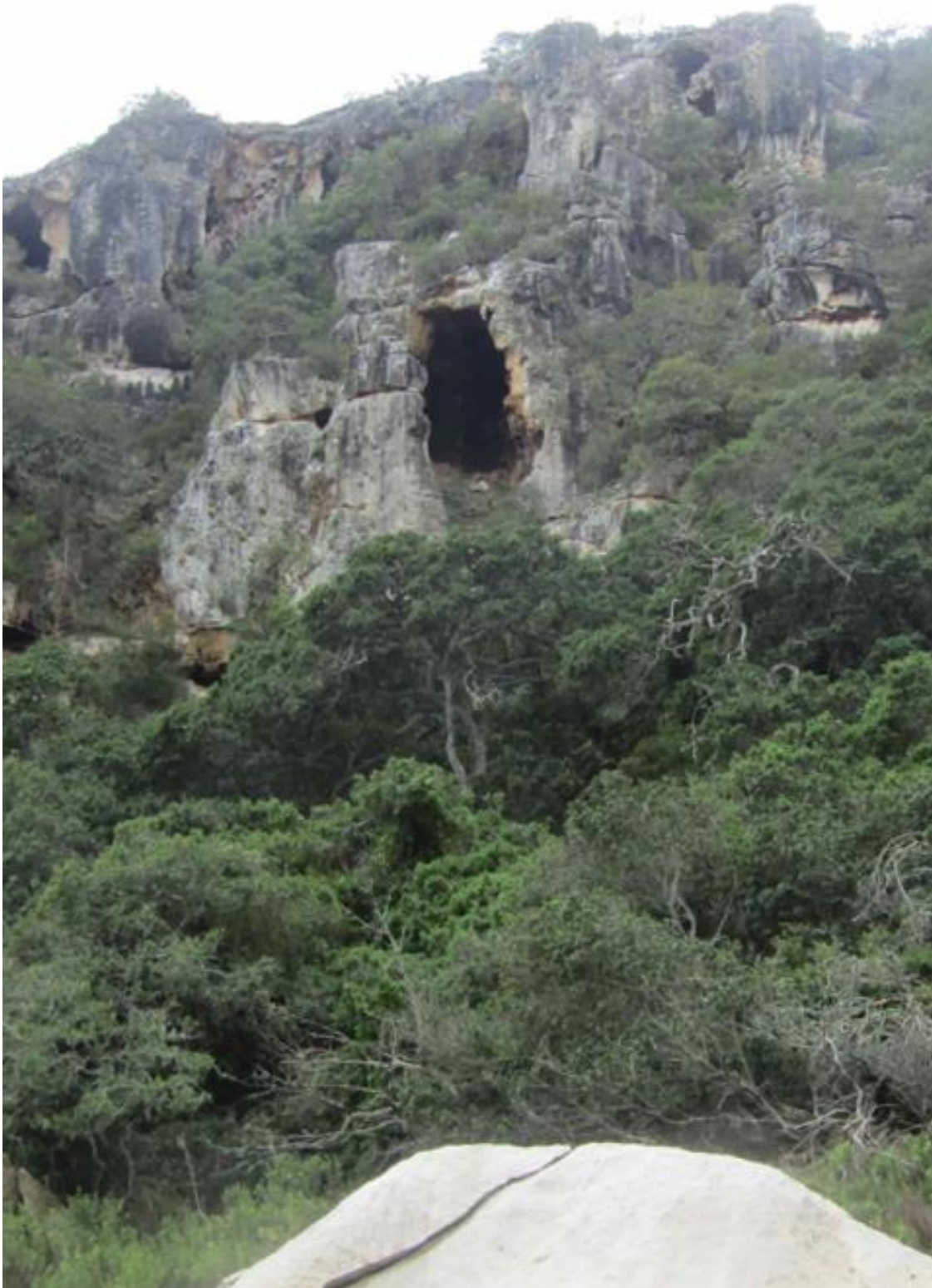


## N. DE HOOP VLEI GORGE

Field note N7b. Karst landforms – Guano Cave



**Entrance to the Guano Cave.**

## N. DE HOOP VLEI GORGE

### Field note N7b. Karst landforms – Guano Cave

The longest (>650m) and the most scientifically important cave in the De Hoop Area is the De Hoop Guano Cave, situated on the east bank of the northern section of the De Hoop Vlei Gorge (Figures 1 and 2).



