

# Calendar

## Wet Detective

### *Fish Identification for Snorkelers and Divers*

**W**hat has big white teeth, a black head, a pink body, and eats sea urchins? It's not a joke; it's a typical query for the scientists at the Birch Aquarium, who are often asked by snorkelers and scuba divers to identify the fish they have seen.

Senior aquarist Fernando Nosratpour easily names the sheephead. "That's its look, and eating sea urchins is pretty typical behavior."

Still, people who want to learn fish identification may find it disheartening to be told that even Nosratpour has trouble distinguishing among the more than 50 species of rockfish that are living along the Pacific coast. "You really need to be a rockfish expert, which I'm not."

What amateurs can hope to

achieve, he says, is the ability to identify fish types in general, "at least to the family level."

#### LOCAL EVENTS

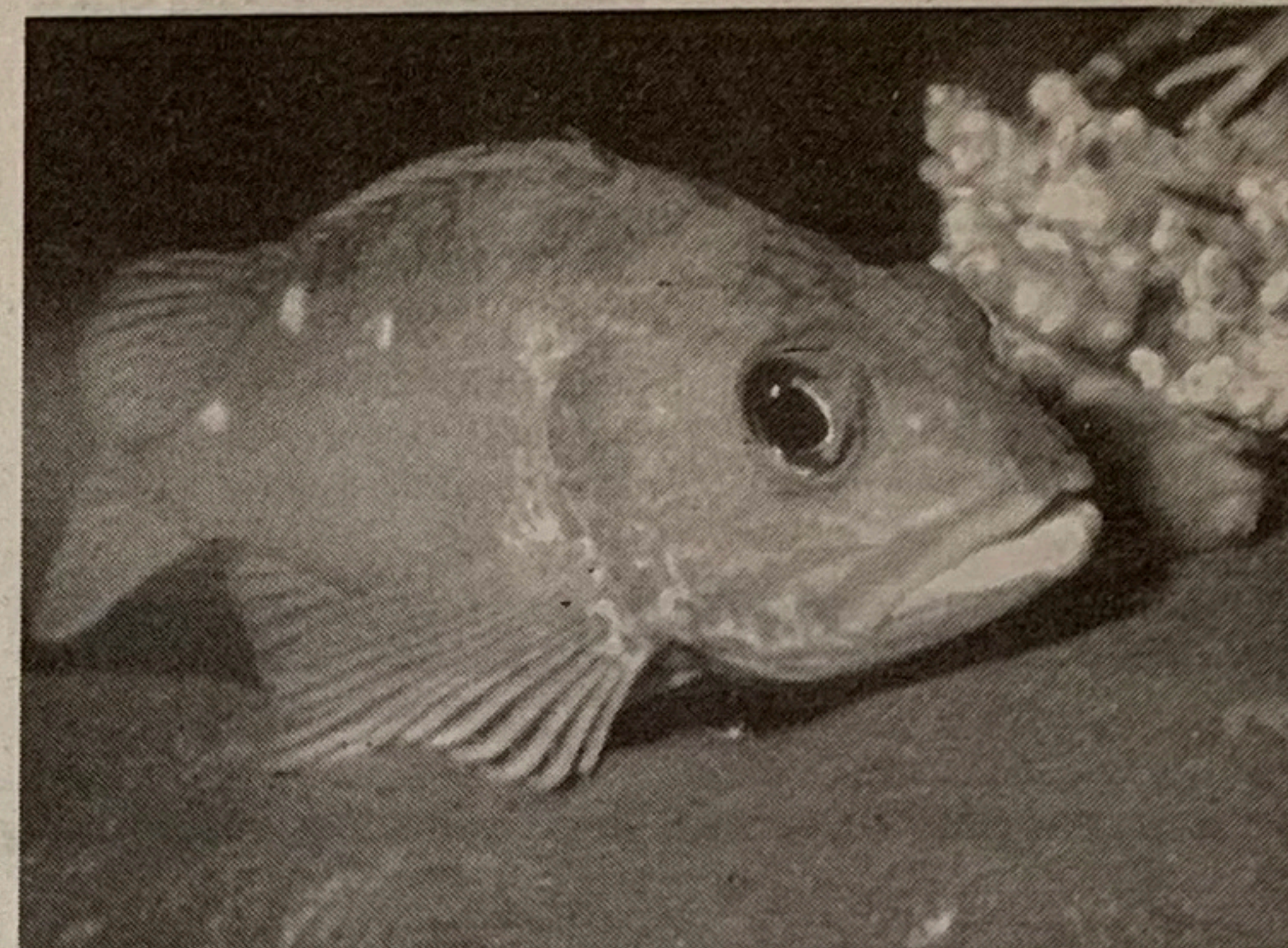
Every member of the rockfish family, says Nosratpour, is a bony, oval-shaped fish topped by dorsal spines that are "slightly venomous." Poisonous? "Yes. Scuba divers, who may see them in deeper waters, can get reasonably close to this fish. But they're not going to be able to grab one — and they wouldn't want to, because if they were to be poked by those spines, they could experience some irritation."

