Summary Write Up of the DGAG Talk Tuesday 20 February 2024

A Geological Tour of Namibia

Speaker: Alan Driscole: A talk combining an approximate 1300 km driving sightseeing holiday tour with side trips to ancient geology. The presentation was based on at least 20 years of geological exploration in and around Namibia. From some of the oldest fossils and highest dunes in the world to the largest preserved meteorite (Hoba). Namibia is a geological treasure house, literally and conceptually. The talk was, as expected, thoroughly enjoyed by 28 attendees. There was much material to consider, and good questions especially regarding the split up of Gondwana and the formation of the Walvis Ridge. Yet another hot spot chain of islands just not so famous as the Hawaiian island chain and in less tropical water.

Below is my attempt (with generous help from the speaker) at a summary from some rapidly scribbled notes, hopefully to whet appetites for future exploration of Namibia.

The speaker delivered a grand tour talk with the aid of slides and several anecdotes about long drives, wildlife seen and good scale references. In summary we learnt a few basics such as:

- Namibia has land area over 3 times that of the entire UK
- That unexpected great places to visit are located at:
    - Windhoek, Natural Earth Science Museum – well worth the visit for displays of local fossils and minerals
    - Tsumeb Mineralogic and Mining Museum (exhibits from one of the largest Lead and Copper deposit in Africa). With some 337 mineral species from a mineralized solution pipe formed in stromatolite carbonate platform. A mineral wonderland according to the speaker.
    - Etosha – the largest salt pan in Africa (bigger than the Isle of Man)
- The earliest known carbonate shelled fossils at 547 million years old, Ediacaran fossils such as Rangea (a fern like shape complex that lived on the sea floor similar to the forms called Charnia noted by Attenborough in one of his TV programmes)
- The Karoo sequence of Late Carboniferous to Early Jurassic age has good examples of "snowball earth" tillites, dropstones, diamictites and other glacial features from the lowest sequences
- Huge recent (2022) oil discoveries in the under-explored Namibia offshore (One on a scale of Prudhoe Bay; i.e. potentially more than 10 billion bbls) in deep water: 2 to 3 km
- Lithium test production from old tin mines in granite pegmatite (similar to UK Cornwall)
- The migration of a huge hotspot over millions of years from the mid Jurassic to present day can be demonstrated by the palaeogeographic reconstruction maps done by Blakey 2011. This gives us the Walvis Ridge that is a prominent geological and topographic feature of the South Atlantic
- There was clear demonstration of vast, volcanic sequences now forming "seaward dipping reflectors" as they subside along the Namibia shelf margin – formed at the ocean ridge during early breakup of the Gondwana super-continent.
- The Brandberg Granite (and Southern Africa in general) show at least 5km of uplift and erosion since the Cretaceous

Fortunately, the speaker has supplied a PDF copy of the slides, which are attached to give some small flavour of the many places and subjects covered and to start a grand game of exploration.

The next DGAG talks and events are as shown on the DGAG website and Facebook page. More speakers are required for later in 2024, so please ask your networks and let me know who may be interested.

Chris Webb

DGAG Events – Editor