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A RARE FILMING A LIVE DEEP SEA GIANT SQUID OFF JAPAN

The Japanese researchers under the leadership of Dr Tsunemi Kubodera have successfully filmed a live giant squid from a depth of 630 m, of Japanese coast in the northern Pacific Ocean. The species filmed belonged to *Architeuthis* sp. This remarkable filming was possible in July 2012 near Ogaswara Islands, 620 miles south of Tokyo, after 100 dives by the submersible. The submersible is noise-less and equipped with hi-tech lighting. Normally, these squids will avoid noises and lighting in their dark territory. The scientific team remained in pitch dark and used a near-infrared light, which is not visible to the human eye. In one of the dives, the giant squid came close before the camera and the filming of a giant squid in its natural environment was achieved. The filmed squid was lacking two longest tentacles. If they were there, the specimen could have measured nearly 7-8 m (23-26 feet) long. Dr. Kubodera, who is specializing on squid research could film a giant squid being



hooked and brought to the surface in 2006. This giant squid brings the memories of the genesis of the Nordic legend of Kraken, a sea monster believed to have attacked the ships in the waters off Scandinavia during the last millennium.

There are eight species of giant squids under the genus *Architeuthis* and belonged to the family Architeuthidae. These giant creatures can grow to larger size of 13 m for females and 10 m for males. In February 2007, a colossal squid *Mesonychoteuthis hamiltoni* belonging to the family Cranchiidae was caught in New Zealand waters and it measured 14 m long.

GENETICALLY MODIFIED SALMON



Genetically Modified (GM) salmon (large one) and a non-GM salmon (small one) of the same age

US biotechnology laboratory “AquaBounty” is collecting eggs from genetically modified Atlantic salmon at Canada. When they grow fully in onshore tanks at Panama, the AquaAdvantage salmon will resemble their natural cousins, but reach full size in half the time. The US Food regulator, the Food and Drug Administration (FDA) has now approved that the transgenic AquaAdvantage salmon has no significant impact. The GM salmon contains some genes from the Pacific Chinook salmon and an eel, the ocean out, which makes the fish grow faster and year round.

However, there are some fears by the Atlantic Salmon Federation that GM fish could find its way into the natural system, start breeding and disturb the ecosystem.

Nevertheless, the Aqua Bounty declares that the GM salmon are all sterile female and raised in indoor facilities and the chance of the fish breeding in the wild is negligible.

Source: BBC News Technology dt 23-1-2013

GLOWINF FISH

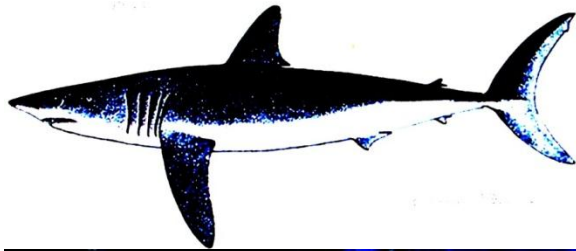


A decade ago, the scientists from Singapore and Taiwan inserted a natural fluorescence gene from a sea coral into fish embryo and such glown fish were used to detect the environmental toxins in the wild. However, realizing the market potential for such glown fish, the Taiwanese firm M/s Taikong began to sell glowing medoka fish for the aquarium trade.

The Government of Taiwan was the first to approve the sale of Genetically Modified pet fish. A US based company in collaboration with Singapore researchers to market GloFish - fluorescent zebra fish. Due to heavy demand, a variety of different colours – (red, green, orange, blue, and purple) of zebra fish were produced. Also, the fluorescent tetras and tiger barbs were produced.

