



Fossil evidence for a more humid climate during the Pliocene in northern Namibia's Damaraland

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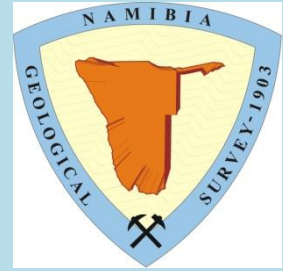


Introduction



- **Travertine is the most common spring deposit.**
- **Tufa is a more porous variety of travertine.**
- **Consist of CaCO_3 usually with a creamy to off-white colour.**
- **Spring deposits form by precipitation of mineral matter dissolved in waters of hot or cold springs which emerge from permeable rocks or from weak zones in the earth's crust, like faults, fissures and fractures.**

Introduction



- **Spring deposits are preserved in many places in Namibia, but our knowledge about them and the fossils they contain is poor.**
- **The Damaraland in north-western Namibia has several well developed spring deposits.**
- **They form waterfall travertines, speleothems, swampland tufas and associated marls, hardpans, calcified leptosols and calcretes of various types.**

Localities



Localities



www.landkartenindex.de

Windhuk

Sesfontein

Camel Camp

C43

Ongongo Gorge

Warmquelle

0 km 5

Google earth 2014

Localities



Ongongo Gorge

0 1
km

Ongongo
South

Windhuk

www.landkartenindex.de

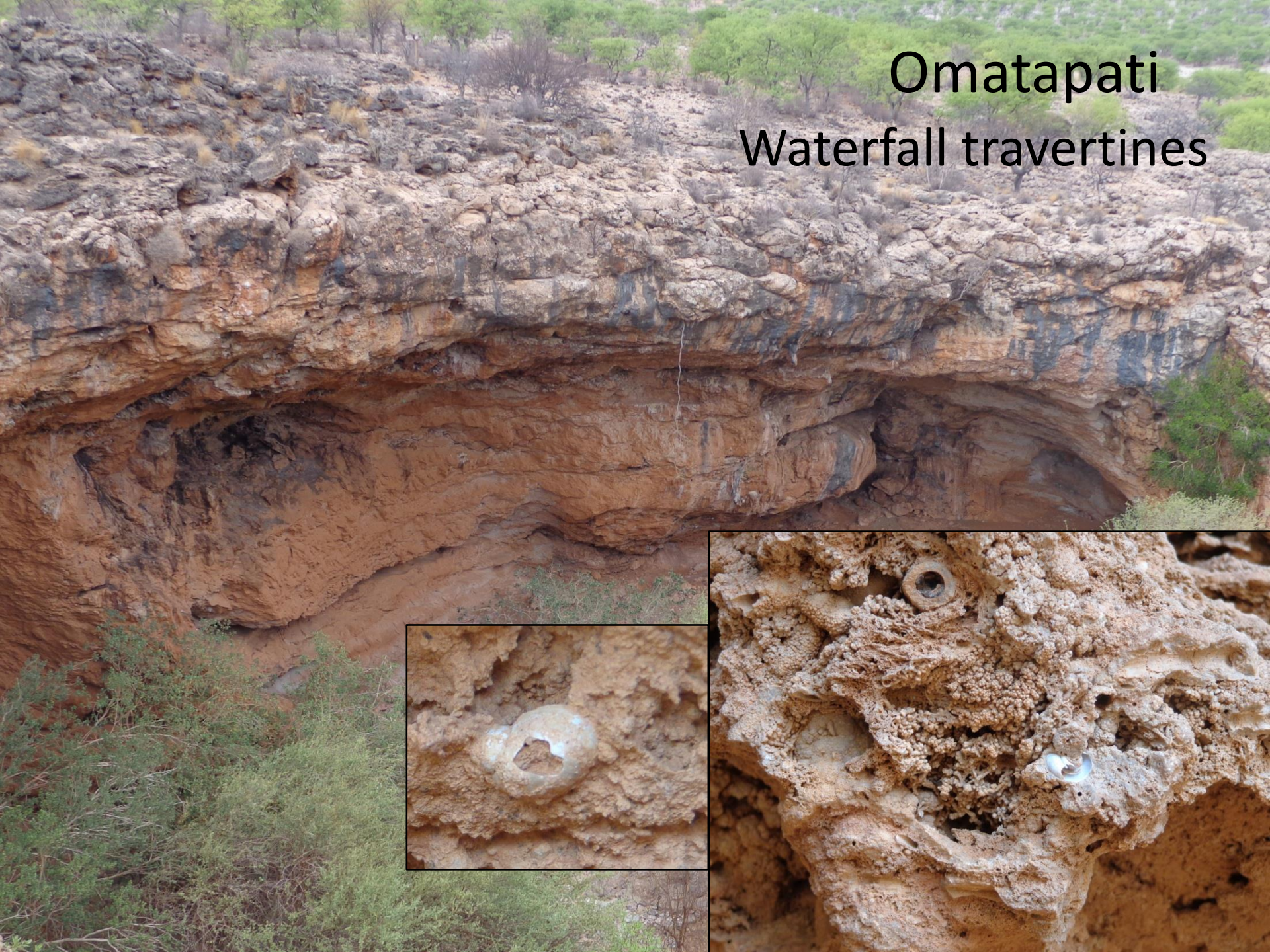
Google earth 2014

Southeast of Oruvandje

Hardpan deposit



Omatapati Waterfall travertines



Okozonduno

Waterfall travertines



Calcified roots



Okozonduno fauna



