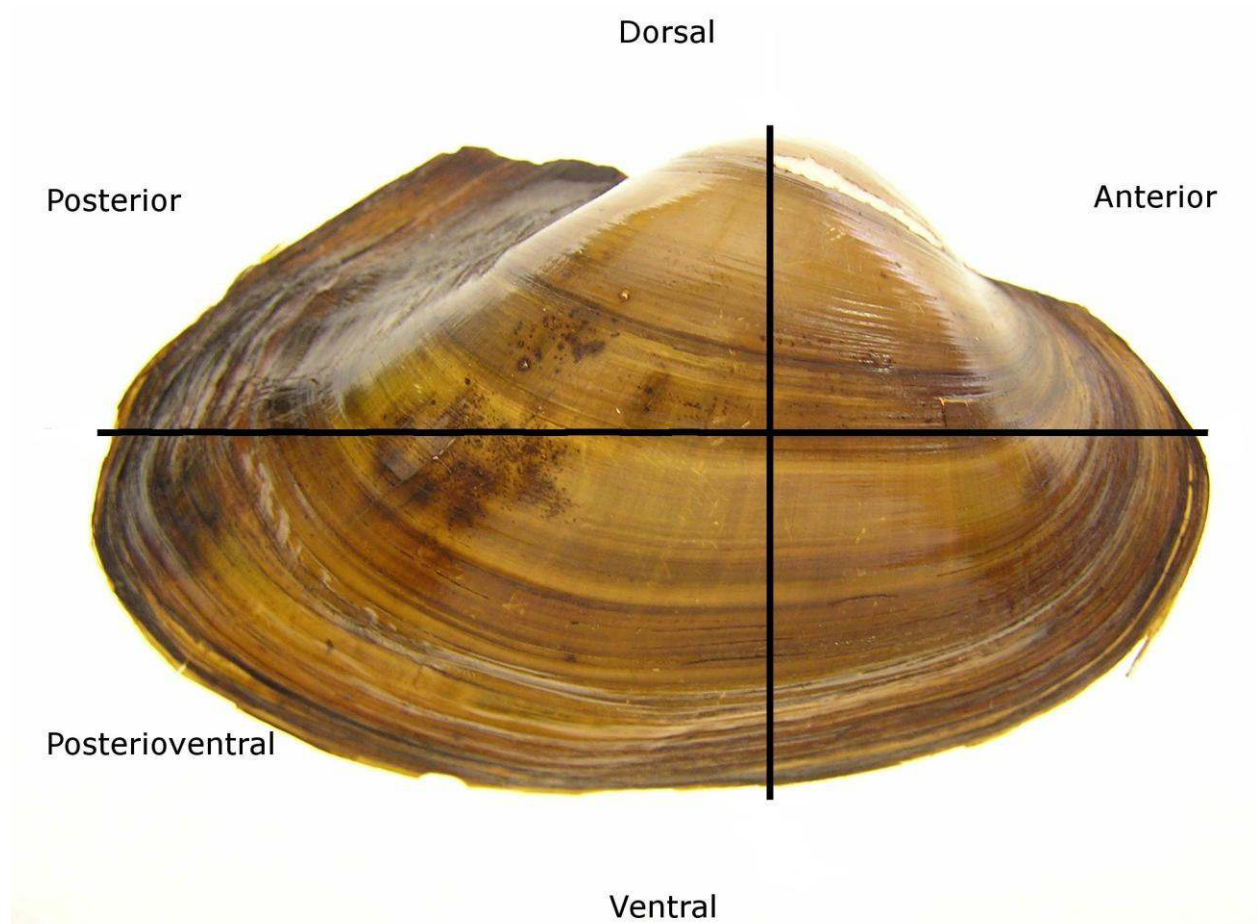
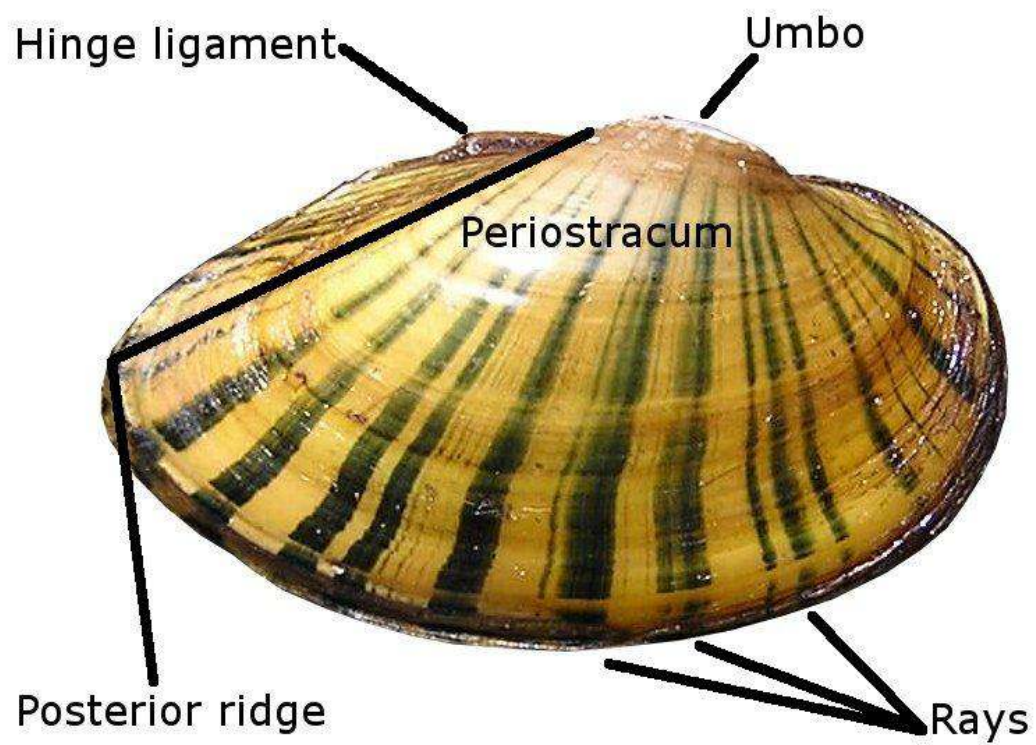


