Investigation #3 - Making a Taxonomic Key

Introduction:

Southern California's abalone are large gastropod mollusks. Some species lived within the intertidal zone while most prefered subtidal ocean waters. Suddenly, during the 1990's, the abalone in the Pacific Ocean off southern California practically disappeared.

In this investigation you will work as a team of abalone taxonomists to examine and classify abalones based on the shell characteristics of four of the most common species.

Procedures:

Among the shell characteristics you might consider using for your key are:

NUMBER OF OPEN HOLES
HOLES ELEVATED OR FLAT
SHELL SMOOTH OR ROUGH
SHELLMARGIN SMOOTH OR ROUGH
MUSCLE SCAR PRESENT OR ABSENT
HOLES ROUND OR OVAL
COLOR OF SHELL EXTERIOR
ET CETERA

Work together as you carefully study the visible details of each species shell, make notes and eventually write a careful taxonomic key to identify the for different pictures: species A, species B, species C, and species D.

Discussion:

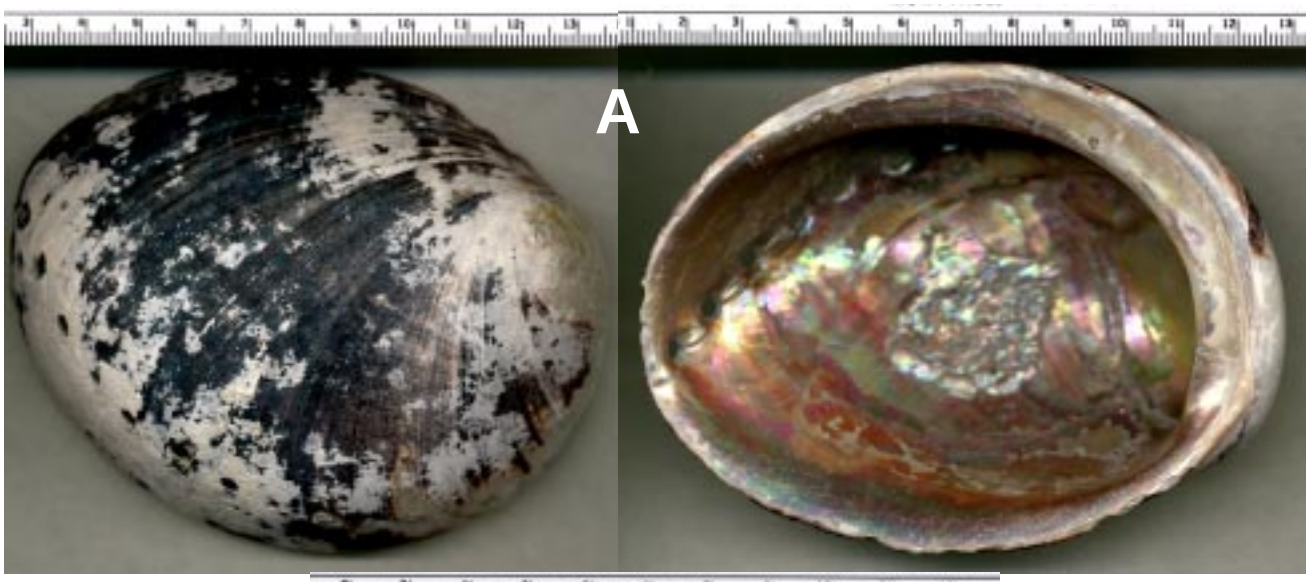
1. Which shell characteristics did you find most useful in creating your taxonomic key? Expain.

2. List several things about the shells that all the different species had in common.

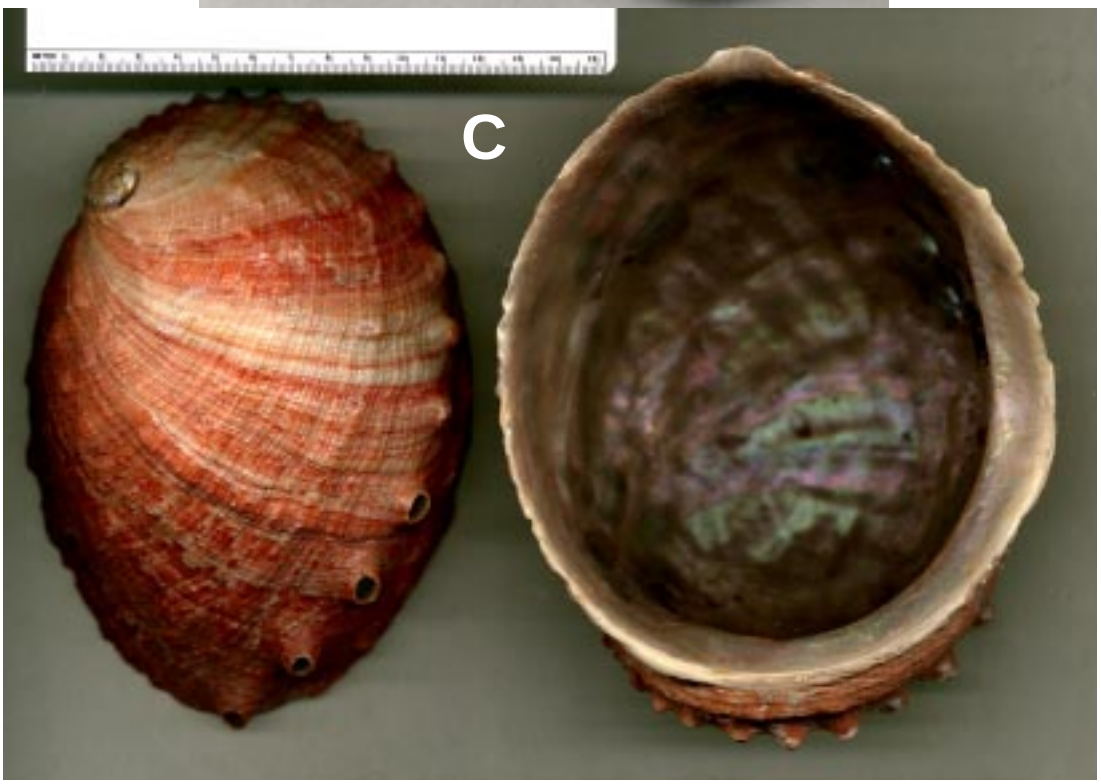
3. Use an internet search engine to research the species of abalone that were historically found in southern California and their classification, then add their scientific names to your taxonomic key for species A, B, C and D. Discuss how the classification scheme you used compares to published schemes.