**Figure 1. Satellite image of the De Hoop Vlei Gorge. Arrow indicates location of the Guano Cave.**

From an undated publication of the South African Spelaeological Association (Cape Section), on the management of the caves in De Hoop Nature Reserve (Curtesy Dr S Craven, of SASA):

### 1. De Hoop Guano Cave

This scientifically and ecologically important cave is situated on the east bank of the De Hoop Vlei, and is the major nursery site for several species of bat in the southern Cape. These bat populations are important in controlling insect populations in the south-western Cape and are extremely susceptible to disturbance during the breeding season, which can cause substantial juvenile mortality. The bat guano in the cave harbours spores of the fungus *Histoplasma capsulatum*, which has been responsible for two outbreaks of acute benign pulmonary histoplasmosis, or 'cave disease'. For these reasons, the cave should be classified as a sanctuary cave, and limited access allowed only to scientific researchers participating in previously motivated and approved research projects.

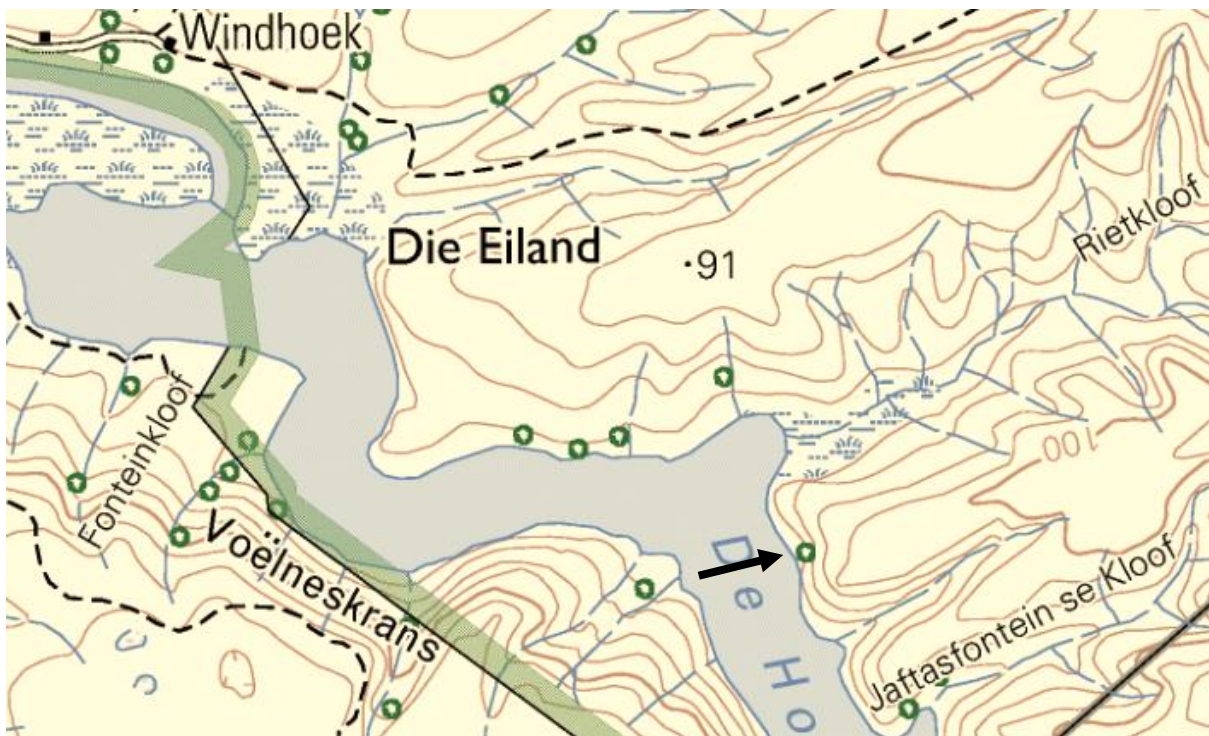


Figure 2. Map of the northern part of the De Hoop Vlei Gorge. The Guano Cave entrance is indicated by the black arrow.



Figure 4. Satellite image of the northern section of the De Hoop Vlei Gorge. Arrow points to the Guano Cave entrance.