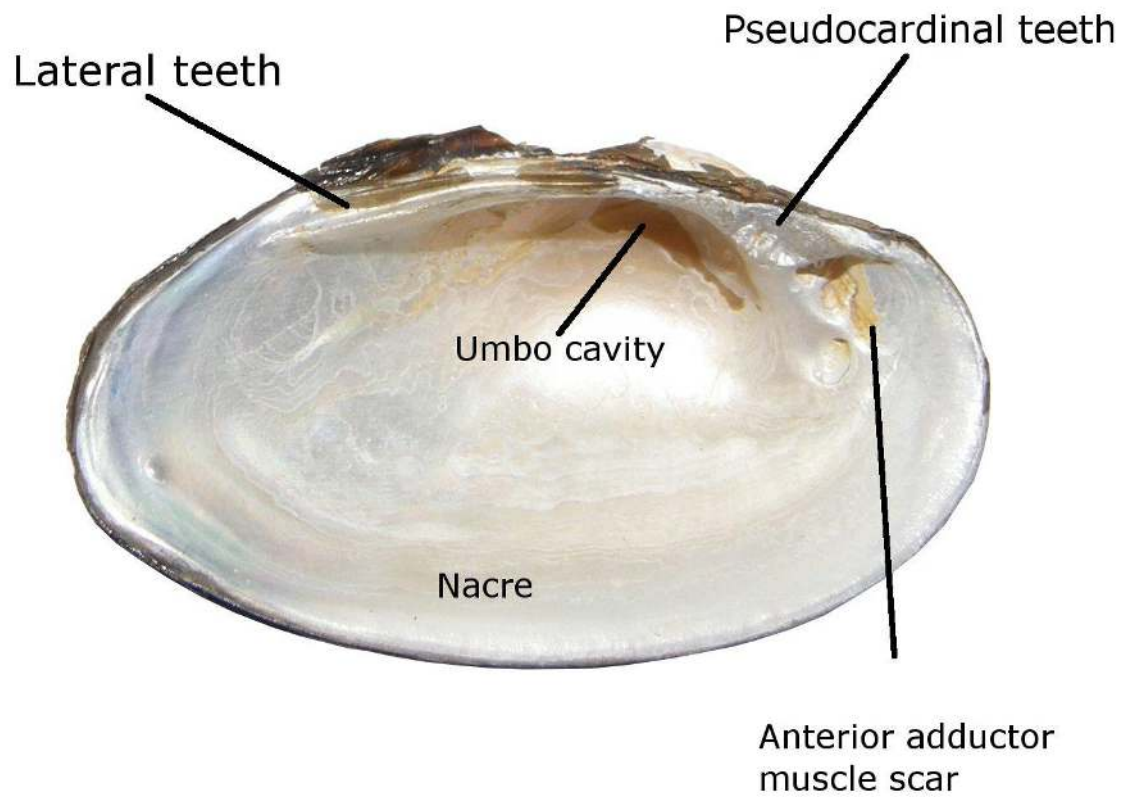
## Taxonomic Structures and Glossary of Terms Referenced in Georgia's Protected Mussel and Snail Accounts