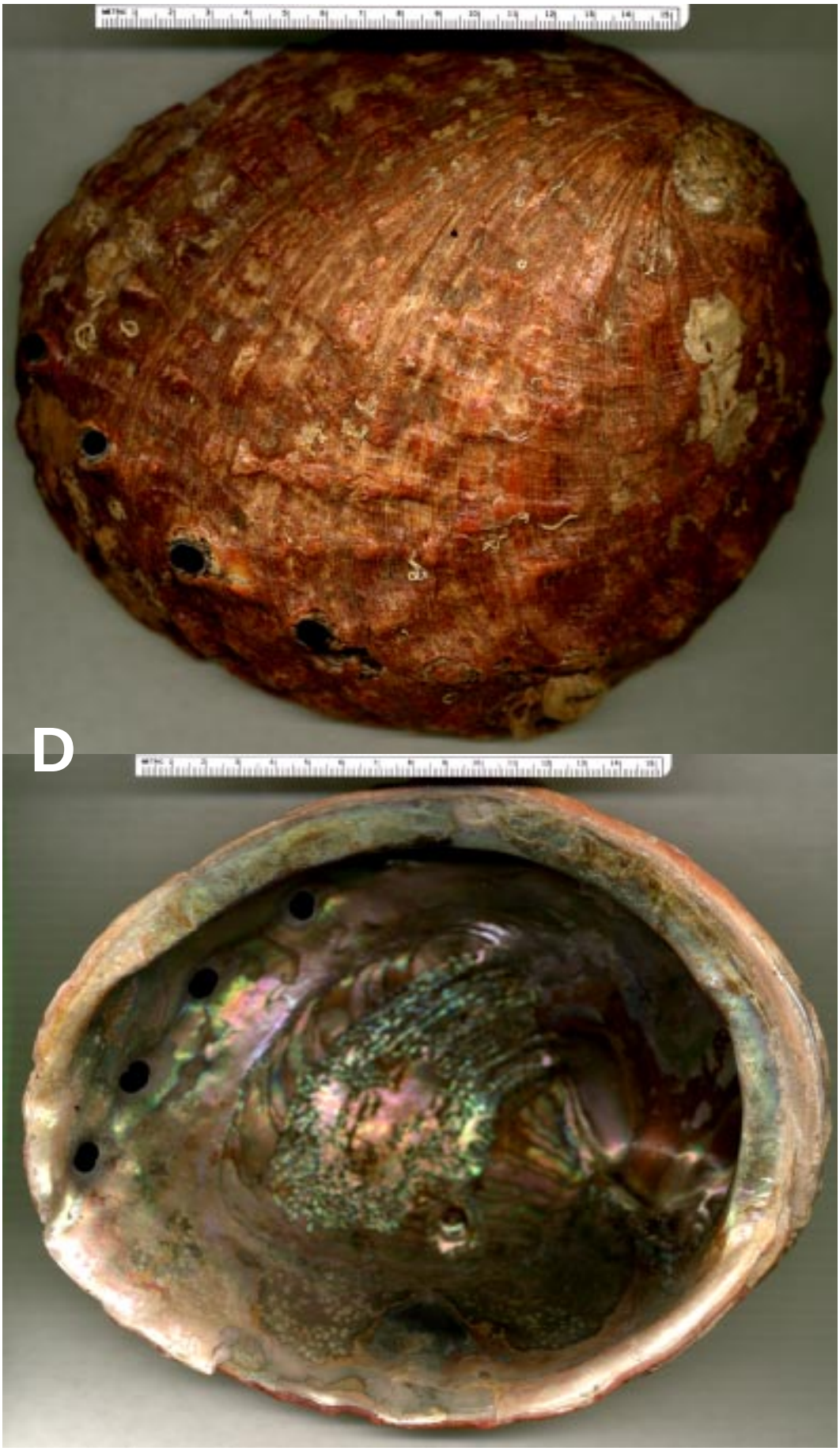
4. Use an internet search engine to research the current status of the sothern California abalone, and what things happened to these abalone populations. Be sure to cite your sources with a complete Bibliography of URL's and written publications used. Discuss options for possibly saving abalones and restoring their populations.

5. Research the native kelp forest habitat in which the abalone used to live. Find out what-ate-what and who-ate-who then put together a full page food web diagram for this ecosystem. What does this food web tell you about abalone conservation and restoration.


A


B


C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