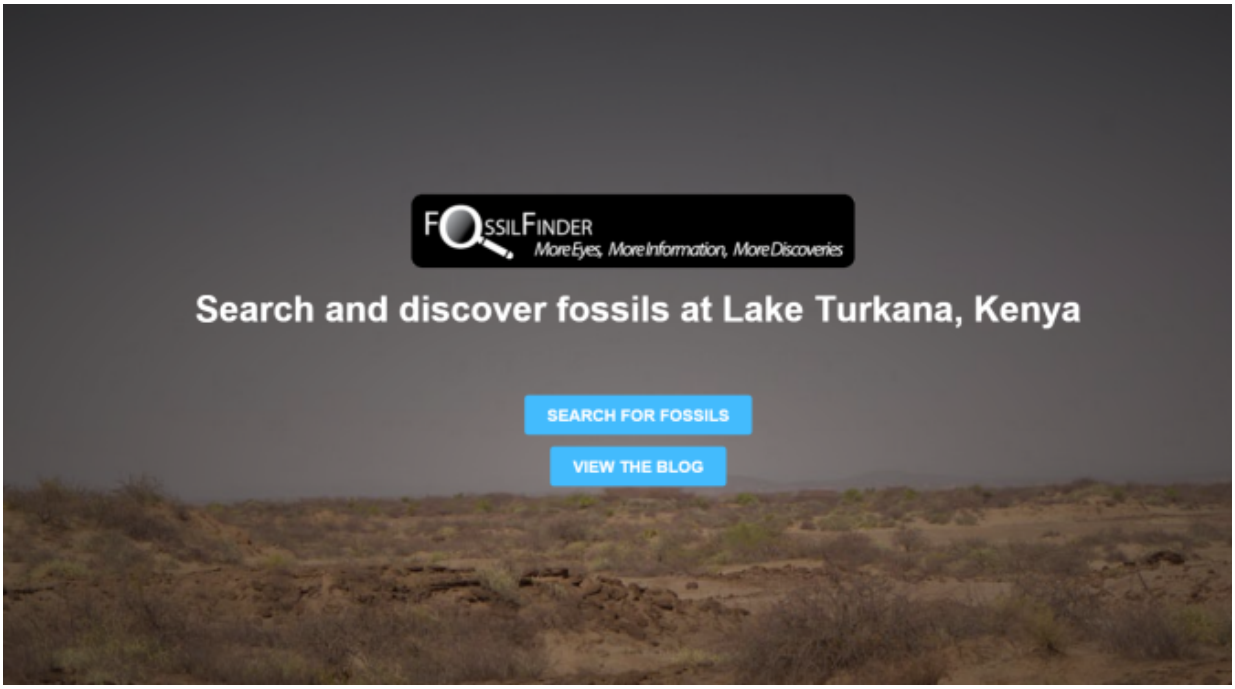

Hunting fossils in Africa from the comfort of an armchair is now possible. Fossilfinder is the way to do this. It's a "citizen science project," which launched Tuesday in the UK at the British Science Festival in Bradford. It works by volunteers studying high-resolution photos of the Turkana basin in Kenya; the photos are taken from aerial camera systems mounted on drones and kites. The volunteers try to see if

they can spot newly exposed fossils before they erode. The Turkana Basin Institute in Kenya and the University of Bradford are joining in this effort.

Dr Andrew Wilson from the University of Bradford told journalists at the festival that "This is a huge amount of material that couldn't be searched by any one person, and it couldn't really be searched effectively by a computerized system on its own."

Their goal, said *New Scientist*, is "a better understanding of the geology and the past environment."

Images are available for sifting through. What the volunteers will observe: image quality, identity of rock types; the spotting of any potential fossils or stone tools. Any find that looks promising, said *New Scientist*, is to be followed up on the ground.

The region is subject to erosion, said Jonathan Webb, science reporter, BBC News, when heavy rains arrive, which reveals fresh fossils each year.

What kinds of items might a fossil finder discover? The items, said the BBC, could range from shells to mammal bones to ancient hominin remains.

Turkana Basin in northern Kenya has been a key area for the study of fossils of early human ancestors. The area surrounds the salt lake and stretches into Ethiopia. The specific area in focus for the project has fossils between 1.4 and 1.8 million years old, said Webb. "This is a period known for the emergence of the first three species in the Homo genus, as well as key developments like the appearance and spread of tool use among our early ancestors."

Fossilfinder's team explained in detail why the Turkana Basin is a significant region for fossil study. Regarding its "tectonic system," the Turkana Basin is a region "where the earth's crust is being pulled apart. This causes subsistence and low laying areas or basins that fill up with sediments carried into the basins in streams and rivers. Bones of animals that live and die in these regions might be rapidly buried and eventually fossilize. Not every animal's bones are preserved, in fact it is an extremely rare event. If they are preserved then it's even more unlikely that the fossils are exposed on the surface (special circumstances are required to enable this to happen such as faulting and uplift). With gradual erosion fossil remains are brought to the surface and then of course the even bigger challenge is finding them in these rugged badlands in temperatures of 40 degrees Celsius."

The project also has a forum where volunteers can ask questions and get feedback on any potential finds, said *New Scientist.*

Interestingly, the online platform serving this initiative is Zooniverse, which is focused on efforts in collaborative volunteer research. The website was built on a software backbone which Zooniverse provided, said the BBC, quoting the Zooniverse founder, Prof. Chris Lintott of University of Oxford: "We have new tools for people to be able to build their own projects - and this is the first project to use that new infrastructure."

More information: www.zooniverse.org/projects/ad … evans/fossil-finder/

blog.fossilfinder.org/