

Holothuria mexicana (Donkey Dung Sea Cucumber)

Order: Aspidochirotida (Sea Cucumbers)

Class: Holothuroidea (Sea Cucumbers)

Phylum: Echinodermata (Starfish, Sea Urchins and Sea Cucumbers)



Fig. 1. Donkey dung sea cucumber, *Holothuria mexicana*.

[<http://eol.org/pages/599524/overview> , downloaded 26 February 2016]

TRAITS. *Holothuria mexicana* is commonly called the donkey dung sea cucumber (Paulay, 2015). It is a brown, 50cm long sea cucumber which is sometimes covered in brown or grey warts, and has a tough and rigid texture. The underneath of its body tends to be of a pale pink, whitish or orange colour. This underside is also covered in tube feet called pseudopodia. The mouth is under the front end of the body, and has tentacles that are used for feeding (Hasbún and Lawrence, 2002).

DISTRIBUTION. This species is found throughout the Caribbean and at the Azores in the Atlantic Ocean (Fig. 2). *Holothuria mexicana* can be found in the waters of Trinidad and Tobago (Paulay, 2015) but its main distribution is to the north and west, including Jamaica, Panama, Venezuela, Cuarcas, Florida in the United States of America, and Mexico (Hasbún and Lawrence, 2002)

HABITAT AND ACTIVITY. This species resides in shallow, calm waters that have a sandy bottom (Fig. 3). *Holothuria mexicana* can also be found at locations that have seagrass beds (Fig. 4), and sandy ground near reef hard bottoms, mangroves, and lagoons. They are nocturnal (Hammond, 1982), feeding mostly at evening time and onward throughout the night.

FOOD AND FEEDING. They are bottom feeders in that they consume small organisms such as algae, minute aquatic organisms and waste materials. *Holothuria mexicana* may take in coastal pollution of metals such as copper, lead, zinc and nickel (ZipcodeZoo, 2015).

POPULATION ECOLOGY. Solitary throughout the ocean beds of the Caribbean, though usually in relatively close association with other *Holothuria mexicana* (Guzmán and Guevara, 2013). *Holothuria mexicana* can hybridize with *Holothuria floridana* to produce viable offspring that are able to survive and live in the environment (Toral-Granda et al., 2013).

REPRODUCTION. Reproduction is done by spawning. When sexual maturity is reached at an approximate size range between 13-20cm body length, the female *Holothuria mexicana* spawns by expelling all of her eggs into the water through her sexual organ called a gonopore (Guzmán et al., 2003). Sperm are also dispersed from a male *Holothuria mexicana*. Movements of their tentacles are used to help disperse the eggs and sperm through the water. Fertilization of the egg by the sperm occurs and an auricularia larva is formed. Spawning appears to be seasonal depending on the location of the *Holothuria mexicana*. In Florida spawning is from August to September, while in Curacao it is from September to October. Also in Panama, spawning takes place from May to July. Therefore May to October spawning is done by *Holothuria mexicana* approximately throughout half of the year (Guzmán et al., 2003).

APPLIED ECOLOGY. It is listed in the International Union for Conservation of Nature (IUCN) Red List as of Least Concern (Toral-Granda et al., 2013). *Holothuria mexicana* is commercially harvested, gutted and dried (Fig. 5) for sale and it is consumed by humans in Central America and Venezuela. They are also attacked by natural parasites such as bacteria, protozoans and metazoans (ZipcodeZoo, 2015). Metals such as copper and zinc from coastal pollution have been found in the tissues of *Holothuria mexicana* (ZipcodeZoo, 2015).

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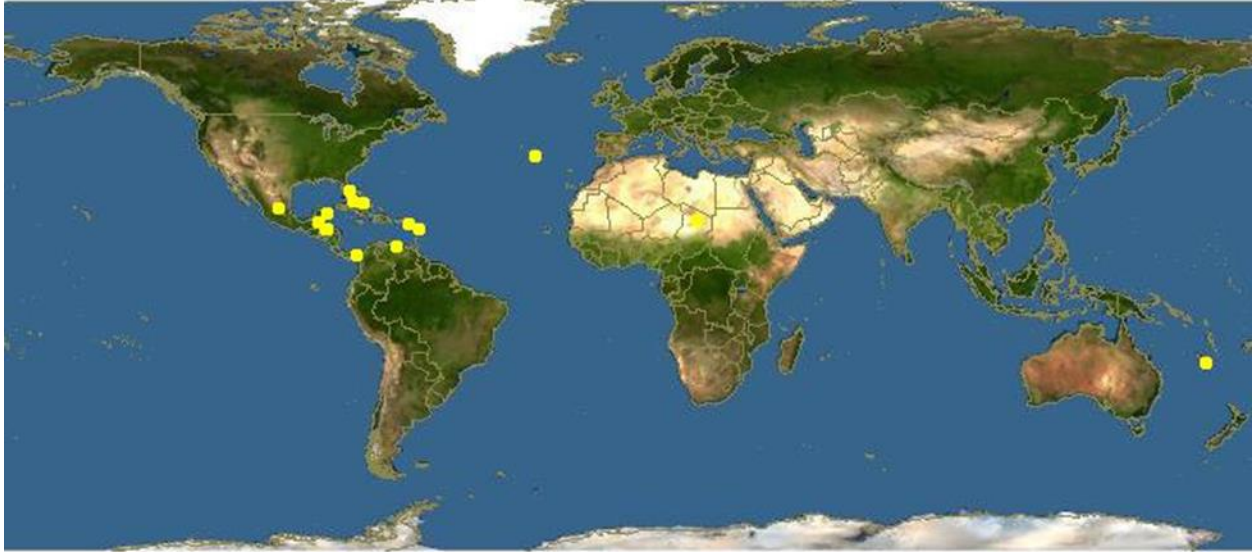


Fig. 2. Distribution of *Holothuria mexicana*.

[<http://www.discoverlife.org/mp/20m?kind=Holothuria+mexicana>, downloaded 26 February 2016]



Fig. 3. *Holothuria mexicana* on sandy ground in the ocean.

[<http://www.inaturalist.org/photos/2483601>, downloaded 1 March 2016]



Fig. 4. *Holothuria mexicana* in a seagrass bed.

[http://www.eol.org/data_objects/25205883, downloaded 26 February 2016]



Fig. 5. *Holothuria mexicana* that have been gutted and dried for sale.

[http://www.alibaba.com/product-detail/Dried-Sea-Cucumber-Holothuria-Mexicana_11207614.html?spm=a2700.7724857.29.17.Zc2dTK, downloaded 8 March 2016]