## **Interesting Geoduck Facts**

Latin name: Panopea abrupta (Conrad,

1849)

Superfamily: Hiatellidae

Family: Hiatellidae



- "The common name for geoduck has a native American origin, meaning "dig deep", a reference to humans or sea otters digging them. The scientific name is *Panopea abrupta* (Conrad, 1849) and I believe it is the largest intertidal clam in the world. It is the largest species of Panopea."

  Harbo, R.1997.Shells and Shellfish of the Pacific Northwest".
- The geoduck clam is sometimes spelled: goeduck, goiduck, or gweduck.
- The Chinese call the geoduck the "elephant trunk clam"
- Native to the northern Pacific coasts of Canada and the United States of America, that is, along the coasts of Washington state and the province of British Columbia. About 109 million adult geoducks are packed into Puget Sound's sediments the biggest bunch of marine animals in the Sound.
- The geoduck is the largest intertidal clam (and the largest burrowing clam) in the world with an average weight of approximately 1 kg (2.2 lbs) in B.C. and a shell length to 195 mm (7").
  - "I had one of these (Panopea abrupta) on display here at the Seattle Aquarium that was 13 pounds, and I've heard of bigger ones. They are generally credited with being the deepest digging clam, the biggest burrowing clam and it's possible that the geoduck is one of the longest-living mollusks."
    - Roland C. Anderson, PhD; Puget Sound Curator, The Seattle Aquarium (Source)
- Huge geoducks have been recorded weighing up to 4.5 kg (10 lbs) Hand et al.1996, Harbo 1997 with larger denizens of the deep reported by fishermen in the field. (Source)

The maximum documented weight: 7.15 kgs. (Sources differ on this point)

• Age and growth studies have shown that geoduck clams grow about one inch per

year in shell length for the first four years of life. The growth rate is gradually reduced after this time. The average size of 2.2 pounds is reached in five to six years.

- Average Age: Adults may live to over 140 years and reach a maximum shell length of 23 cm. Geoducks are among the longest-lived animals in the world. Growth-ring analysis shows many individuals live for more than 100 years. They grow rapidly in the first 10-15 years (approximately 1 inch per year), after which time the growth in shell length almost ceases and is replaced by a thickening of the shell and a slow increase in body weight.
- Oldest Recorded Age: 146 to 168 years (sources differ on this point).
  - "The neck of a geoduck can stretch to 1 meter, from the body and shell of this clam. When the clam is harvested (by divers, using high pressure water jets), the neck contracts. The oldest clam aged from British Columbia is 168 years old!" "

Harbo, R.1997. Shells and Shellfish of the Pacific Northwest".

- Geoducks are most often found at depths between 10 and 80 feet below the mean low tide mark, but have been reported at depths reaching 360 feet. Average depths from another source: subtidal, from 8 to 120 m depth
- They bury themselves up to a meter deep in sand, silt, gravel and other soft substrates. A developing geoduck will burrow into sediment at an approximate rate of 1 foot per year. After digging about 3 feet deep, the adult geoduck settles in for 100 years or more.
- Siphons and neck cannot be withdrawn into their shell. In burrowed adults, the siphon may stretch 39 inches to the sea bed.
- Geoducks have separate sexes. Spawning occurs annually, primarily from Late April to July, when waters are warm. Females release from 7-10 million eggs, which develop through several stages in the water column until settling on the bottom within 40-50 days. At a shell length of 2 mm, they burrow into the substrate and can bury to a refuge depth of 60 cm in two years. They are sexually mature by 3 yrs.
- The of the geoduck is thin, it lacks teeth, and it may attain a length of 8 in. (20 cm). The valves, or two parts of the shell, are always open in the adult, because the body and siphons are too large to be retracted.
- The geoduck feeds on phytoplankton (single-celled marine algae), mostly diatoms and flagellates. Due to it's diet, one must be careful of paralytic shellfish poison (PSP) or "red tides". Check with autorities if unsure wheter or not there is a red tide before attempting to invite a geoduck for lunch. Red tides are harmless to the clams, but they can be fatal to humans.
- As Food: The neck can be cut or ground and used in chowders. The body meat, when sliced, pounded and sautéed it resembles abalone. Although they are edible,

they are not widely marketed due to their inaccessibility. They are exposed for only a few hours a month, during minus tides, and even then only a very fast person digging with a shovel can attempt to dig out this fast burrowing clam. (Note: sport limits for the stae of Washington are three per day)

- See the <u>Underwater Harvestors Page</u> for information of purchasing, storing, preparing and recipes for geoducks
- The prime meat comes from the neck, which may be up to 24-inches when fully extended, and the mantle can be cut or ground and used in chowders.
   The neck meat is often used in sushi or minced into patties and quick fried.
- Welcome to Geoduck Recipes: not only recipes but an introduction to geoduck aquaultue. By Grant Jones and his wife, Ashley.
- o Mirugai Sushi: Source
- Predators: sea stars, crabs, fishes, and birds.
- SCUBA divers utilize high-pressure water to "dig" out the geoduck. The divers wear dry suits for protection from the cold water and they are supplied with air pumped down to them through a flexible hose from a compressor onboard a fishing boat. They must wear heavy weights to keep them submerged. Divers walk along the bottom for geoduck shows, which are the visible exposed tip of a siphon or dimple left in the sand from a retracted siphon. The divers then use a nozzle fed with high pressure water from the fishing boat above them to liquefy the sand around the geoduck thus removing the clam. The geoduck is then placed into a bag clipped to their waist. Divers are in constant communication with their boat via high tech diver to ship communications.

## Resources Used for this Page and Other Sites on the Geoduck:

- The Columbian (2007) another good facts page
- Canada Fishery Management:
- Geoduck.org Canada
- Fact Sheets Geoduck
- Geoduck clam (Panopea abrupta): Anatomy, Histology, Development, Pathology, Parasites and Symbionts
- <u>Geoduck farms considered</u> As many as 10 operations could be started along the coast ... Nicholas Read, Vancouver Sun
- Geoduck Information: David George Gordon, "Field Guide to the Geoduck"
- Geoduck FAQs:
- Geoduck Fact sheet: Government of Canada Harbo, R.1997.Shells and Shellfish of the Pacific Northwest".
- Fisheries and Oceans Canada Stock Status Report (pdf file)
- Washington State geoduck facts: Washington Department of Fish and Wildlife
- Three Feet Under
- The Geoduck Chronicles: How an obscure bivalve became the object of international desire
- NOAA FAQs
- Roland C. Anderson, PhD; Puget Sound Curator, The Seattle Aquarium
- Science
- Wikipedia
- Toxicity in Geoducks: Red Tide

- Underwater Harvester's Association:
- King Clam
- Oceans Alive
- Puget Sound Online Current Creature- Puget Sound Sealife
- Seatlepi.com: <u>Cashing in on geoducks</u>
   Once chowder fodder, the giant clam can fetch up to \$24 a pop
- To Prepare Geoduck For The Table.....
- The Geoduck Aquaculture Program
- Shellfish Commercial Fisheries Geoduck Southeast Alaska and Yakutat CURRENT NEWS RELEASES AND FISHERY UPDATES
- Seattle Times: 'Duck' is a misnomer for bountiful 'King Clam'
- Monteray Aquarium Geoduck Clams
- GOOEY DUCKS (geoducks) fun site
- A Geoduck Blows Bubbles at Dungeness Spit

## **Comments From My Viewers**

• Geoducks may be the fastest flying clam but they settle in they are not going win any races with with any other animal except another geoduck. Thanks for you info, Bill Lackner