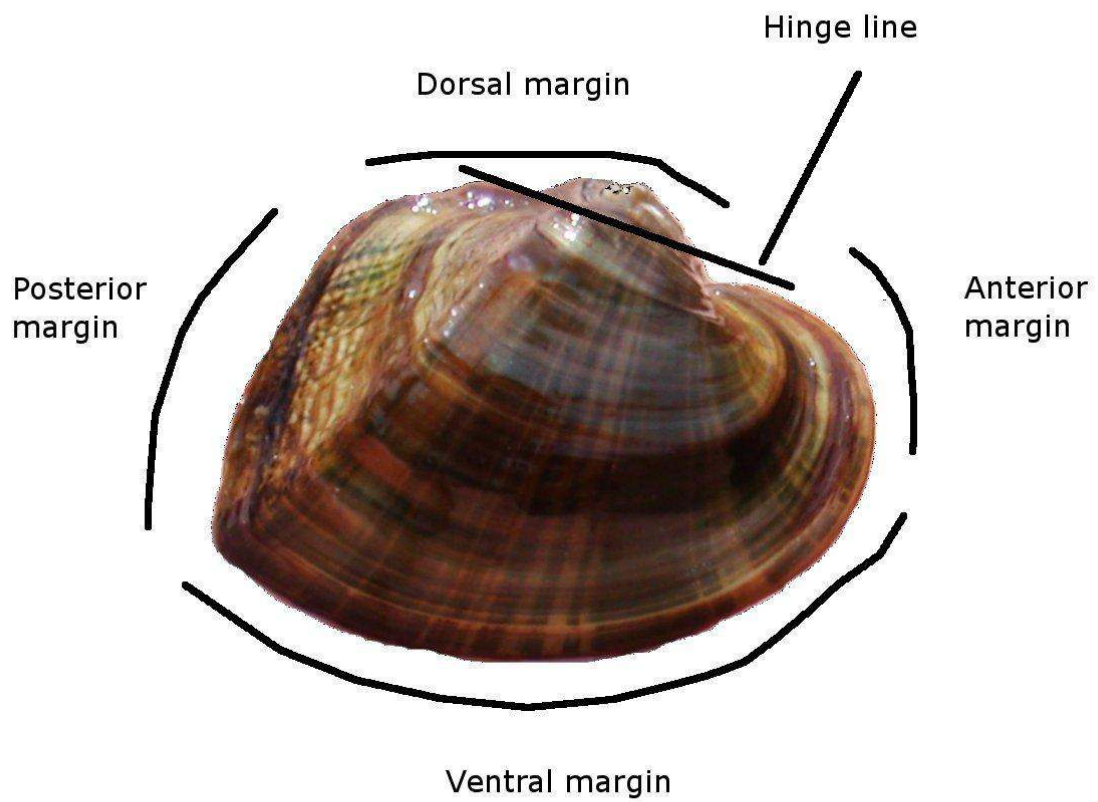
**Figure 1.** Cardinal directions of a freshwater mussel. Pictured is the right valve of the Inflated floater (*Pyganodon gibbosa*).



