

Some people like Club Meds, for others it just doesn't work, but most divers agree that they're not serious dive resorts. Tim and Paula Pastushin (Newport Beach, California) were not sure before they booked their August trip to **Club Med Sonora Bay** in the Baja, so they called and asked specific questions first: Could they dive their own profiles? Any depth and time restrictions? Could they dive more than two dives a day? No problem, was the reply, this is a dedicated dive operation, we separate divers according to their experience, no limits other than no deco, and up to four dives a day. Tim and Paula now disagree: "Not quite the case — we waited in line for an hour to sign up for diving. We waited another hour to turn in our release forms. The next morning we waited another hour to check in for the dive. Then we found out that we could do only two dives a day and we would be on the boat with 40–50 other divers. Once on the boat, I set up on a tank three times just to find that they had less than 700 psi in them. On the fourth tank, I got 2,400 psi, which they told me was a good fill. Diving your own profile turned out to mean 50 for 30 minutes on the second dive. On the last day, we found an operation in San Carlos called **Cortez Adventures** and had a blast without all of the Club Med restrictions."

The **Aggressor** Fleet has launched a new boat in **Fiji**. Reader Roger Roth (Cincinnati) just stepped off the boat (September trip) and gives it a thumbs up. "The boat is handicapped-accessible, with rooms, hallways, and an elevator all designed to accommodate wheelchairs. Sleeping cabins and dive deck are on the same level, making it convenient for everyone. Rooms have plenty of storage and their own head and shower. Photogra-

phy tables and charging stations are well designed and spacious. The salon, on the middle level, is a comfortable dining and living area. Library is complete — books, CDs, and videos. The 27-inch TV monitor has patch cords left connected for videographers'

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convenience. The rear deck has a hot tub, and the upper deck is partially covered for sun protection and is comfortable with lounge chairs and hammocks.

"Diving was a bit brisk, with 74°–77° water and air temperatures. A number of divers used

hoods and gloves. Fijian crew were extremely helpful and friendly. Cook turned out culinary delights each and every meal.

"Iliesa Turagabeci, also known as Fiji Bear, with 11,500 logged dives, could find anything you asked for, from blue-ribbon eels, to leaf fish, to pipefish. Besides the plethora of colorful soft corals and sponges, this trip proved to be a macro heaven. Anyone who has had trouble finding nudibranchs or flatworms should dive here for a sense of gratification." (800-348-2628 or 504-385-2628)

Speaking of the Aggressors, Wayne Hasson, president of the Aggressor Fleet, would appreciate it if I clarified a point in our August issue. A letter from a reader who complained about being underpaid and untipped while working on a boat going to the Cocos Islands appeared on the same page as Mr. Hasson's letter describing the *Aggressor's* tipping policy. The author of the complaint letter was not an *Aggressor* employee.

J. Q.

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## **Crumbling Coral**

### ***Mystery disease devastates tropical reefs***

Two coral researchers examined the reefs off Bonaire in January after divers noticed strange white lesions on star and brain corals. Dr. Thomas J. Goreau and Dr. James Cervino found something they had never seen before, huge patches of dead coral, bright white where the skeleton had been exposed after tissue had died; the skeleton itself was crumbling away.

"We were horrified," said Dr. Goreau. "It looks like someone poured acid over the top of the coral. The skeleton itself is dissolved. I've been looking at reefs probably longer than anyone else alive and I'd never seen it before. It's attacking at a speed and with a level of damage that is unprecedented."

Rapid wasting disease, which can spread several inches across

a coral head in a day, is all over the reefs of Bonaire. Since January, it has been spotted in Mexico, Aruba, Curaçao, Tobago, Grenada, and St. John's, an area spanning 2,000 miles.

Rapid wasting disease is only one among many mysterious diseases attacking corals. In the last few years corals from the Caribbean to the Philippines have been quickly succumbing to diseases never before seen.

"We're all stunned at the rapidity with which these new diseases are occurring," said Dr. James W. Porter of the University of Georgia. "The problems are occurring at all depths and the number of species affected is increasing."

Because of the newness of the diseases, recognizing whether a coral is healthy or sick can be difficult. For example, rapid wasting disease, which exposes a white, crumbling skeleton, is easily mistaken for anchor damage or parrotfish bites.

Some speculate that stresses like bleaching, sedimentation, and pollution have pushed corals to the point where they are no longer able to fend off diseases. However, Dr. Goreau says that "most diseases don't correlate with each other or any known environmental stress. In Bonaire, rapid wasting disease is having a devastating impact, yet the reefs there are so clean."

Others have suggested that erosion and dumping sewage and oil waste into the sea have brought new pathogens in contact with corals. For example, sea fan disease, discovered just four years ago, is widespread in the Caribbean. It's caused by a highly opportunistic fungus that adheres to sediment; after being washed into the sea, it grows when it encounters a sea fan. "It's a terrestrial organism

that has crossed the land-sea barrier," Dr. Harvell said.

Cures for sick corals are a long way off. While some have suggested applying antibiotics to the reefs, others caution about the unknown hazards of dispensing a drug that can destroy beneficial bacteria as well as harmful ones. Furthermore, the pathogens may not be bacteria at all.

Researchers have had the most luck treating black band disease by vacuuming off the diseased band of tissue. But that is impossible for quickly spreading diseases such as the white plague. In four months in 1995, it spread more than 100 miles, jumping from one to 17 species of corals.

Sometimes, however, no treatment can be the best cure. Once a disease is allowed to rage through an area, any healthy, resistant individuals left can rebuild a tougher population. However, Dr. Goreau says, sponges, coralline algae, and sea urchins are also succumbing to new illnesses, further threatening the health of reef communities.

Dr. Cervino is soliciting reports of new outbreaks of coral diseases from observers. His e-mail address is [cnidaria@earthlink.net](mailto:cnidaria@earthlink.net).

*A version of this article, by Carol Kaesuk Yoon, originally appeared in the New York Times.*

To learn more about recent alarming reports of coral die-offs, I contacted Dr. James Cervino of Global Coral Reef Alliance. Here's what he told me:

## ***Stressed-Out Corals***

"Coral epizootics [widespread disease outbreaks] are on the rise. It is very important to note that this is not simply an isolated case happening to one island; coral diseases are hitting the entire Caribbean. Divers ask me all the time, 'What's the best place to go where there's no disease and pollution?'. Diseases and eutrophication can be found at all sites in the Caribbean.

"The coral's resistance to disease is low because it's under stress: high temperatures (indicated by widespread bleaching), eutrophication, sedimentation, pollution, salinity changes, storms. Stress lowers coral's production of mucus, which protects it from sediment and harmful bacteria. Bacteria love to invade coral under stress. I recently cultured mucus samples from a bleached coral and an unbleached coral. The bleached coral had much higher concentrations of bacteria than the unstressed coral.

"I just confirmed rapid wasting disease in the Virgin Islands; it's hitting hard, and I know it's just a matter of time till it's in the Bahamas.

"What can divers do to help? This year and next I'll be running workshops on coral diseases. This will give divers a chance to get involved with scientists. Soon I'll be issuing an ID card with all the known diseases in the field to take with you underwater. Report your observations, and send me videos or slides for confirmation.

"We need divers! But most divers are seeing bleaching, not disease. Pictures can help. With photos in hand, we can decide whether it's worth a trip to collect samples."

To offer your assistance, contact Dr. James Cervino at [cnidaria@earthlink.net](mailto:cnidaria@earthlink.net).

J. Q.