Humboldt squid

Finance, Investment

Humboldt Squid Dosidicus gigas Domain: Eukarya Kingdom: Animalia Phylum: Mollusca Class: Cephalopoda Order: Teuthida Suborder: Oegopsina Family: Ommastephidae Genus: Dosidicus Species: Dosidicus gigas Ecological Geographic range: Receives its name from its main location – the Humboldt Current This current is found in the East Pacific Ocean region The Humboldt squids are sometimes found along the coastal region of California, Oregon, Alaska and Washington Generally, found about 2, 300 feet below surfaceEnter shallow waters to lay eggs Trophic level: Sharks, dolphins, whales, tuna swordfish, many types of rays as well as an abundance of crustaceans, mollusks, fish of all sizes, and other cephalopods such as octopus can be found in the food web of the Humboldt The Humboldt is occupies a relatively high trophic level It feeds on krill and small species of fish Predators: Sperm whales, sharks, seals, swordfish, and marlin feed on Humboldt squids of all sizes, while gulls and large fish often capture juveniles Parasites include Chromidina elegans, a ciliate protozoan that lives inside the renal organs of the Humboldt Life Cycle: Average life span is 1 year; however, some can live up to 2 years Spend much of their short life in the ocean’s oxygen-minimum zone Come up at night to feed After 200 days, the squids reach sexual maturity They die shortly after mating Physiological Development Bilateral symmetryArms and tentacles – 8 arms and 2 retractable tentacles Mantle – hollow structure and so internal organs are all exposed directly to the ocean water Funnel – water is pumped from out of the mantle to the funnel, which allows squids to move Fins – are used for both maintaining position and generating thrust Chromatophores – tiny elastic sacs of pigment. The Humboldt squid can turn their entire bodies from

red to white to red again in less than one second Digestive system: Complete and ciliated Mouth, anus and complex stomachUse of a duck like beak to break up food A radula or ribbon horn found on the tongue directs the food down the esophagus Food is taken up by cells lining the digestive glands arising from the stomach and then passed into the blood Excretory System Undigested materials are compressed and packaged and discharged through the anus into the mantle cavity and carried away by ocean currents Excretory functions are carried out by a pair of nephridia (tubular structures that collect fluids from the coelom and exchange salts) Respiratory system: Contains three hearts to support the constantly moving lifestyle of the squid Hemocyanin is the copper-rich respiratory protein that transports oxygen throughout the body Circulatory system: complex, closed circulatory system (reason why they can move fast) contains two branchial hearts at the base of the gills which send unoxygenated blood through the gills A third ventricular heart then pumps oxygenated blood throughout the body (blood turns blue when oxygenated, colorless before) Nervous system: Highly developed and sensitiveBrain consists of two fused nerve centers that are linked down the length of the body by two giant nerve axons The giant axons transmit nerve signals quickly Interesting fact – the squid’s nervous system is connected to structures called statocysts. These vesicles let the animal to orient itself to a gravitational field, allowing the squid to remain aware of its orientation and movement in a three-dimensional manner Reproductive strategies Highest fecundity of any cephalopod Reach sexually maturity after 200 days of life Timing and location of eggs is still guesswork for most scientists Sexual reproductionSemelparous reproduction (reproduce once in their lifetimes and

die shortly after) Female Humboldt squids can have about 10 million eggs; however, the most to have been found has been between half a million and a million eggs After the eggs are laid, there is no further parental investment Kurth, J. and M. Garzio 2009. “ Dosidicus gigas” (On-line), Animal Diversity Web. Accessed March 18, 2013 at http://animaldiversity. ummz.

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