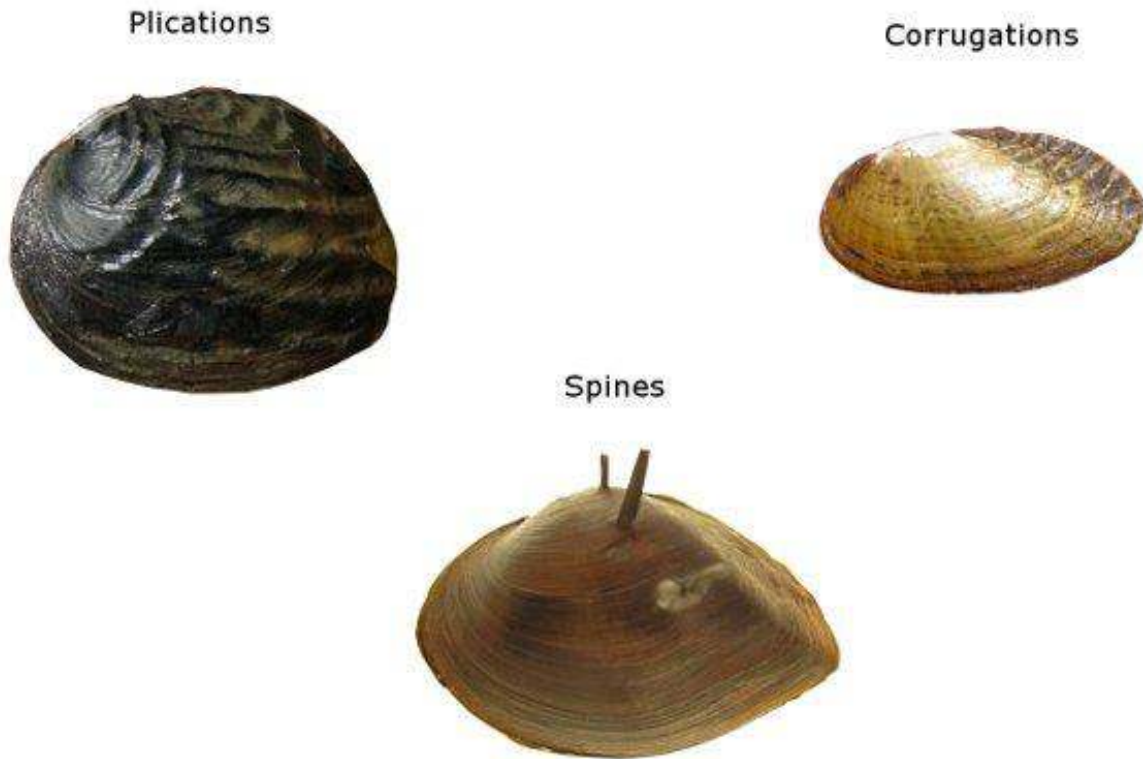
**Figure 2.** External characteristics of a freshwater mussel. Pictured is the right valve of a Shinyrayed pocketbook (*Hamiota subangulata*).



**Figure 3.** Internal shell characteristics of a freshwater mussel. Pictured is the left valve of the Savannah lilliput (*Toxolasma pullus*).



**Figure 4.** Locations of the margins and hingeline of a freshwater mussel. Pictured is the right valve of the Altamaha arc mussel (*Alasmodonta arcuata*).



**Figure 5.** Examples of sculpturing and spines of adult mussels. The plications of the Fat threeridge (*Amblyma neislerii*); Corrugations of the Gulf moccasinshell (*Medionidus penicillatus*); Spines of the Altamaha spiny mussel (*Elliptio spinosa*).





**Figure 6.** Characteristics of a gastropod shell.

### **Glossary of Terms**

**Anterior** - directional term indicating front end of an organism; toward the front (Figure 1).

**Anterior margin** – the anterior edge of a valve (Figure 4).

**Aquifer** - underground layer of water contained in permeable rock or in gravel, silt, sand, or clay.

**Arcuate** – curved or bent.

**Beak** – see umbo.

**Beak cavity** – see umbo cavity.

**Biangulate** – having two angles or corners.

**Columella** – the central axis of a coiled shell.

**Conglutinate** – a mass of glochidia bound together by mucous, often resembling food items of various fish species.

**Corrugation** – small, parallel ridges (Figure 5).

**Dorsal** - directional term indicating the "back" or "top" of an animal or object (Figure 1).

**Dorsal margin** – the top edge of a valve (Figure 4).

**Endemic** - native to a particular place.

**Extrapallial swelling** – the posteroventral swelling exhibited by females of several genera of freshwater mussels.

**Filter feeding** – the process of gathering nutrients from the water column through the siphoning water through the incurrent aperture of a freshwater mussel.

