

Winter Cave Exploration Yields New Discoveries in the Yucatan

Coastal Cave Exploration in Quintana Roo

By Fred Devos and Chris Le Maillot



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For many years, December has been the month of choice for cave exploration here in the Yucatan Peninsula. Resident cave divers, Alejandro Alvarez, Fred Devos, Chris Le Maillot, Simon Richards and Daniel Riordan took advantage of this year's cool dry weather and spent December's first two weeks exploring caves and associated features in the Ox Bel Ha and Punta Venado regions of Quintana Roo, Mexico.

Typical of the Eastern coast of the Yucatan Peninsula, dense mangrove forest separates a thin strip of sandy beach from the thick, inland jungle. Most cave diving in the region takes place between 2 kilometers and 10 kilometers (1 mile to 6 miles) from the coast under a thicker layer of sturdy limestone, and yet during these two weeks, all our dives originated less than 100 meters (330 feet) from the sea!



OX BEL HA

Through many years of winter exploration projects, Ox Bel Ha has been firmly established as the world's longest underwater cave system. With over 120 kilometers (74 miles) of documented passage it is truly a natural phenomenon; however, what is perhaps even more amazing is the amount of cave passage still left to explore.

YAX CHEN

Over 100 karst windows or sinkholes provide access to Ox Bel Ha and its neighboring cave system, Yax Chen. This area is commonly known as the most complex and extensive stretch of water-filled caves in Mexico. In recent years, exploration has moved at a blistering pace to reveal an underground diversity of boundless beauty. Generally speaking, Ox Bel Ha and Yax Chen offer fewer of the spectacular speleothems that characterize the well-advertised Mexican caves. Kilometers/miles of unadorned and stark passageways, silt dunes, fossilized conch shells, coral and sand dollars, and less than optimal water conditions, come together to yield a cave environment with an intrinsic beauty that only the most appreciative cave diver will relish. In truth, these are really the "cave diver's caves."

The exploration of Ox Bel Ha (OBH: "The Charismatic Mexican Giant" DIR Quest Vol.4, No.1 Winter 2003) has long overshadowed neighboring Yax Chen. However, interest in Yax Chen was recently revived by the desire to try to further explore the cave in the far upstream region, thus reducing the connecting distance to OBH.

Yax Chen was originally explored by Gary and Kay Walten and their team from "Proyecto Yax Chen." Their exploration began in February of 1997. Over the following years, their remarkable dedication revealed an intricate network of shallow passages (maximum depth: 8 meters [25 feet]) running northwest for 3,000 meters (10,000 feet) under wet savannah and mangrove terrain. Because of high concentrations of tannic water and suspended organic particles, water visibility is frequently reduced in this area of cave. Often connecting to extensive surface pools, the cave does not require divers to spend more than 20 minutes underground.



Gary and Kay Walten named the cave system "The Chain" or *Cadena* in Spanish, as Yax Chen is really a line of cenotes separated by only several hundred feet of cave passage. The brackish water of the surface pools supports a great variety of creatures, including schools of Tarpon, Yucatan Tetras, Morelet Crocodile, turtles and an unusual variety of mussels. Beyond the first 3,000 meters (10,000 feet) of cave/surface pools, the main passageway drops to 17 meters (55 feet) with a distinct halocline sitting at 14 meters (48 feet). Giant undercuts can be observed deeper revealing intricate phreatic bedding plains. 1,500 meters (5000 feet) further on, the cave seemed to wrap itself up in an oversized debris slope. This was the end of the original exploration by Gary and Kay Walten.



The revived exploration effort in this area of cave initially had us making little progress through silty and unstable conditions. A breakthrough was finally made, which extended the cave by another 2,100 meters (7,000 feet). In the process four new cenotes were discovered: Tannin, Sun Hole, Ma'Kai and Naach. Cenote Naach (Far) is the furthest upstream and covers an impressive open water area with a noticeable thermocline above 3.7 meters (12 feet) and a hazy, white cloud layer sitting at the bottom. From this cenote the cave branches off to the southwest. Most of the water flow is coming from this direction and future exploration planned in the same region will certainly give rise to many exciting discoveries.