**Figure 5. The road from Windhoek Farm to the Guano Cave (see Chapter M).**



**Figure 6. Satellite image of the Guano Cave cliffs. Arrow points to the Guano Cave entrance.**



**Figure 7. The Guano Cave cliffs. View from the west. Arrow points to the Guano Cave entrance.**

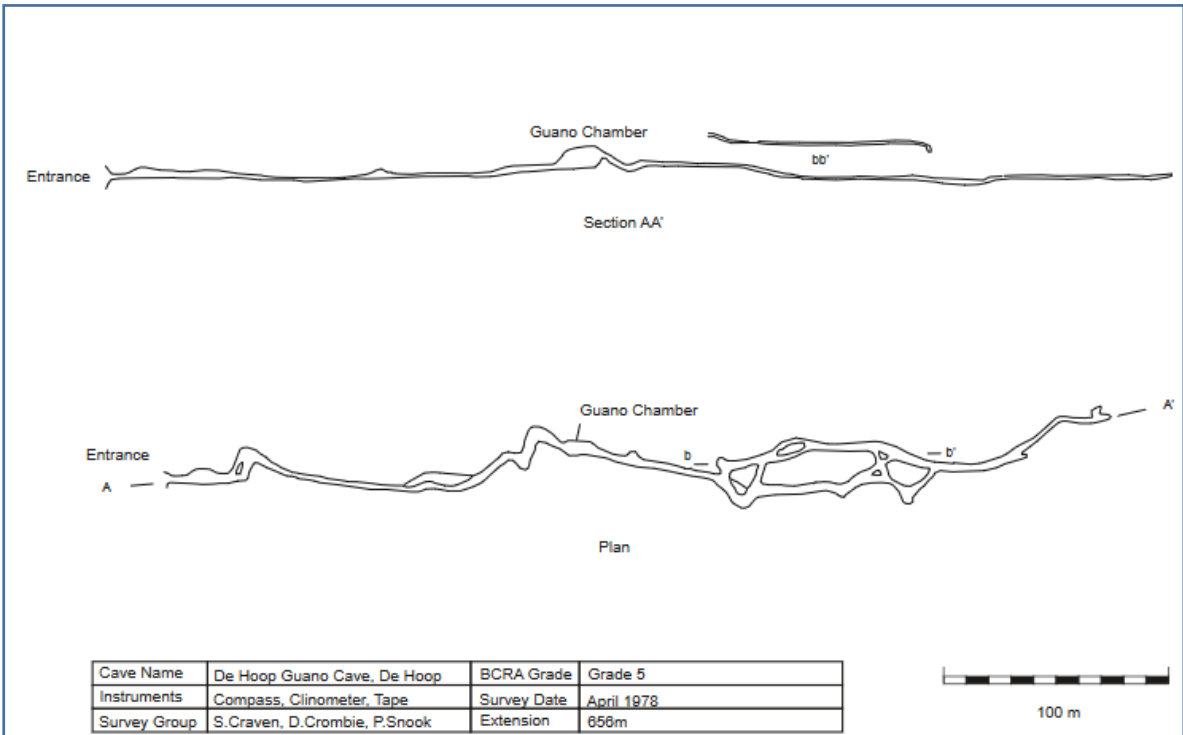


**Figure 8. The Guano Cave cliffs. View from the southwest. Arrow points to the Guano Cave entrance. The path to the entrance is currently impassable due to very dense vegetation.**


The Guano Cave cave was formed in the Wankoe Formation. The entrance to the cave is 15 - 20 metres above the vlei's floor (Figure 9 and 10).



**Figure 9. The Guano Cave entrance. The natural, small entrance was enlarged by the settlers, who used dynamite.**



**Figure 10. Diagram of the Guano Cave.**  
 Courtesy Dr S Craven of the SA Spelaeological Association.

<p><i>Secrets of De Hoop and Environs</i></p>	<p>Field notes on the GEOMORPHOLOGY, HYDROLOGY and ARCHAEOLOGY Between CAPE AGULHAS and CAPE INFANTA</p>	 <p>Geomorphological Research</p>
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From the booklet “the people of De Hoop Nature Reserve”, By Ann and Mike Scott, 2002:

## 5.7 THE BAT/GUANO CAVE

The well-known Windhoek Bat/Guano Cave extends 1 650 m into the hillside on the eastern side of De Hoop Vlei. It has four main chambers and is believed to have been used by bats for centuries. A draught of fresh air flows in from the back.