**Foot** – a fleshy and movable portion of a mussel used for locomotion and feeding.

**Gill** – an organ functioning to extract dissolved oxygen from water.

**Globose** – globular or rounded.

**Glochidia** – the larvae of freshwater mussels in the order Unioniformes.

**Gravid** – carrying eggs or larvae.

**Hinge ligament** – the ligament located on the dorsal margin of a bivalve connecting the left and right valve (Figure 2).

**Hingeline** – a hypothetical line passing through the hinge ligament of a mollusk from anterior to posteriorly (Figure 4).

**Karst** - limestone area where erosion has created sinkholes, caves, and underground streams.

**Lateral**- directional term indicating “to the side.”

**Lateral teeth** – elongate calcified projections located parallel to the hinge ligament on the interior of a mollusk valve, serving to interlock opposing valves (Figure 3).

**Lentic** - areas with non-moving water such as ponds or swamps.

**Mantle** – the fleshy tissue surrounding the soft tissue of a mussel responsible for secreting the calcified shell.

**Margin** – the outermost edge of a valve (Figure 4).

**Nacre** – the lustrous, calcified interior of a valve (Figure 3).

**Operculum** – a protein plate attached to ventral portion of a gastropod that can be retracted to encapsulate the soft tissue of the gastropod.

**Pedal feeding** – a process using the foot of a bivalve to gather algae and bacteria from surrounding substrate.

**Periostracum** – thin, protein layer covering the outside of a bivalve and gastropod shell (Figure 2).

**pH** - measure of acidity or alkalinity of a solution. Low pH is acid; high pH is alkaline.

**Plications** – large, parallel ridges in a series (Figure 5).

**Posterior** - directional term indicating rear end of an organism; toward the rear (Figure 1)

**Posterioventral** – the rear bottom of a valve (Figure 1).

**Posterior margin** – the posterior edge of a valve (Figure 4).

**Posterior ridge** – the crest radiating from the umbo to the posteroventral margin of a valve (Figure 2).

**Pseudocardinal teeth** – Calcified projections located anterior to the hinge ligament on the interior of a mollusk valve, serving to interlock opposing valves (Figure 3).

**Ray** – a pigmented line located on the periostracum radiating from the umbo of a bivalve (Figure 2).

**Riffle** - areas of fast flow in a stream where surface of water is agitated.

**Riparian** - area along the margin of a stream.



**Sculpturing** – naturally occurring raised ridges or depressions on the exterior of a shell (Figure 5).

**Shoulder** – the rounded portion of a whorl (Figure 6).

**Spines** – calcified pointed structures projecting from the exterior of a valve (Figure 5).

**Striations** – a series of small, low parallel ridges on the exterior of a shell.

**Substrate** – the bottom layer of a waterbody.

**Superconglutinate** – a conglutinate attached to the excurrent aperture of a freshwater mussel by a transparent gelatinous tube.

**Suture** – the line joining two whorls together (Figure 6).

**Truncate** – terminating abruptly, often squared.

**Umbo** – An elevated and rounded projection on the dorsal margin located anterior to the hinge ligament. All shell growth originates from this location. Also referred to as the beak (Figure 2).

**Umbo cavity** – the pocket located inside a valve underneath the umbo. Often referred to as the umbo pocket or beak cavity (Figure 3).

**Unionidae** – The family in which all native freshwater mussels in Georgia belong. One of two families of Unioniformes occurring in North America.

**Unioniformes** – the order in which all native freshwater mussels in North America occur. Characterized by a life history having a parasitic larvae stage.

**Valve** – half of the calcified structure secreted from a bivalve in opposition to one another. Often referred to as one half of the shell.

**Ventral** - directional term indicating the "belly" or "bottom/underside" of an animal (Figure 1).

**Ventral margin** – the bottom edge of a valve (Figure 4).

**Whorl** – a single coil of a spiraled shell (Figure 6).

Document updated by Jason Wisniewski, April 2011.