GL21A: PRACTICAL Mollusca I – Bivalvia

1. *Antigona listeri* (Recent, Lime Cay). Left or Right Valve?

   Sketch the interior of this shell.

   Was it infaunal or epifaunal? Why

   Note that this has **heterodont** dentition with lateral and cardinal teeth.

2. *Arca* (Recent, Negril). Compare the interior of this shell with the interior sketched in *Antigona listeri* above. Note difference in hingeline, muscle scars and pallial line. Note cardinal area and ligament grooves.

   These have **taxodont** dentition. How do the teeth and sockets of this specimen compare with those seen in question 1?

   Were these infaunal or epifaunal? If epifaunal (Hint, Hint), how were they attached?

   How well are these valves preserved? Compare with specimens in question one and 3. Why are these more likely to be encrusted and abraded?

3. *Trigonia* sp.(spec. no. 6277, Jurassic). Right or left valve?

   Note the teeth and sockets, this is **schizodont dentition.**

   Note ribbed external shell. Any suggestions about their function?

4. *Nucula* (spec. no. 385, Cretaceous). How is it preserved?

   What are the bumps at either end of the shell?

5. *Kuphus sp.* (spec. no. 436, 1062, Plio-Pleistocene, Jamaica). Lives infaunally inside a secreted calcite tube (called a crypt). Actual bivalved shell is greatly reduced (not preserved in these specimens).

   Would you expect this to live in firm or soft sediment?

6. Pectiniid. Pectiniids are scallops, which, besides being tasty are inequivalve like oysters and rudists. They are epifaunal and byssate, but some may be unattached and mobile as adults. In attached forms, the 'ears' or auricles (at either end of the hinge line) are not equal in size. Is this attached or free?

   How do scallops swim?

7. *Gryphaea* sp. (spec. no. 6259, Jurassic). Inequivalve or equivalve?

   Which is the free valve?

   What was the life habit of this species?

8. *Crassostrea* sp. (spec. 1173, Neogene, Jamaica). This like most oysters has **dysodont** dentition. Inequivalve?

   The ligament is internal. Sketch its attachment area. Why is it so large and elongate?

9. .Lucinid bivalve (Chapelton Fm., Spring Mount, St. James, Jamaica) How is this specimen preserved? Why is this typical for many bivalves?

Rudists

First head down to the museum to see some of the larger specimens in the larger display cases. Specimens for questions 12-14 are here in lab.

10. *Barrettia* spp. (Cretaceous, Jamaica) Encruster, elevator or recumbent?

How large are these valves?

Make a sketch of polished sections from the entrance to the De la Beche Building.

11. *Titanosarcolites* spp. Encruster, elevator or recumbent?

What might be the function of the pores in the shell?

12. *Macgillavryia* sp. (Cret., Jamaica) How does it differ from *Barettia*?

13. *Bournonia* (spec. nos. 510, 1284b, 2444). Encruster, elevator, or recumbent?

Why do you think the external shell is ridged?

14. *Plesiodiceras* (spec. no. 1764). Elevator, encruster or recumbent?

Equivalved or Inequivalved?

15. *Caprinuloidea* sp. How did it stay stable on the sea floor?

Sketch the pachyodont hinge teeth (They are similar to those of all rudists).
How do they differ from teeth of other bivalves?