Partial Key for Alaskan Bivalves of Interest

This key is not an exhaustive collection of shellfish species in the North Pacific, but contains the larger species most likely to be used for human consumption. Much of the detailed descriptions were taken from the book Intertidal Bivalves: A guide to the Common Marine Bivalves of Alaska by Nora R. Foster.

1. Adductor scars separate on opposite ends of the shell, **Figure 1** (**6**)
1. Adductor scar single near the center of the shell, **Figure 2** (**2**)

2. Shell attached to rocks by threads protruding from a hole is center of shell
   [Jingle shell – *Prododesmus macroschisma*]
2. Shell not attached by hole in center of shell, free living or attached in another way, scallops (**3**)

3. Adult attached permanently to rocks, not free swimming, heavy shell, purple coloration on hinge **[Purple hinge rock scallop – *Crassadoma gigantea*] Figure 3**
3. Adult free swimming or attached only by byssal threads, **Figure 4** (**4**)

4. Auricles of equal size, adults often over 100 mm in size, shell color yellow to brown, [**Weathervane scallop – *Patinopecten caurinus*] Figure 5**
4. Auricles unequal in size, shell pink, red, or orange colored (**5**)

5. Shells with spines on ridges, one shell often red colored,
   [Spiny scallop – *Chlamys hastate*] Figure 6
5. Shell ridges not spiny, pink to cream shell color
   [Pink scallop – *Chlamys rubida*] Figure 7

6. Hinge plate with either projection of interlocking teeth or protruding chondrophore, **See figure 8a,b** (**11**)
6. Hinge plate smooth, no teeth or chondrophore (**7**)

7. Shell purple colored, pointed at one end and rounded at the other, attached to substrate via byssal threads, **Figure 9** (**8**)
7. Shell shape uniform, deep groves from the hinge to the opposite edge of shell, **See figure 10** (**9**)

8. Shell heavy with radial ribs (may be difficult to see because of shell erosion or fouling), grows to over 250 mm..
   [California mussel – *Mytilus californianus*] Figure 11
8. Shell thin and fragile, no radiating ribs, small size often less than 50 mm.
   [Blue mussel – *Mytilus trossolus*] Figure 12

9. Radial ribs triangular in outline, top with row of hairs
   [Hairy cockle - *Clinocardium ciliatum*] Figure 13
9. Radial ribs flat or rounded in outline (**10**)

10. Thick heavy shell, ribs topped with crescent shaped nodules, approximately 35 ribs **[Nuttallii cockle - *Clinocardium nuttallii*] Figure 14**
10. Thinner shell, approximately 45-50 ribs, lacking crescent-shaped nodules – **[California cockle – *Clinocardium californiense*] Figure 15**

11. Chondrophore present on one or both valves **Figure 16** (**12**)
11. Chondrophore absent (**17**)

12. Chondrophore on one valve only (Myidae) (**13**)
12. Chondrophore on both valves (Mactridae) (**16**)

13. One end of shell blunt (**14**)
13. Both ends of shell rounded (**15**)

14. Wider end of shell (posterior end) blunt, thick chalky shell **[Deep softshell clam – *Mya profundior*]**
14. Narrower end of shell (anterior end) blunt, papery brow periostracum. **[Truncate softshell – *Mya truncate*]**

15. One end of shell pointed **[Softshell - *Mya arenaria*] Figure 17**
15. Boths ends of shell rounded similarly **[False shoftshell - *Mya pseudoarenaris*]**

16. Shell heavy, gaping at posterior end hinge nearer to on end of shell **[Fat gaper – *Tresus capax*] Figure 18a,b**
16. Shell lighter, no gaping at posterior end, hinge equal distance from both ends of shell **[Arctic surf clam – *Mactromeris polynyma*] Figure 19**

17. Shell long, thin, and fragile, shells gaped so as not to completely enclose the body, interior of shell with a thick rib (razor clams) **Figure 20** (**18**)
17. Shell shape nearly circular, shell thick and completely closed, (**19**)

18. Interior rib vertical from hinge **[Alaska razor – *Siliqua alta*] Figure 21**
18. Interior rib distinctly slanted toward the anterior end of shell **[Pacific razor – *Siliqua patula*] Figure 21**

19. Three hinge (cardinal) teeth on each valve (**20**)
19. One or two hinge (cardinal teeth) on each valve (**21**)

20. Shell with only concentric rings only **[Butter clam – *Saxidomus giganteus*] Figure 22**
20. Shell with concentric rings and radial grooves **[Pacific littleneck – *Protothaca staminea*] Figure 23**

21. Low wide rib on shell inter surface, Interior pink with red and yellow patches **[Alaska great-tellin – *Tellina lutea*] Figure 24**

22. No rib on inner shell surface, thin brown periostracum when worn away show white shell surface with pink radiating lines [**California sunset – *Gari californica*] Figure 25**

Figures

Figure 1. Two muscle scars on the shell typical of clams

Figure 2. Scallop and oysters have a single muscle

Figure 3. Heavy irregular shell of purple hinge rock scallop

Figure 4. Red circle shows byssal threads used as temporary attached

Figure 5. Weathervane scallop has equal auricles circled in red.

