

DISTRIBUTION OF GASTROPOD
MOLLUSKS ON THE INTERTIDAL
ZONE OF VANCOUVER ISLAND,
CANADA

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Summer 2005



Over 800 specimens of
Gastropod Mollusks
representing 20 species from
8 orders
13 families
from 8 localities

Province Of British Columbia

Vancouver

Island

Port Hardy

Campbell River

Courtenay

Comox

Cumberland

Parksville



SCALE

0 50 km

Miracle Beach

- Habitat – sandy with rocky areas
- Eastern Mid Island
- Number of species - 5



Bates Beach

- Habitat – Rocky
- Eastern Mid Island
- Number of species - 4



Comox Harbor

- Habitat – Intertidal Mud Flats
- Eastern Mid Island
- Number of species - 3



Royston Beach

- Habitat- Rocky intertidal Mud Flats
- Eastern Mid Island
- Number of species – 4



Tofino Harbor

- Habitat – Rocky
- Western Mid Island
- Number of species - 4



Tonquin Park

- Habitat – Sandy with rocky perimeter
- Western Mid Island
- Number of species - 3



Chesterman Beach

- Habitat – Sandy with rocky areas
- Western Mid Island
- Number of species - 17





Wittman Beach

- Habitat – Rocky with some sandy areas
- Southern part of the Island
- Number of species - 5



Gastropod mollusks of Vancouver Island

- Rough keyhole limpet (*Diodora apera*)
- File limpet (*Acmaea limatula*)
- White-cap limpet (*Acmaea mitra*)
- Mask limpet (*Notoacmaea persona*)
- Sheild limpet (*Collisella pelta*)
- Channeled top shell (*Calliostoma canaliculatum*)
- Black tegula (*Tegula funebris*)
- Slender bittium (*Bittium attenuatum*)
- Japanese false cerith (*Batillara attramentaria*)
- Checkered periwinkle (*Littorina scutulata*) ←
- Sitka periwinkle (*Littorina sitkana*) ←
- Emarginate dogwinkle (*Nucella emarginata*) ←
- Channeled dogwinkle (*Nucella canaliculata*)
- Frilled dogwinkle (*Nucella lamellosa*)
- Channeled nassa (*Nassarius fossatus*)
- San Pedro dwarf olive (*Olivella pedroana*)
- Purple dwarf olive (*Olivella biplicata*)
- Goulds dove shell (*Alia gausapata*)
- Lewis' moonshell (*Polinices lewisii*)
- Boreal wentletrap (*Opalia borealis*)