Source: BBC News Technology dt 23-1-2013

MOVEMENT OF TAGGED MAKO SHARK, *ISURUS OXYRINCHUS*



The New Zealand scientists of Niwa have tagged a 1.8 m sized female Mako shark, *Isurus oxyrinchus* with a satellite tagging device and named her as Carol. She was tagged six months ago in the Bay of Islands. So far, the tagged shark has travelled 13,300 km, on an average of 60 km/day and sometimes 100 km/day. The Satellite tag has revealed that Carol has spent most of the time at Ocean's surface. First she went half way to Fiji, turned around and came back to New Zealand, spent about six weeks at 90-Mile beach and again proceeded to Fiji/New Caledonia area. Then she performed the return journey back to New Zealand and moved southward beyond Bay

of Plenty and Hawake Bay. Generally, the mako sharks feed on schooling fishes such as skipjack tuna and mackerel. It is presumed that the return journey of tagged mako may be due to not finding enough food in Fiji/New Caledonia area.

This tagging programme was funded by the Ministry for Primary Industries of New Zealand and was carried out in collaboration with the Guy Harvey Research Institute at Nova Southeastern University in Florida. , who are funding The electronic tags and Argos satellite time were provided by that funding University. In February 2013, it is planned to tag more mako sharks, to know more about the migratory behaviour of the species.

Source NZ Herald



DRASTIC REDUCTION IN THE POPULATION OF PACIFIC BLUE FIN TUNA

The recent report by the International Scientific Committee for Tuna and Tuna-like species in the North Pacific Ocean indicated that 96.4 % population of blue fin tuna (*Thunnus orientalis*) has declined, since the fishing has started for species some 200 years ago. The main reasons attributed to its decline were the capture of 90 % of juveniles and adults (0 to 3 year class) from spawning grounds in all these years.

The only alternative to safeguard the remaining stock is to impose the minimum size for capture and catch limit for the

entire Pacific Ocean along with improved management and strict regulation.

Source: FIS-World News

ROLE OF CUTTLEFISH SKIN FOR BETTER CAMOUFLAGE



The scientists from Wood Hole Marine Biological Laboratory and School of Aquatic and Fishery Sciences of University of Washington, USA have reported in 2010 that the same gene that produced light-sensing molecules in the retina of eye was distributed certain areas of the skin of cuttlefish. This protene called opsin is concentrated near chromatophores and these tiny organs consisted of an elastic sac of red, yellow or black pigment and are tied to muscle fibers. The scientists believe that the protein senses light, while the chromatophores change the colour of skin. It is believed that the opsin may be acting on its own without brain signaling and may be somehow connected to the chromatophores. Further, the opsin present in the skin make the other-wise colour-blinded cuttlefish to “see” the multicoloured environment. The scientists from Woods Hole Marine Biological Laboratory are collaborating with bioengineers across the US to develop a material, which can imitate this camouflage mechanism. The developed material might be able to hide the objects or change the colour of object or allow the buildings to remain cool during the summer and warm

during the winter by darkening to absorb the heat and lightening to reflect it.

ENDANGERED WHALE SHARK PUT INTO DEATH, RATHER THAN SAVING IT

A whale shark (*Rhincodon typus*), measuring 5.2 m/1.5 t, caught in an illegal purse seine off Injambakkam, south of Chennai city on 27th January 2013 was dragged to the seashore by the local fishermen with the idea of making some quick money after selling the shark, instead of pushing it back to the sea. Irrespective of the instructions from the Department of Fisheries officials, the fishermen did not release the shark, on the night of its capture. Next day morning when the officials of Forest Department arrived, an attempt was made to push the shark back into the sea. However, the shark became so weak because of the injuries inflicted by the fishermen and met the slow death. The capture of whale shark, an endangered species under Wildlife (Protection) Act of 1972 attracts a fine up to RS.25,000/- or an imprisonment up to seven years for those who cause its death. The Gvoernment of Gujarat gives cash awards up to Rs. 25,000/- to those fishermen rescue and release the whale sharks when they entangled in their fishing net. Such reward system may also be introduced in Tamil Nadu, as suggested by the Director of Zoological Survey of India.



