

torch sprang up, spewing out over a considerable distance fire, hot coals and sparks . . ." Comparing the rest of the account with lunar photographs, Hartung concludes that the observers may have been witness to the towering cataclysm that accompanied crater Giordano Bruno's birth, though the actual point of impact would have been over the horizon at about 103°E. Besides exhibiting perhaps the longest rays for its size of any crater on the moon, Giordano Bruno has a sharp-edged, relatively unweathered rim indicative of youth.

Not all researchers are as certain as Butler and others that one of Giordano Bruno's rays crosses the Luna 24 site. One dissenter is Carly Pieters of the Massachusetts Institute of Technology, who has been studying the lunar surface for years via wide-band spectroscopy through earth-based telescopes. She says the technique has great potential for mineralogical

studies, however, and at the recent meeting of the American Geophysical Union in San Francisco she described the sort of terrain in which Luna 24 probably touched down. "The site itself," she reported, "is in an inhomogeneous, low-titanium, basaltic region," although spectral analysis of the depths of nearby crater Picard to the west indicates that basalt with a higher titanium content may lie underneath. "The main basalt types returned by Luna 24 are likely to be the familiar low-titanium basalts of Luna 16 and, to a lesser extent Apollo 12, with perhaps some components of a high-titanium basalt, a very-low-titanium basalt and highland material."

There is some basalt-type material, Duke confirms, though parts of it may be more crystalline than common lunar lava flows. Soviet scientists will present the U.S. with additional samples at the Lunar Science Conference at JSC in March. □

and they don't serve any function we know of," explains Johnson.

Megamouth has no official scientific name yet. Taylor and colleagues must first publish a description of the fish.

The shark will be sent to the California Academy of Sciences in San Francisco for further study. Normally, rare fish are sent to the Smithsonian Institution in Washington. But in this case, Taylor explained, the distance is too great and the facilities at the Smithsonian are limited; it has no crane to lift the massive fish.

There are no immediate plans, Taylor said, to try to capture another shark of this species. The odds are too high against succeeding. □

Antarctic ice defeats drillers

The most dramatic project in this season's U.S. Antarctic research program has been an attempt to drill completely through the 420-meter-thick Ross Ice Shelf to obtain the first-ever observations of the marine life in the waters below. Photographic equipment, microphones and other instruments would be lowered through the 30-centimeter-diameter hole. Then scientists would be able to learn whether, as expected, the cold, darkness and relative isolation from the open sea have led to unique biological adaptations among any organisms beneath the ice.

On Dec. 14, with only 90 meters of drilling remaining, the season's work came to an abrupt and disappointing end. The ice closed in around the drill bit during a crew change, squeezing it tight and locking it in place. Efforts to dislodge it failed, terminating the drilling operations for the 1976 austral summer season.

A disappointed Robert Rutford, director of the National Science Foundation's Division of Polar Programs, was in Antarctica at the time. After conferring with leaders of the Ross Ice Shelf Project at the drill site, he announced that the effort would be continued next year, probably with a smaller, 20-centimeter-wide hole plus use of drilling fluid to prevent the ice from closing in. □

French nuclear policy

The French government has announced a ban on further exports of nuclear fuel reprocessing plants. The decision marks another step back from France's previous policy of making major commitments to provide developing countries with the technology necessary to become independent nuclear powers (SN: 1/24/76, p. 59 and 10/16/76, p. 244). The move is seen as a response to American pressure, and although existing commitments have not yet been called off, their fulfillment is now in doubt. □

A novel variation of Jaws

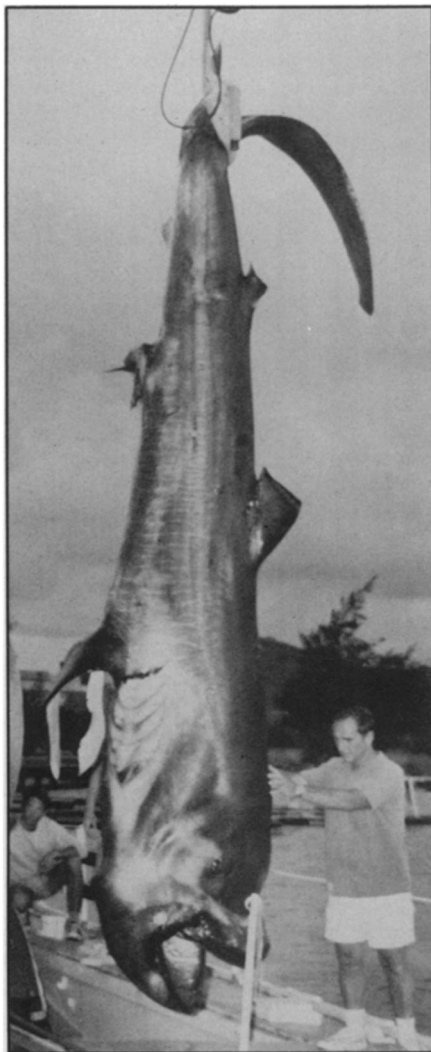
With the lower jaw like a bathtub and four rows of little needle-like teeth, the 14½-foot fish caught accidentally last month is a very unusual shark.

"It is a new species, genus and family," says leading shark expert Leonard Compagno of Stanford University. "There is nothing like it." Compagno describes the shark as having "a very peculiar, enormous head, a very peculiar short snout and peculiar gill structures." Of the 350 known species of sharks, the new species most resembles the sand tiger shark.

Appropriately it was the unusual mouth that led to the shark's capture. A Navy torpedo recovery vessel 35 miles northeast of Hawaii had dropped a parachute-like sea anchor to keep the ship stable for a couple of hours. According to Scott Johnson of the Naval Underwater Systems Center in San Diego, the shark apparently mistook the parachute for food and bit it. Then the shark couldn't get loose and eventually suffocated. The 1,650-pound fish was hauled onto the ship's slanted stern on the rollers used for retrieving torpedos.

Scientists were surprised to find a large shark in relatively deep water. The shark was trapped at a depth of 500 feet in waters about 13,000 feet deep. "Sharks in that area are relatively rare in comparison to continental shelf and upper continental slope areas," Compagno says.

Leighton Taylor, director of Waikiki Aquarium at the University of Hawaii, has been examining and dissecting the new shark, an adult male, which he nicknamed Megamouth. Taylor found inside Megamouth 8 liters of "soupy red liquid." He concluded that the shark fed on a type of tiny shrimp. The shark would swim with its huge mouth open, and large projecting structures near the gill slits would trap



Megamouth: The newest species of shark.

plankton as the ocean water rushed out. Megamouth's 484 teeth seem to be only vestigial. "They are not even very sharp,