

SÃO TOMÉ ■ THE NEXT BIG ONE ■ SKULL KING ■ CLUMPING GALAXIES ■ SUNFISH ■ ANNUAL REPORT

CALIFORNIA

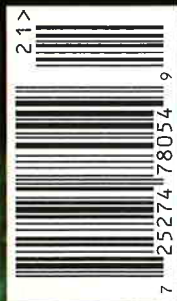
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DAVE BRIAN BUTVILL

Dave Catania's School of Fishes

IN A LOCKED CHAMBER BELOW the museum galleries of the California Academy of Sciences, a bearded, bespectacled man in his late 40s browses aisles of dead fish. Eels, anglerfish, surfperch, and pufferfish that once swam the oceans' cold waters stare blankly out from glass canning jars of cool alcohol. Plastic buckets, ceramic crocks, and stainless steel chests seal catfish, bat rays, and carp in perpetual darkness. There are also unknown soldiers, piscine prisoners that have yet to be identified and properly placed amongst the more than 250,000 other tombs holding some three million individuals.

The Academy's ichthyology collection holds some three million individual specimens.

This is the Academy's scientific fish collection. Representatives of about half of all described fishes can be found here, providing a storehouse of important ichthyological information on 12,000 or so species. The browser is Senior Collections Manager Dave Catania, who maintains this mausoleum, keeping it organized and helping it grow.

Catania walks past ceiling-high shelves of fish that span the length of the warehouse-sized room to stainless steel vats in a far corner of the crypt. He opens one of these chest-high coffins, revealing hammerhead sharks and manta rays, Mississippian paddlefish and sturgeon, packed like giant sardines in rubbing alcohol.

He points out the star specimen—a coelacanth that is one of two at the Academy and 200 specimens in museums worldwide. He stores it on top. "It's something people like to see when I give a tour," he says.

A quiet-spoken, deliberate man, Catania says he often feels like he's working in a library. "People come here to use the material, or borrow things; sometimes they come just to browse, other times they come to look for something very specific." Like any good librarian, he has a rough idea of where everything is located. Critters are sorted by taxonomic family, then arranged alphabetically within each group.

Scientists and nonscientists alike use the collection. A taxonomist revising a genus



The Academy's ichthyology collections manager, Dave Catania, uses an electroshocker to stun fishes in the Bajiao River in Yunnan, China.

may want to measure the eye diameter, body depth, and fin length of a particular species; a student may be interested in the structure of a fish's scales, or the shape of its teeth. So Catania fishes for requested specimens. "It's a mess" pulling out the large ones, he says. "You have to keep piling them on trays, moving things to the side until you find what you want." He kicks the bottom of the vat. "Our largest specimen is in here—a seven-foot-long lemon shark. It takes three people to lift it."

When Catania isn't wrangling specimens, he might be doctoring a fish to improve the view of its innards by putting it through a chemical process called "clearing and staining." Using a red stain with an affinity for bone, a blue one that colors cartilage, and some digestive enzymes that eat away soft tissues and make flesh transparent, the fish becomes a color-coded, gelatinous, three-dimensional model. Or he may be taking X-ray photographs for the department's online radiograph database. The images provide a nondestructive way to count vertebrae, for example, or look at skull bones. Many of these images are on display through fall 2002 in the Academy's Linking Hall.

One part of Catania's job is adding to the collection, a task which brings him more than his share of adventure. In his 19 years at the Academy, he's visited Baja California, Papua New Guinea, Bangladesh, Vietnam, and most recently, China and Myanmar in search of fishes.

During his most recent expedition overseas, Catania confronted death a little closer to home. Deep in the jungle of Myanmar, Academy snake expert Joe Slowinski was bitten while handling a venomous krait. Catania and other team members fought to keep Slowinski alive for more than 24 hours while waiting for help. Unfortunately, bad weather and other complications thwarted several rescue attempts. Catania was one of three expedition members recognized for their heroic attempts to save Slowinski's life.

Catania's next test will begin later in 2002, as the Academy prepares to close its doors the following year to modernize the research facilities and exhibit spaces. All collections will be moved to temporary storage. "I have nightmares about moving all of this and then moving it back," he says. But, Catania says, this massive undertaking will be well worth the effort. "Getting the opportunity to help design the facility to meet our needs is very exciting." 