

ACTIVITY: Swimming

CASE: GSAF 1971.04.11 / SA-0208

DATE: Sunday April 11, 1971

LOCATION: The attack occurred in the Indian Ocean at Buffalo Bay (Buffelsbaai), a small holiday resort nine kilometres south of Knysna Heads and 97 kilometres north of Mossel Bay, Western Cape Province, South Africa. The bathing area lies in a protected sandy bay on the northern side of a rocky peninsula which is about 500 metres in length.

34°04'S, 22°59'E



NAME: Theo Klein

DESCRIPTION: He was a male, pale-skinned and weighed 120 kilograms. He was a visitor from Germany.

BACKGROUND

WEATHER: The sky was clear and there was a gentle nine-knot southerly breeze.

MOON PHASE: Full Moon, April 10, 1971 at 22h10

SEA CONDITIONS: This attack was investigated in depth by J.H. Wallace of the Durban Oceanographic Research Institute and most of the remainder of the account is taken directly from his report. The attack occurred at low tide, there was a moderate swell and a slight south-to-north current. The water was not discoloured but some wave-produced foam was floating in the general vicinity. Underwater visibility was estimated to be three to four metres, poor for this stretch of coast.

The water temperatures during the period preceding the attack are interesting and have some bearing on the consideration of the possible causal species. On the south coast the relatively warm summer conditions are subject to sudden reductions in temperatures caused by the upwelling of Antarctic intermediate water. This is considered to play a major role in limiting the south-westward distribution of subtropical Indo-pacific organisms.

In fact, the onset of cold conditions is often so rapid that endemic species of teleosts are stunned by it and can be collected by hand in rock-pools.

During the two-and-a-half months before the attack three major reductions in temperature occurred, the last dropping the temperature to as low as 10,8°C on 24 March. The attack took place 18 days later, after an extended period of low fluctuating temperatures.

For four days before the attack there was a cold current and many dead fish had washed ashore. On the day of the attack the water had warmed but was still colder than usual for that area at that time of year and few people went swimming.

ENVIRONMENT: The attack occurred directly opposite the rocks and in the 50-metre-wide and three to four-metre deep channel which extended close inshore between the edge of the rocks and the sandy part of the bay.

DISTANCE FROM SHORE: 150 metres

DEPTH: 2,5 to three metres

TIME: 11h00 to 12h00

NARRATIVE: Theo Klein was 50 metres from the bathers on the outer sandbank and in a

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zone of unbroken water between the outer and inner line of breakers. Seaward of him six surfers were riding the outer line of waves. It was thought that the shark passed the board riders and followed the channel towards the beach.

Shortly after his companion had returned to shore, Klein was heard to shout "Haai" ('Shark') and according to witnesses, he swam a few strokes shorewards then apparently lost consciousness. Two surfers thought he was drowning and went to help him, but when they realised he had been killed by a shark they hastily paddled to shore.

The shark continued to attack the body repeatedly and remained in the area for at least 20 minutes. Shots were fired at the shark with a revolver and a shotgun but it continued to feed on the body.

INJURIES: John Wallace of the Oceanographic Institute in Durban described the injuries:

ABRASIONS: Epidermis was removed from the right buttock over an area of about 100cm². There was no further damage to the buttock or right thigh and it is possible that the abrasion was caused by an investigatory bump by the shark. About 50 cm² of epidermis was removed from the left cheek, presumably during the attack on the left shoulder.

MINOR WOUNDS:

A. **RIGHT LEG BETWEEN KNEE AND ANKLE:** The numerous neat, shallow punctures caused by sharp-edged teeth are thought to have been produced by tentative bites involving only the front of the jaw.

One arc of incisions was discernible. The width of the bite was 203 millimetres which is unlikely to represent the maximum width of the mouth. The distance between the centres of insertion of tooth cusps:

1-2: 21 millimetres

2-3: 29 millimetres

3-4: 29 millimetres

4-5: 36 millimetres

6-7: gap in hollow below knee cap: approximately 104 millimetres on curvature

8-9: 42 millimetres

A corresponding arc was not present on the other side of the leg, so it is uncertain which jaw caused the punctures.

B. **RIGHT FOREARM:** The single deep wound might have been caused by the arm brushing against part of the jaw during the initial struggle.

