

Details



Completion Time: Less than one period

Permission: Download, Share, and Remix

Bolus Dissection

Overview

Much like an owl pellet, a bolus is all the indigestible material that is “thrown up” by an albatross. Shaped like a fat cigar, one can dissect a bolus to assess the health of our ocean, the foraging ground for thousands of albatross trying to gather enough food to feed their hungry chicks.

Objective

Students will learn about boluses and if possible, participate in the handling or dissection of an albatross bolus to determine its contents.

Preparation

Teachers can order boluses for their classrooms by contacting Ann Bell, U.S. Fish and Wildlife Service, 300 Ala Moana Blvd. Room 1-350, Honolulu, HI 96850 808-792-9532 , Ann_Bell@fws.gov.

Description

What Are Boluses?

Albatrosses feed their fast growing chicks by regurgitating lots of squid, flying fish eggs and fish larva into their chick’s mouth. The indigestible material that is “thrown up” is called a bolus.

You will find many materials inside a bolus, including squid beaks. A squid beak is a beak like jaw, made of indigestible chitin. You may also find small bits of pumice, wood and a soft string like substance that once kept the egg masses intact.

Unfortunately there is usually plenty of unnatural material in a bolus. Flying fish lay their egg masses on any floating structure in the open ocean whether man made or natural. These floating structures may be pieces of plastic that are swallowed up whole along with the fish eggs. The adult birds then fly back to their nest

Materials

- bolus (see Preparation section for ordering information)
- simple dissection tools
- magnifying glass or microscope for observing bolus contents

to regurgitate what they gathered into the mouth of their albatross chick.

The U.S. Fish and Wildlife Service employees find boluses laced with plastics by the hundreds in the Northwestern Hawaiian Islands. On a positive note, we are lucky that albatrosses can expel these indigestible materials. However, it is not uncommon to come upon an albatross chick carcass containing intact toothbrushes, plastic toys, bottle caps, cigarette lighters and fishing line (see attached photos)

Boluses provided to teachers have all been frozen for several days. It is still suggested you wash your hands with soap and water after handling and if you prefer surgical gloves work well. Please consider keeping the picked apart bolus around for a while. The U.S. Fish and Wildlife Service has a limited supply and can only send to your classroom a few boluses per year.

Resources

www.wfu.edu/albatross/ is filled with fascinating tidbits about albatross and provides flight distance maps showing results from a recent albatross tracking project conducted from French Frigate Shoals in the Northwestern Hawaiian Islands and Kilauea Point National Wildlife Refuge on Kauai.

Credits

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Bolus Dissection Photos



Albatross regurgitating food into a chick's mouth



Juvenile albatross chick with a bolus



A bolus containing a variety of foreign materials



An albatross chick carcass full of plastic