Related to rockfish are scorpion fish, whose spiny dorsal fins contain venom glands, too, and snorkelers may well encounter them. These fish do not necessarily swim away when approached. While rockfish come in many colors — red, blue, green, black — scorpion fish are variegated in the colors of sand and rock. That camouflage may fool someone into mistaking them for part of the underwater landscape. "You do want to watch out for these critters," says Nosratpour, "and be aware of where you're resting your feet, knees, and hands."

Members of the flatfish family have a characteristic deflated football look. More significantly, they have two eyes on one side of their head. "They start out life with eyes like other fishes. Then, as they develop, one eye gravitates. They spend a lot of time under the sand, with only their eyes popped out, looking for prey. They're very fast, with extremely sharp teeth — very able predators. I've seen a California halibut, flattened in the sand, waiting for prey. I've seen it pick one topsmelt out of a school of them."



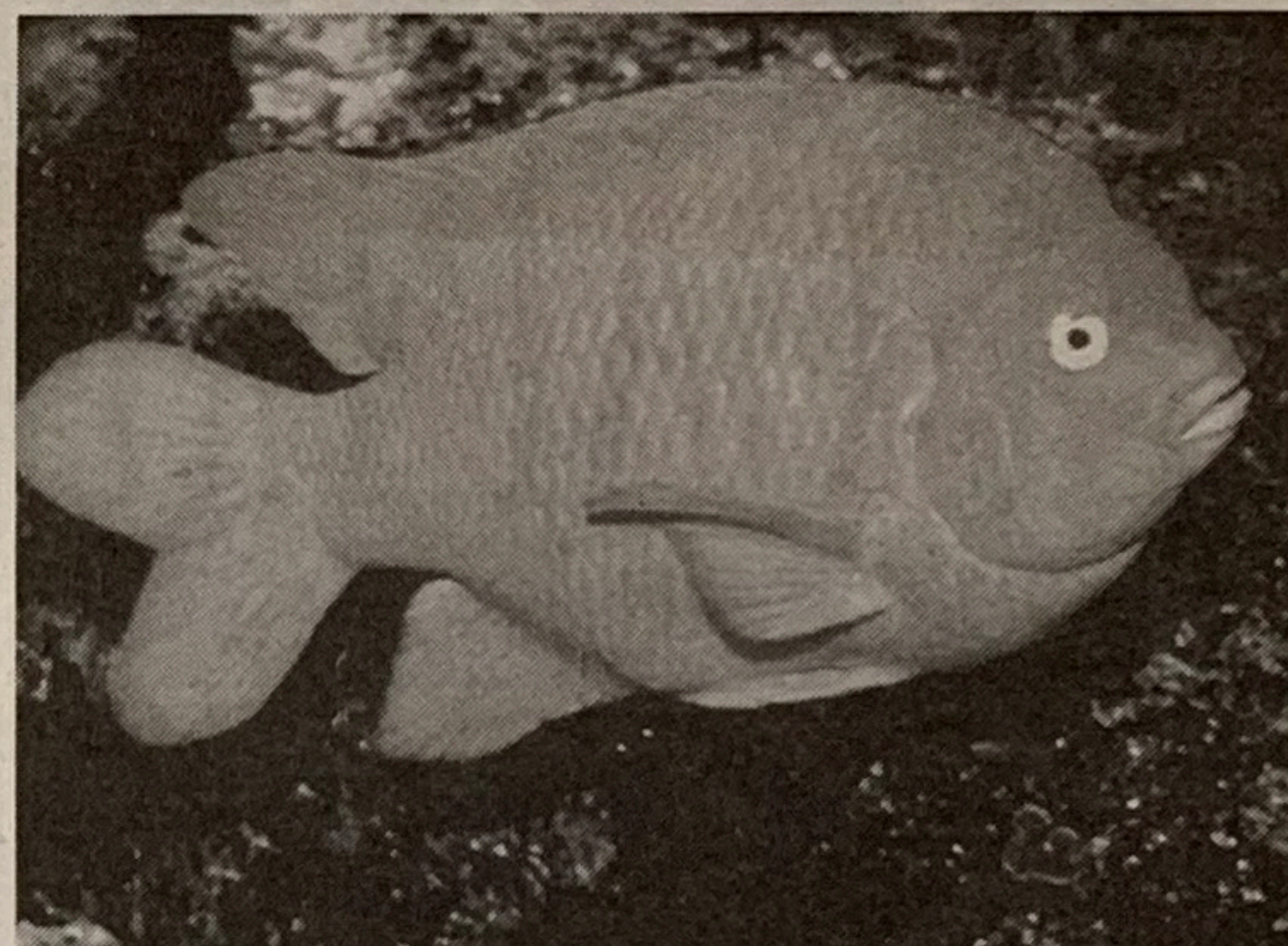
Starry rockfish



Rosey rockfish



Juvenile garibaldi



Garibaldi

Topsmelts are related to other schooling fish: anchovies and sardines, says Nosratpour. Cigar-shaped, gray-colored, with a bluish stripe, topsmelts are a food source not only for other fish, but also for seabirds.

Those who enjoy identifying birds have one advantage over those who want to identify fish. Birdwatchers are often guided by sounds. Not many fish make sounds, says Nosratpour, but there is a local damselfish that clicks. Brightly colored, like most damselfish, it's the brilliant orange garibaldi, which is seen throughout our rocky reefs. "The garibaldi produces the click to defend its territory. It swims back and forth, making the noise, to ward off intruders."

Underwater acoustics make sound sources difficult to trace, but a snorkeler may not need the sound to find garibaldi. "They grow to twelve inches max, but they're tough. If you come into their territory they'll nip at your fins, face mask, and fingers."

