## Guadalupe







Page 43: Map showing the passages in Guadalupe at the Rosewood spa (red lines), alongside Burrodromo (yellow lines) to its west. The dotted lines represent the connection between the caves. Stars indicate cenote entrances, some yet to be explored and some described in this book.

*Left:* One advantage of diving in side-mount configuration is that we can move tanks around individually, making it easier to get into the water in tricky spots.

*Right:* All smiles as Matt and Ivo kick off the first dive of the Cenotes of Mayakoba project at Cenote Guadalupe in June of 2020.

Water in the caves in the Yucatán Peninsula generally flows from the northwest to the southeast as it makes its way from elevated land out to the ocean. In this way, caves have an *upstream* and a *downstream* direction. As the cave proceeds in the downstream direction, it tends to become smaller, branchier, and more likely to be sediment-filled. Sometimes, the downstream side of the cave is large enough for a diver to exit out to the ocean, such as in Sistema Sac Actun, where the Manatee cenote runs under the beach emerging into the sea. But this is unusual, and it is more typical that water continues to flow downstream through smaller and smaller passages until divers can no longer pass through the cave.

When we started the project, we knew about three previously disconnected cenotes: Burrodromo, the most westward known cave; Guadalupe, located at the Rosewood spa to the northeast; and the cenote on hole 7 of the golf course, located south of Guadalupe and east of Burrodromo. We hypothesized that the golf course cenote and Guadalupe were downstream cenotes of Burrodromo and that we would be able to connect those and others through our exploration.

We decided to make our first dive from Guadalupe since working our way upstream toward the larger Burrodromo cenote would likely present a path with fewer navigational options, and therefore, a faster route to making the initial connection.

Our first day of the project was in June of 2020, with a dive Ivo and Matt made into Guadalupe. We'll never forget the delicious feeling of anticipation as we prepared our gear and plunged into the water, kicking off what would be a grand adventure.

The spa complex is a central feature of Mayakoba's Rosewood Resort. A tranquil oasis, the spa contains a yoga palapa, gym, and other amenities built in a ring around a nicely-sized open cenote 15 m (50 ft) across. A wooden platform is built on the side of the cenote, used for yoga and meditation.









*Left:* Sunning itself on a small platform in the water, this crocodile made occasional appearances during the pandemic lockdown in 2020.

*Right:* The cenote is centered inside the Rosewood spa complex, with lovely paths through the jungle all around it.

Water in this cenote is usually dark with tannic acid from the nearby red mangroves. Once, having watched heavy rain bring clear water into the cenote, we saw that the bottom of the pool was about 6 m (20 ft) deep and filled with extensive sediment atop a large limestone shelf. We guessed that this shelf would lead to the start of the cave but couldn't be sure until we investigated underwater.

We started the exploration by free diving to see if we could discern the cave entrance. This would allow us to take compass headings and to learn what type of environment we might expect—useful information for planning the equipment and approach we'd use for subsequent dives.

On this day, the water was dark, with almost zero visibility below. Although we couldn't tell it from the surface, the water became clear as soon as we descended below about 1.5 m (5 ft). Holding our breath and wearing just a mask, we were able to see an entrance to the cave, a westward facing passage. It was not huge but was certainly big enough to pass through. We assumed this was the upstream section of the cave. We circled the cenote, making breath-hold dives to see if we could find a downstream section of the cave too, which we knew would be much smaller and likely packed with rocks and sediment. Not finding a downstream hole, we packed up and prepared to return soon.

Having seen the cave, we decided to use our side-mount tanks to navigate what we expected to be a relatively small cave heading westward/upstream towards Burrodromo. While we began the project using some back-mounted gear, before long, we settled on using side-mounted tanks for all exploration in the project, finding that even the largest passages in this area would quickly narrow as we proceeded into the caves.

Returning with our kit, we turned some heads while walking through the spa lobby in our drysuits, lugging huge piles of gear.

Cenote entrances rarely tell us much about what a diver might find below. Many a tiny mud puddle has led to a magnificent and extensive cave, such as the Chan Hol ("little hole") system south of Tulum. That cave ultimately yielded several interesting anthropological discoveries to its explorers, including several sets of human remains. On the other hand, things may go in a disappointing direction when a large cenote entrance turns into a dead end with almost no navigable cave at all.

So, holding our anticipation in check, Ivo and Matt made the first dive in Guadalupe, curious about what we might find.

Knowing the contours of the open part of the cenote from our earlier free dive, we plunged through the zero-visibility surface, emerging below into clearer water. We made tie-offs to a rock below and running our reel of navigation line, swam into an off-camber entrance. It was reasonably sized, but quite tricky due to its slope and the extensive silt that threatened to blow our visibility with just one errant fin kick.

Heading into the cave, we plunged quickly to 10 m (33 ft), revealing a large room which led in all directions. Following the passage southwest from the entrance, we found a tunnel that extended about 60 m (200 ft) before pinching down into a collapse. Retracing our path, we checked possible leads and admired the highly decorated cave, finding no evidence of a passage that would take us towards Burrodromo. We poked into some promising areas only to be thwarted by a cave ceiling that quickly slanted down towards the floor, creating a very soft and silty squeeze that prompted a question each explorer must answer: *"What level of risk will I take to see if this cave keeps going?"* 

This is a more challenging question than it seems. Throughout a cave exploration, there are times when a cave passage gets dramatically smaller, requiring a tight squeeze through silt and rock. Stopping means that the cave won't be investigated any farther, and the exploration terminates. However, pushing through requires confronting a tight and potentially hazardous situation but could pay off if the cave opens after a short restriction. The human body can fit into some very small spaces, but if you squeeze into a passage that is too tight, or if the cave doesn't eventually open to allow you to turn around, you can have a real problem. Beyond human risk, cave conservation comes into play. Squeezing through tight areas could cause real damage to the fragile cave.

Diving in side-mount (that is, with tanks strapped to one's side rather than back) creates a small vertical profile and provides more flexibility, including the ability to remove tanks underwater as a last resort. But things can quickly get complicated. Since the cave roof is made of soft limestone, contact from bubbles and the divers themselves will cause this soft rock to percolate into the water, reducing visibility and damaging the cave. A tight passage with deteriorating visibility will quickly transform the navigation guideline we ran as a safety precaution into the only realistic chance of ever finding our way out. Compounding this issue is that when pushing a tight squeeze, your guideline usually isn't tied into the cave yet, since you are placing it as you swim. It is hard to find suitable tie-offs when you can't see, and the possibility of entanglement in your own line is very real.

All these factors lead cave explorers to think carefully before they push into a lead which offers no guarantee that the cave will keep going.

Divers on our team tend to answer the *"Do I keep pushing?"* question conservatively. We believe that nothing in a cave is worth losing one's life for. And especially at the beginning of the project, there are always more side passages to explore. Conversely, if we never were to go into tight cave passages, progress would stop, and we would be unable to determine a cave's true boundaries. In this project we pushed through tight sections in a few places, such as when we needed to get past a collapse that had halted progress in Burrodromo (page 63), and in Ak K'U' when we weren't yet convinced that this beautiful cave could be as small as it turned out to be (page 107).

As for Guadalupe, it quickly became clear that the cave provided little assurance that we could connect to Burrodromo easily. So, after two dives there, we decided to head west and work our way downstream from the Burrodromo entrance.

We would still need to come back to survey Guadalupe, giving us another close look at the cave. And while we didn't know it at the time, we'd solve the connection mystery later, a few months and many dives down the road, providing a good reminder that every pool in this jungle could hold secrets below. ◆