PUNTA VENADO

Recent improvements to road access enticed us to set aside exploration in Yax Chen in order to dedicate a few exploration days to the Punta Venado area.

Named for the abundance of deer that once frequented the land, Punta Venado (Deer Point) is a rare find these days. Three kilometers (1.9 miles) of untouched sandy beaches and 3000 hectares (12,000 acres) of largely unexplored land make for an area where surprising finds await discovery.

Due to logistical challenges, exploration efforts here have proceeded slowly over the past four years. Since June of 2000, we have documented a number of underwater and dry cave systems. The majority of these are near the sea with shallow phreatic passages paralleling the coastline; one cave that is only 800 meters (0.5 miles) from the coast reaches an unusual depth of 29 meters (96 feet). Several smaller underwater and dry caves add to a total of more than twenty cave openings and 4 kilometers (2.6 miles) of passage.

NONEC

On an exploratory hike of the property, varying-sized windows in the iron shore revealed clear, flowing water. A quick swim along the coast confirmed several large exits to the sea. Following the line of blowholes inland led us to an ancient Mayan ruin where the cave seemed to pass under and beyond. As cave divers, we had all read the late Sheck Exley's book *Caverns Measureless to Man* and now recalled his account of one of the earliest exploration dives in this area. It seems that he and Ned DeLoach first explored this cave in the late 70s entering through one of the inland cenotes.

In the late 80s and 90s, other divers, including Mike Madden, John Zumrick, Wes Skiles and Tom Morris dived the cave, although they had entered from the sea. The original cave boasted several thousand feet of passage.

Nonec runs under land now owned by a large mining operation. A deep-water harbor built in the early 90s dissects the upstream portion of the cave, diverting water flow from the down stream passages to the harbor entrance.

We entered the system from the sea and surveyed the passages heading toward the harbor. As one would imagine, there was little desire to exit where enormous cargo ships load and unload, so further survey efforts were put on hold.

SISTEMA CUBERA

Cheesy, white limestone walls offset rolling hills of black mung. The maximum depth of 8 meters (26 feet) is cut in half by a wispy band of hydrogen sulfide and crested by a layer of red tannic acid. The main passage brings water from the west to the east through winding, mud-choked tunnels. Further south lays dormant larger passage where tree trunks, coconut shells, and other



jungle and ocean debris have been pushed into the cave by tidal-influenced flow reversals.

This cave system was first explored in January 2001. Initial dives revealed 781 meters (2,569 feet) of passage but logistics became difficult and exploration efforts were put on hold.

On the last day of our project we were able to put two divers in the water in a final attempt to push upstream leads. 334 meters (1,100 feet) of passage and a new cenote were discovered before the source of water ended at a limestone barricade. The porosity of the limestone is such that the main flow of water comes straight through a wall. Again, exploration efforts in the cave would need to be put on hold; but this time perhaps for some 10,000 years, until the flowing water manages to dissolve more limestone and carve out the remainder of the cave.



ESCONDITE DEL DIABLO

This system was also entered from the sea where restricted, silted passage headed west. Much sea-life penetrated the cave including goatfish, rays and a variety of shrimp. With much persistence, 365 meters (1,200 feet) of passage were discovered, and although a diveable connection between Sistema Cubera and Escondite Del Diablo is unlikely, it is obvious that the water flows from Sistema Cubera to the sea through these passages.

REACHING FARTHER

Separated by some 60 kilometers (37 miles), the regions of Ox Bel Ha and Punta Venado loosely represent the southern and northern borders of one of the world's richest karst terrains. Between these boundaries exist over 400 kilometers (250 miles) of known underwater passage and some 20 kilometers (12 miles) of surveyed dry caves.

Forthcoming plans include further exploration in both the Ox Bel Ha and Punta Venado regions to assist in the monumental task of documenting the coastal cave systems and associated features here in Quintana Roo.

Thanks are extended to all who helped us in these recent exploration efforts.