

## OPINION: Wearing gloves in caves

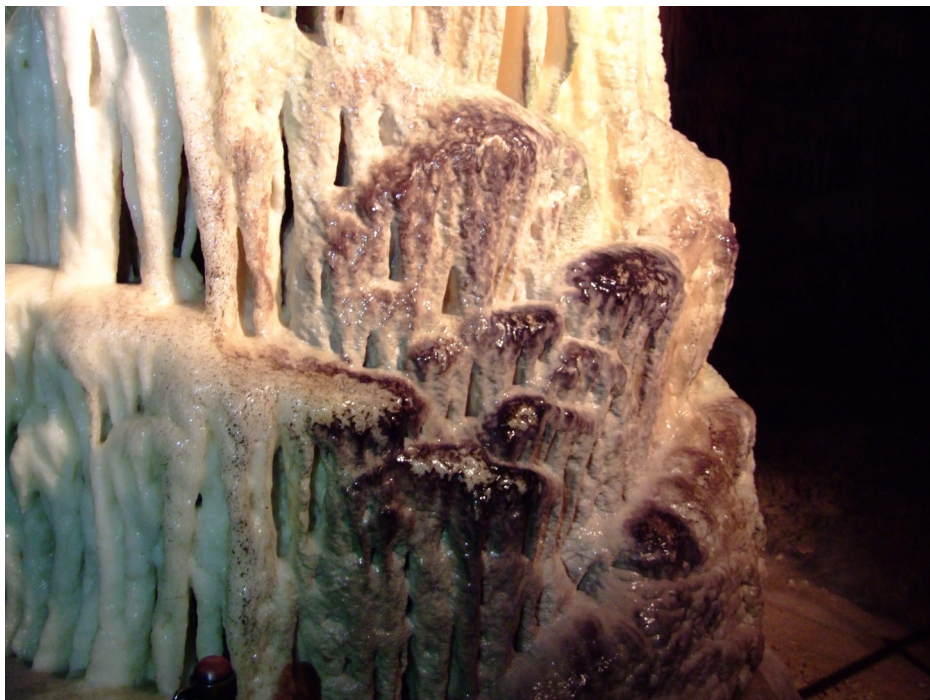
Dave Wools-Cobb - President, Karstcare 'cavers caring for caves' and Member of Northern Cavers Inc; Savage River Caving Club and ACKMA.

It is well established that bare skin can leave acidic body oils, microbes, skin cells and other such debris on touched surfaces. The skin's surface typically has a pH of 4.5-6 (1). Limestone surfaces, being alkaline, are particularly susceptible to such acids and, over time, leave a terrible black mark on such surfaces (as exhibited in photos 1 & 2).

From my observation on ACKMA caving trips and exhibited in many photos in this Journal (including front covers of editions 102 & 117 editions chosen at random), I am very concerned about the apparent lack of awareness of the need to wear gloves whilst caving. I accept that, sometimes, gloves are removed for "aesthetic value" during photography.

Of course, this is a problem far beyond just activities of ACKMA members. However, as a Cave Management organisation, I feel we should set a better example of minimal impact caving.

Photos 1 & 2 are stark examples of a heavily visited cave after 'countless' contacts. I have observed many examples of such impacts in both 'wild' and show caves (but these are not something one would normally photograph). I believe any cave visitor should always mitigate against such problems. Gloved hands are viewed as a much more conservation-aware practice than bare hands. It is best to minimise any contact by your hands with a cave surface as, even with gloves, this can leave dirt or mud already 'picked up'.



Handmarks in Postnoja Cave near Postojna, southwestern Slovenia



Popularly visited caves can often have badly muddied spots in specific areas regularly used for a 'hand hold' whether using gloves or not. Sometimes surface contact is unavoidable; for support one can use an elbow, or just one gloved finger or the back of your gloved hand. Gloves that are well muddied can be washed if a pool is available and suitable.