C. **RIGHT HAND:** The tip of the thumb and index finger were cut deeply, probably during the initial struggle.

D. **ABDOMEN:** A single huge bite extended across the length of the abdomen from the base of the thorax to the pelvic region (300 millimetres)*, and across the width of the abdomen from the lateral part of the left side to the dorso-lateral part of the right (570 millimetres). The measurements therefore represent the width of the jaw and the extent of its gape. Only the soft parts of the skin, subcutaneous fat and abdominal musculature

were removed; neither the ribs nor the iliac crests of the pelvis were severed. The points of insertion of individual teeth are clearly visible on the left side and the following measurements were taken:

- 1-2: 46 millimetres
- 2-3: 46 millimetres
- 3-4: 61 millimetres*
- 4-5: not clearly defined
- 5-6: not clearly defined
- 6-7: 43 millimeters

Caution must be exercised in the interpretation of measurements of abdominal wounds due to the tendency for a body to bend forwards when floating or when attempts are made by a victim to ward off an attacking shark. When the body is subsequently laid out flat some stretching occurs, particularly across the waist, and this has probably exaggerated the measurements marked with asterisks.

- E. *LEFT LEG*: Two bites appeared to have been inflicted. One severed the thigh musculature very cleanly just above the knee and removed almost the entire thigh, leaving only a narrow medial strip of muscle. This wound was approximately 300 millimetres wide and the points of insertion of cusps were 46 millimetres apart. A number of punctures 30 to 40 millimetres wide were thought to approximate the width of the base of individual teeth and appeared to have been inflicted before a good grip on the leg was obtained. This, together with the fact that the femur remained undamaged despite removal of muscle from almost all around it, suggests that the shark mouthed the thigh rather than hit it at high speed or with great impact. It is probable that the damage to the groin was inflicted during the bites on the thigh, and the second bite removed the left buttock.
- F. *LEFT ARM*: Very little tissue remained between the shoulder and the wrist. Most of the deltoid, triceps and biceps muscles were removed and the forearm musculature was severely lacerated. The humerus and the elbow joint were exposed, but no bones were severed although a small section of the articulating surface of the distal end of the humerus was missing. Distances between points of insertion of individual cusps ranged from 37 to 48 millimetres, similar to measurements recorded elsewhere on the body. Again it appears that the shark mouthed the limb. High speed impact would not have caused the wound characteristics and would have severed the arm completely.
- G. *RIGHT SHOULDER*: The deltoid and the proximal part of the triceps were removed and showed bite characteristics similar to those already described.

SPECIES INVOLVED: The victim was attacked by a shark which had wide-based, triangular teeth with very sharp cutting edges. This was deduced from the punctures, slashes and clean edges to the wounds. The jagged edge of the abdominal wound was produced by the teeth penetrating the subcutaneous fat when the jaw was at maximum gape, followed by a tearing inwards as the jaw closed. This resulted in minimal lateral movement of teeth and reduced their slicing action. The individual lacerations were long and relatively narrow and were thought to have been caused by the lower jaw rather than the upper jaw. In 1971 Wallace hesitated to ascribe the attack to a specific species of shark because no tooth fragments were recovered. According to witnesses the attacker was a

white shark, and photographs of the wounds support their identification.

CASE INVESTIGATORS: John Wallace, Oceanographic Research Institute, Durban; Tim Wallett, pages 39-40; Marie Levine

Swimmer Killed In Shark Attack

BUFFELS BAY, South Africa (AP) — Two sharks killed a swimmer here Sunday as thousands of holiday bathers watched.

The victim, 50-year-old Theo Klein of Hamburg, West Germany, had been visiting in South Africa for two weeks. Two surfers tried unsuccessfully to pull him aboard a surfboard when the sharks attacked. The body was recovered later by a rescue launch.

*Avalanche-Journal (Lubbock, TX),
April 12, 1971, page 1*

NOTE: According to witnesses, only one shark was involved in this attack.



The onset of cold water conditions is so rapid that endemic species of fish are stunned and can be collected by hand in rock pools. Note the channel which lies between the sand and the rocks and extends seawards out of the photograph.



X marks the spot where Theo Klein was killed by a shark