
Larry Smith gets my vote for divemaster of the year. I like his style, and he has a knack for reading the water and finding the best dives in unknown areas.

I can testify that the Banda Sea diving is the better diving. Look for this region to become a new hot spot for diving — lots for fish, great coral, pelagics, unexplored, and interesting topside.

Most major wholesalers are booking the *Cehili*: try Island Dreams (800-346-6116), Tropical Adventures (800-247-3483), or Adventure Express (800-443-0799).

members carefully unloaded our dive gear and cameras. Larry Smith is an excellent divemaster; he always seemed to know whom he needed to dive with and who could dive independently. Overall, this is one of the best crews I have ever seen.

If you've never been to the Indo-Pacific, you'll find the diving in Sangihe truly awesome; if you've been here before, you may be slightly disappointed with this route. There is reef damage from dynamite fishing, and we saw only a few pelagics. However, the Bunaken wildlife preserve provided magnificent diving for both beginner and experienced divers. Healthy reefs harbored sea snakes, lionfish, jacks, wrasses, triggerfish, anemones, moray eels, giant clams, and all the usual Pacific reef inhabitants in large numbers, especially blue-spotted stingrays. If you're wondering where all the sharks have gone, I found a large number of them (the fins, anyway) on the Chinese restaurant menus in Singapore.

My Bottom Line

Overall, the *Cehili* is a good dive boat with some growing pains. It has the potential to be a great dive boat once the bugs (no pun intended) have been worked out. Would I dive on *Cehili* again? Yes, but with a proviso: I would take the Ambon/Banda sea cruise, which I hear is much better. ■

Lie Down and Live!

When to be horizontal and helpless

The rescuers get there as soon as they can and pull some poor soul out of the water, where he's been floating for half an hour. They sit him down with a cup of hot tea — which he consumes, along with a chocolate bar.

Five minutes later, he falls over dead.

There are many historical examples of what is now being labeled “post-immersion collapse” or “post-rescue death” — victims who die *after* having been snatched from danger. A recent issue of the

SPUMS Journal reprinted an article that appeared three years ago in the *Journal of the Royal Naval Medical Service** reviewing several decades of evidence on post-immersion collapse.

Out of the Water and Into the Morgue

Testimony from the *Titanic* inquiry revealed several cases of victims who were pulled from the water onto lifeboats, only to die promptly thereafter. Similar reports exist from naval catastrophes during World War I.

In World War II, men and women were again cast into cold water in large numbers, and just as in World War I, many of them didn't survive much longer than the time it took to bring them back onto another vessel. This time around, however, record-keeping must have been better. Allied medical reports warned about this “danger for shipwreck survivors,” which often seemed related to immersion in cold water, although others died after being rescued conscious and active from water as warm as 65°F.

Death by Sling

Golden, Hervey, and Tipton, the authors of the Royal Navy Medical Service article, cite more recent examples associated with rescue by helicopter. It turns out that a large

number of the people being rescued from the water by a helicopter either die or pass out as they are being lifted into the chopper.

What's Going On?

Some years ago, physiologists postulated that "rewarming collapse," which sometimes overtook people removed from hypothermic situations to warm environments, was caused by an "after-drop" in core temperature. However, research has shown this to be incorrect; the main problem appears to be sudden circulatory changes.

The helicopter rescue cases point to another effect: victims pulled from the water immobilized in horizontal baskets survive better than those brought up in slings. Why does this happen?

When a victim is floating vertically with his head out of water, hydrostatic pressure squeezes much of his blood to his upper body. If he is then lifted out vertically, several things happen, none of them good. Hydrostatic support goes away, and gravity causes blood to pool in his lower limbs. His blood pressure falls, and his brain is suddenly deprived of oxygen. This effect is greatly reduced if the victim floats horizontally.

Trying to assist in his own rescue increases the victim's muscles' oxygen demand and opens up their capillaries, further reducing blood pressure and the oxygen supply to his brain and increasing the load on his heart. That's why so many victims pass out while climbing into boats.

Although the mechanisms and contributory factors aren't yet well understood, the authors' conclusion is absolutely clear. "Removal from water in the horizontal posture is preferable, in all circumstances. . . . It also appears very likely that any

demand for physical effort on the part of the victim at the time of rescue carries a risk of precipitating collapse and death."

What's This Got to Do with Divers?

Fliers and sailors aren't the only people who spend a long time in the water. We divers pay fortunes

Joining SPUMS

SPUMS is active in the area of recreational diving safety research. Virtually all its members are active divers, and its quarterly journal is always an interesting mish-mosh of practical experiences, scholarly and not-so-scholarly arguments, state-of-the-art research, little-known facts, and hair-raising stories. The *SPUMS Journal* will take on anybody or any shibboleth, no matter how eminent or well-established.

If you're interested in joining SPUMS and receiving the *Journal*, you can sign up at one of several levels. Medical practitioners can join with full membership for \$A80 (about \$60 US), but anyone else can join as an associate for \$A40 (about \$30 US). For more information, write Steve Dent, 3565 Sherbrooke Dr., Evendale, OH 45241.

This month our Thumbs Down award goes to *Aqua Corps*, a slick, small-circulation magazine for technical divers, including those who use Nitrox. In the latest issue, Publisher/Editor Michael Menduno went off the deep end with gratuitous graphics that caused our staffers — both male and female — to squirm. Now, I don't care what kind of voluntary sex you techies are into, but pictures of robot claws going for a bare breast became a no-no with the first Woodstock. At the bare minimum, a financial contribution to your local women's shelter is in order.

If you want to harass Michael or get a subscription, he can be reached at 800-365-2655 or 305-294-3540, fax 305-293-0729, e-mail through CompuServe at 73204,542@compuserve.com or via the Internet at aquacorp@shadow.net.

for the privilege. Once in a while, unfortunately, we get to drift along, waiting for the boat. Sometimes we just get left out there for hours and hours. In warm water, it doesn't seem to be as much of an issue, according to the research described above. In cold water, or after very long exposure in warm water, it's a different story. A diver who is becoming chilled is a potential post-dive collapse victim.

If you're going to be very cold or spend a long time on the surface, it would behoove you to float horizontally (on your back with your BC blown up) rather than upright. If you're looking for the boat, maybe you and your buddy could take turns staying vertical, and both of you could flatten out when rescue appears to be imminent. While being brought aboard, don't exert yourself any more than necessary, and tell your rescuers you wish to stay horizontal.

If they give you a hard time, consider yourself lucky.

Delmar Mesa

* "Circum-rescue collapse: Collapse, sometimes fatal, associated with rescue of immersion victims," by F. StC. Golden, G. R. Hervey, and M. J. Tipton. *Journal of the Royal Naval Medical Service* 1991: vol. 77, pp. 139-149

Hard Core from
Aqua Corps



At the bare minimum, a financial contribution to your local women's shelter is in order.