For some cave visits, carrying a spare pair of gloves would be good practice. Obviously contact with cave surfaces occurs often whilst climbing, however one should always consider the impact and try to minimise this. My Karstcare volunteers spend countless hours cleaning up visitor impacts in both show caves and 'wild' caves.

Wearing gloves also aids in keeping your hands clean when expecting to use photographic equipment and protects your hands from rough surfaces. Perhaps, on a single day trip, this protection may not be thought important – however, on a multi-day expedition, gloves would be considered essential! Gloves also offer some protection from insect bites: there are some very nasty mites and fleas in caves regularly habited by animals (e.g. those in Western Australia's Kimberly region).

#### **Choice of gloves**

Cotton and other natural materials often shed lint, so are not considered suitable for use in a cave environment. Latex gloves are often thin, easily torn and very sweaty – again not very suitable. Latex gloves are often based on natural rubber that can shed proteins which can provide an unwanted nutrient source for cave biota. Some also have powders to help with sweating, another extraneous material that can be deposited in a cave. (Hildreth-Werker V & J 2006 )

Generally leather gloves and many synthetic materials are more robust, shed less material and protect hands well, particularly when using ropes and climbing tapes. In very wet environments, I have observed that many cavers wear a long sleeve plastic coated glove. I find these seem to develop holes and tears too readily and I am un-

sure how well the plastic coating lasts not to shed into the cave environment.

I have found 'riggers gloves' made from pig skin to be reasonably durable but harden uncomfortably if dried too quickly. The market is flooded with a huge variety of modern 'working gloves', some specialised to certain activities like 'anti-vibration' for chainsaw use and some coated with harder wearing materials. Many of these I find very suitable for caving; it is a matter of trying out several brands to see if they will be comfortable even when wet and that they are adequately durable to justify the cost.

I go through about six pairs of gloves a year: working with tools or chainsaws and going caving, but that's a small price to pay to both protect cave surfaces and my hands.

I have observed many cave guides, during their initial presentation to their clients, hand around a 'sacrificial' speleothem to visitors to satisfy their need to touch something. I believe this is good practice as it gives the guide an opportunity to educate as to why cave surfaces should not be touched.

Just as we currently often judge past practices as being poor regarding cave conservation, so too will we be judged poorly in the future.

I predict sometime in the future show cave managers will insist on some method of de-linting or clothes covering, shoe cleaning, hair nets and gloves. We must protect cave environments for future generations. Our tiny impact to the cave environment on each caving trip may not be much, however multiplied by many more cave visitors over many years results in outcomes such as that shown in photo 1.

#### **Reference**

1. <https://www.ncbi.nlm.nih.gov/pubmed/1848930>

**Hildreth-Werker V & J** 2006 Cave Conservation and Restoration. 433-435

## **Tau Caves of Fiji**

### **Kent Henderson**

In February 2020, my wife Rasyi and I undertook a 14 day cruise to Noumea, Vanuatu and Fiji – none of which we had visited before. Happily, we got back to Melbourne before the coronavirus really hit...

In Fiji, whilst berthed at Lautoka, I took a full day tour to the Fiji Zip Line and Tau Cave, which proved to be both very energetic and fascinating!

The limestone caves in Fiji have long been interwoven with Fijian culture. According to an article in the Fiji Times, the Oho ('occupied') Cave, near Tau village, was one of the first Fijian settlements – dating back 4000 years. In 'pre-European contact' times, tribal warfare was common – I had heard that Fijians were cannibals. The cave offered a secure, defensible site – where women and children could hide as necessary. It even came equipped with bats that were useful as an early-warning sign when intruders were approaching the cave. As the times became more peaceful, the Tau people moved their village out of the cave but, until modern times, the villagers maintained it as a 'refuge cave'.

Carbon dating of recent archaeological finds has indicated that Tau was one of the first places humans settled when they arrived in Fiji and clearly the cave would have made a great home for people newly arrived.