★ Author’s Note: the length of the cave is 656 m (see diagram, Figure 10).


According to Maria Swart, her brother Niklaas (born 1908) was one of the first people to discover this cave. During World War II (from 1942-1945) a 6 m layer of guano was removed for use as fertilizer on surrounding farms. A permit to sell the fertilizer had to be obtained, due to the scarcity of phosphates (submarine danger). The amount was allocated according to the size of the farm.

Jan *Khaki* du Toit opened the original mouth of the cave with dynamite so that the guano could be removed more easily. The guano was removed by lorry and fetched 5 shillings per bag for Toekie Badenhorst, who removed it with 15 workers. [*Johan Albertyn has a tape recording of Toekie Badenhorst describing how he removed the guano?*] The bags of guano were slid down a wooden ramp in front of the mouth of the cave, to fall onto the lorry. Daantjie Mathee and his brother drove the guano to Bredasdorp and offloaded it with another team of workers. Sometimes three lorry-loads were driven in on one day (three tons?).

In 1945 the vlei came down in flood. They made a float of several drums, pulled by a cable like a pont. There was also an engine, to pull the float with cables and pulleys. Mining of the guano was abandoned; the remains of the coco-pans and railtracks are still in the cave.



Figure 11. The assumed, general direction of the Guano Cave (length of the yellow line is the reported length of the cave – 656 m), wholly within the Wankoe Formation. The thickness of this formation over the entrance is ~30 m and 70 - 80 m over the far end of the cave.

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About the Guano Cave, from:

**Roosting requirements and behaviour of five bat species at De Hoop Guano Cave, southern Cape Province of South Africa**

(See bibliography)

Caves serve as roosting sites for solitary bats and especially for social species, producing the largest known aggregations of mammals. To such aggregations of obligatory cave-roosting bats the disadvantages of increased competition for prey and the resultant higher energy expenditures in commuting to hunting areas, demographic limitations set by the availability and physical properties of roosts, and increased exposure to parasitism inherent to large aggregations are offset by advantages critical to survival such as suitable intra-cave ambient temperatures and humidities conducive to either hibernation or to the rearing of offspring, and protection against predators (Kunz 1982).

De Hoop Guano cave has sufficient thermal and structural complexity (Laycock 1983) for year-round occupation by insectivorous bats, which according to Tuttle & Stevenson (1978) is rare for a cave in the temperate regions. The aggregation of up to *ca* 300 000 bats in the De Hoop Guano Cave is one of the largest in South Africa, and as such warrants special research and conservation attention. Five species of microchiropteran bats roost in this cave, i.e. *Miniopterus schreibersii*, *Myotis tricolor* (Vespertilionidae), *Rhinolophus clivosus*, *R. capensis* (Rhinolophidae), and *Nycteris thebaica* (Nycteridae). With the possible exception of *M. tricolor*, all are obligatory cave-dwellers.



The De Hoop Guano Cave (34°25'S / 20°20'E) is afforded statutory protection in the 18 763 ha De Hoop Provincial Nature Reserve in the Bredasdorp district near the southern tip of Africa. The cave, which is situated on the north-eastern bank of the De Hoop Vlei, and which opens onto milkwood riverine bush, is 35 m above the nearby sea level and 15 m above the level of the vlei. The cave is regarded as 'warm' in terms of bat requirements, with intra-cave temperatures ranging from 19–31°C.

Immediately behind the main entrance, the cave passage is about 4 m high, with a mark indicating that before guano mining, guano accumulated to within 1 m of the roof. It has one other entrance, which leads to the main passage through a very narrow, 2 m high crack in the rock. The cave is *ca* 470 m long, with a sharp bend 40 m from the entrance, and an 18 m high domed chamber approximately 205 m from the entrance. Beyond the domed chamber the cave divides into two parallel passages which merge 392 m from the entrance. Towards the end of the cave the passage becomes lower, and a large number of small stalactites and stalagmites occur (Figure 1). The cave has a sandy floor covered with guano, with heaps of up to 3 m high in the domed chamber. The ceiling is pitted with cavities in the limestone. In only a few places is the passage so low that it is necessary for humans to crawl. There is no running water within the cave.

★ Author's Note: the length of the cave is 656 m (see diagram, Figure 10).

Read more about Cape Bats and the Guano Cave's bats in the Appendices.