We all think we know what a shark looks like, and leopard sharks are immediately recognizable, says

Nosratpour. "But the horn shark you wouldn't think was a shark at first. It rests on the ocean bottom. It hides between rocks. It's very sedentary. A horn shark doesn't have the typical, torpedo-shaped shark body either or the typical shark mouth. Its head is rounded, and its short teeth are for crushing hard objects like clams and crabs."

What identifies it as a shark, then? It has a cartilaginous skeleton and several gill slits on either side of its head. "The gill slits," says Nosratpour, "are the giveaway."

Like sharks, stingrays are cartilaginous but with their own distinctive shape. They are flat, with fins that look like wings. "And most do have a stinger at the tail base."

Of the three or four types of rays that swim in local waters, Nosratpour says you can see the bat ray best at this time of year. "The way it swims, it really does look like it's flying. This illusion is more pronounced in the bat ray than in other rays, because its wingspan — or 'finspan' — is longer and more tapered toward the ends. The thornback ray

doesn't have a stinger; instead, the dorsal part of its body has rows of spiny material. That's its protection."

For their own protection — or pleasure — snorkelers and divers can learn to identify fish in a new class at the aquarium this weekend. Their knowledge could also be put to more general use someday, says Nosratpour. "People who can identify fish may be able to help a scientist do a fish-population study. They can be that extra pair of eyes." As in birding and astronomy, he says, amateurs may make important contributions.

—Jeanne Schinto

#### "Fish Identification for Snorkelers and Divers"

**Saturday, October 13,  
9:00 a.m.–12:00 noon  
Birch Aquarium at Scripps  
Institution of Oceanography  
2300 Expedition Way,  
La Jolla**

**Cost: \$25 for members;  
\$35 for nonmembers  
Advance reservations required  
Info: 858-534-7336**

**Local Events**  
page 57

**Classical Music**  
page 72

**Art Museums  
& Galleries**  
page 75

**Theater**  
page 76

**Pop Music**  
page 81

**Restaurants**  
page 108

**Movies**  
page 119