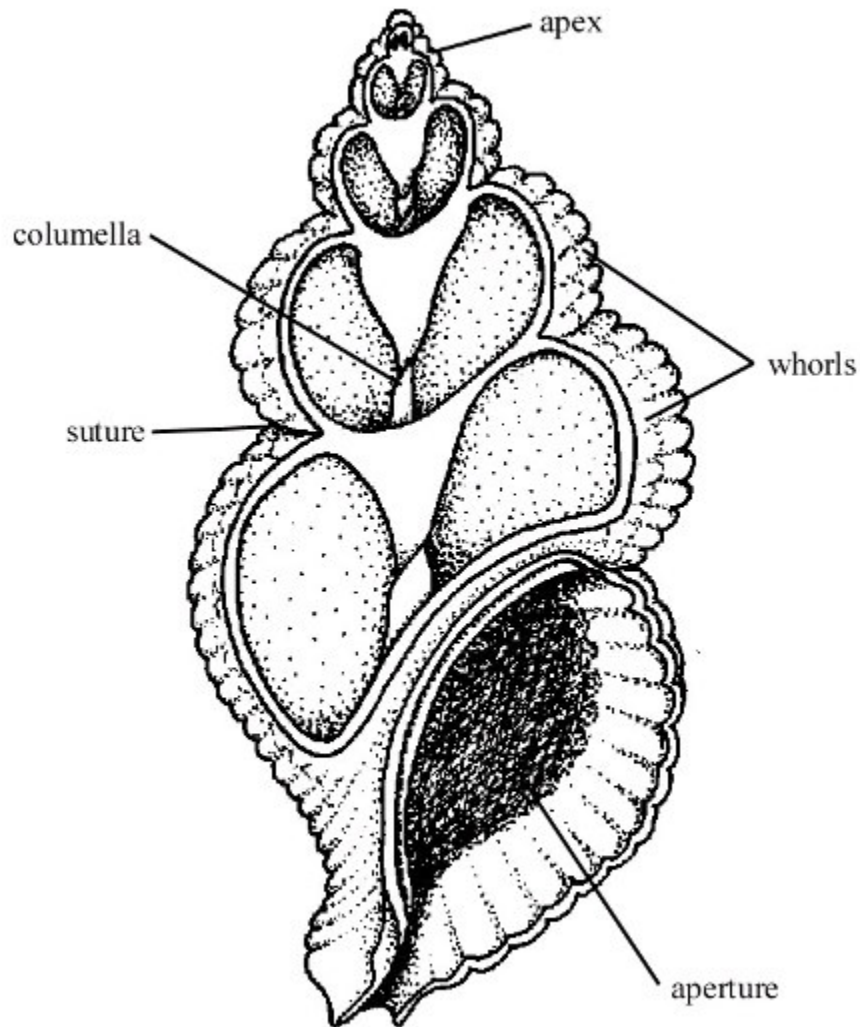
Intraspecific variation

- Three species
 - *Littorina scutulata*
 - *Littorina sitkana*
 - *Nucella emarginata*

Gastropod shell morphology

- Spire

- Body Whorl



outer lip

Littorina scutulata

- Most abundant in all localities
- Varied in color and sculpture of shell



L. scutulata color



L. scutulata sculpture



Littorina sitkana

- Second most abundant
- Varied in color and sculpture of shell



L. sitkana color



L. sitkana sculpture



L. sitkana shell shape



Nucella emarginata

- Color
- Lack of banding
- Reduction of spiral ribs



N. emarginata color



N. emarginata banding



N. emarginata spiral ribs



Invasive Species

- *Batillaria attramentaria* (Japanese false cerith)
- Brought to North America in early 20th century with pacific oyster import.

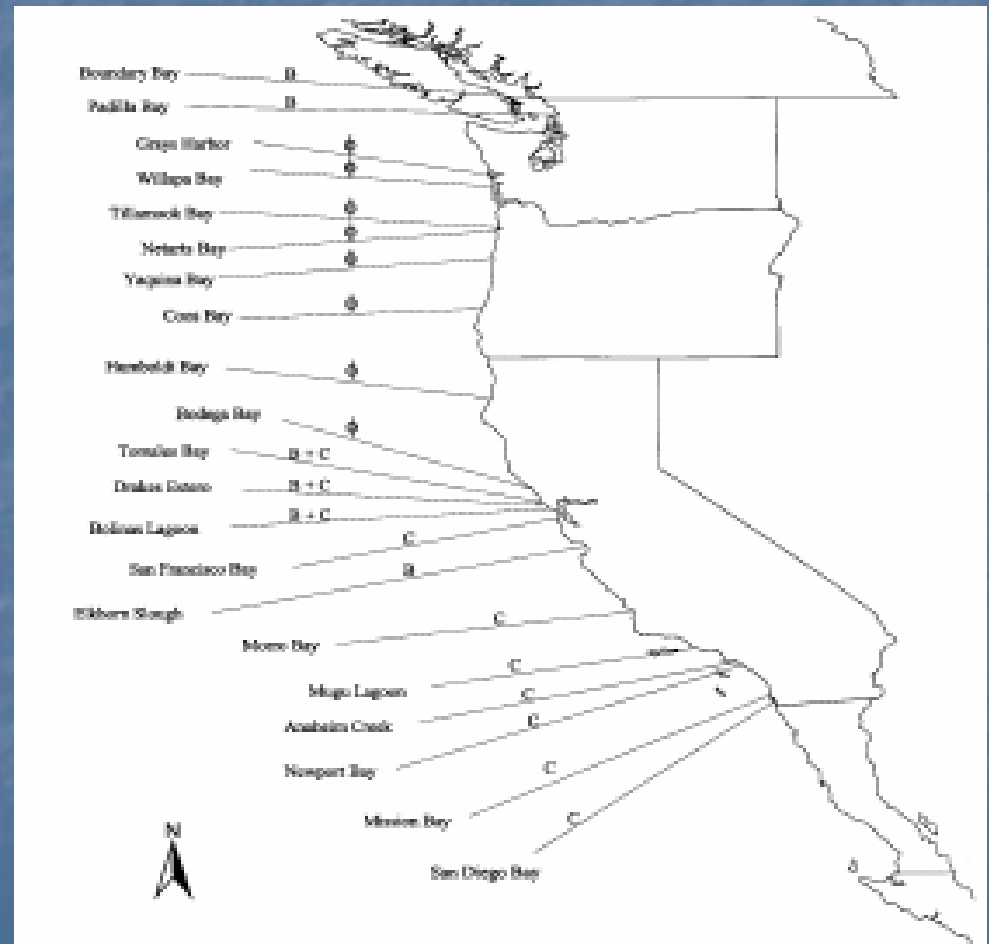


Batillara attramentaria



Distribution of *B. attramentaria* on the west coast of North America

- Comox harbor is approx 100 miles north west of Boundary bay.



Conclusion

- The native gastropod mollusk fauna of Vancouver Island, Canada, is very diverse and abundant, but an introduction of a non-native species could jeopardize the stability of native mollusk populations.