<http://eofdreams.com>

- Rodents
- Birds
- Bats
- Frogs
- Fish
- Lizards
- Snakes



<http://en.wikipedia.org>



<http://th06.deviantart.net>

www.thewallpapers.org



<http://wi.mit.edu>



<http://batslive.pwnet.org>



By Dream-Wallpaper.com



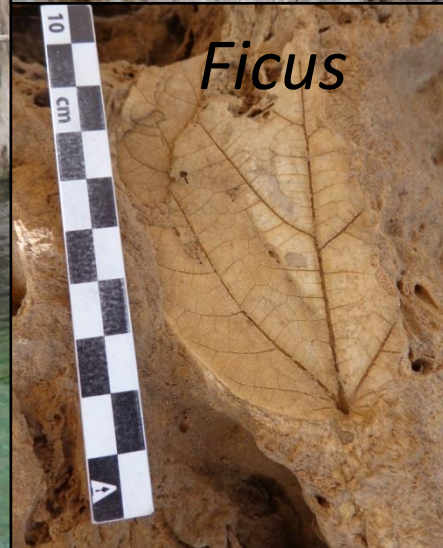
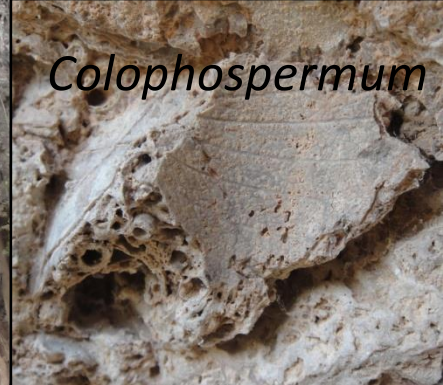
Extinct rodent genus
Stenodontomys:

- Age: Pliocene or older
- Climate: humid

also known from South Africa:
Makapansgat (Middle Pliocene) and
Langebaanweg (Early Pliocene).

De Graaf, 1981: ecological requirements of extant rodents of Southern Africa indicates:
a more humid palaeo-climate.

Ongongo Waterfall travertines



Camel Camp

Swamp tufa



Photo by M. Pickford

Conclusions



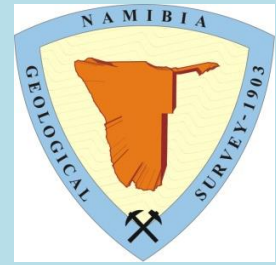
- Fossils can be used as indicators of environment and climatic change
- Fossils have already been successfully used for these purposes all around the world



Acknowledgements



- Mr Eckhart Freyer for indicating the deposits to us
- the French Embassy in Namibia (His Excellency, M. J.-L. Zoël)
- the Muséum National d'Histoire Naturelle, Paris, UMR 7207 and CR2P (CNRS, MNHN)
- Dr Schneider, Director of the Geological Survey of Namibia
- Namibian National Heritage Council for authorisation to carry out this research
- Thom Pita, Abel Tjamburo, Jemau Rutjani Moriri and Nangula Vatillva, who assisted us in the field



Thanks

for

Your attention!