Figure 6. Unequal auricles circled of the spiny scallop spines on radial ridges

Figure 7. Unequal auricles circled of the pink scallop no spines on radial ridges

Figure 8a. Chondrophore, a spoon shaped structure on the hinge

Figure 8b. Hinge teeth also called Cardinal teeth, shellfish may have 0 to 3

Figure 9. Mussel with byssal threads

Figure 10. Uniform shape of a cockle

Figure 11. California mussel notices radial ridges at arrow

Figure 12. Pacific blue mussel fragile shell with no radial ridges

Figure 13. Hairy cockle has hairlike structures along the top of the ribs

Figure 14. Nuttallii cockle, close examination with reveal crescent shaped nodules on top of ridges

Figure 15. California cockle with no nodules or hairlike structures on ribs

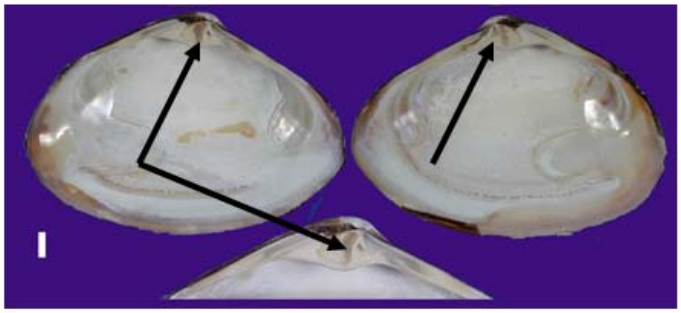

Figure 16. Chondrophores on both shells of an Arctic surf clam and close-up view in bottom photo

Figure 17. Softshell clam with chondrophore on a single shell

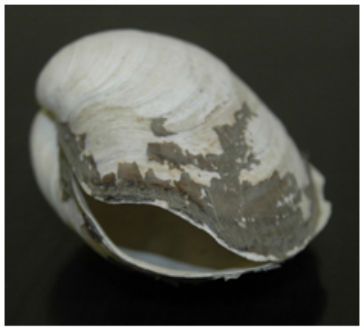

Figure 18a. Fat gaper with posterior gap in the shell.

Figure 18b. Fat gaper note the hinge is offset toward on end of the shell.

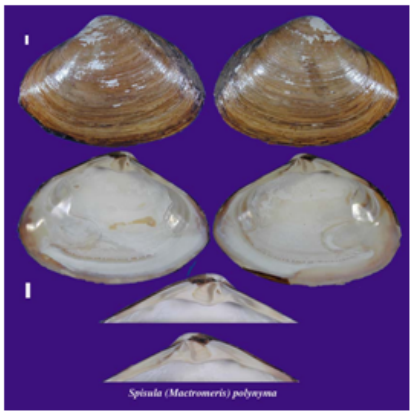

Figure 19. Various views of the Arctic surf clam

Figure 20. Razor clams showing inability for shell to close completely

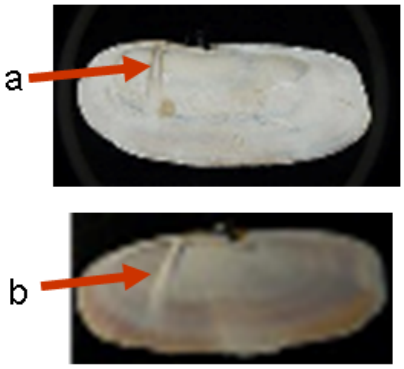

Figure 21. Top photo is Alaska razor with vertical rib (a), while the Pacific razor has a slanted rib (b).

Figure 22. Butter clam with only concentric rings on shell

Figure 23. Littleneck clam with concentric rings and radial lines

Figure 24. Note the striking color of the shell of the Alaska great tellin clam.

Figure 25. California sunset clam. Not the pinkish ting on the exterior of the shell when the white shell surface is exposed.