

# Scottish Saline Lagoons: Looking Under the Surface

Katherine Whyte



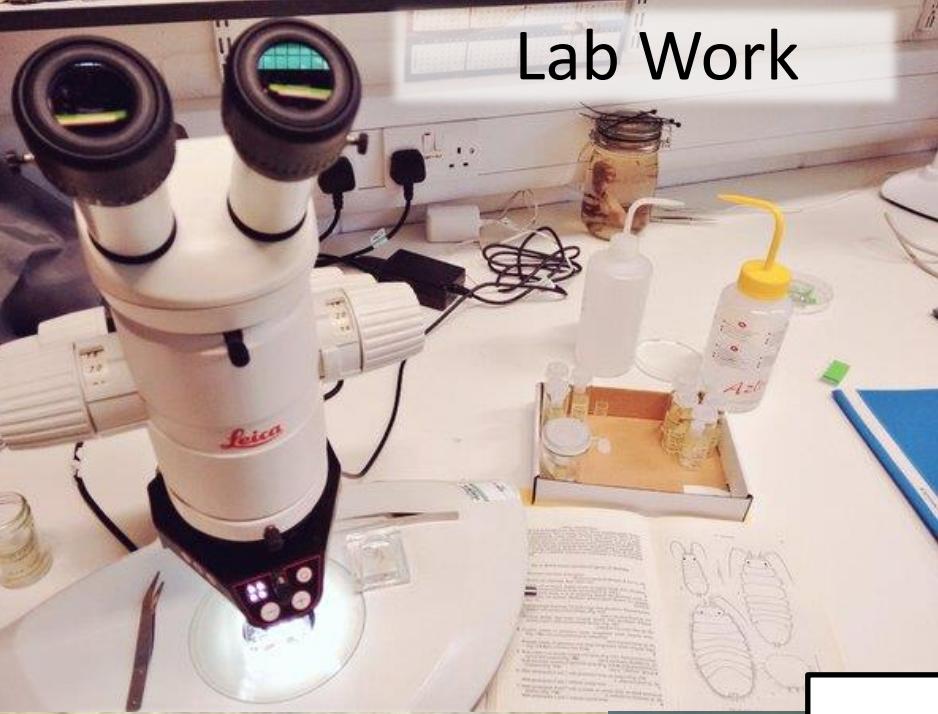
@katey\_whyte #SalineLagoons



National  
Museums  
Scotland



Esmée  
Fairbairn  
FOUNDATION



# Species Identification

# Saline Lagoons

Coastal water bodies that have a restricted connection to the sea.



# Saline Lagoons

Coastal water bodies that have a restricted connection to the sea.

FRESHWATER

BRACKISH

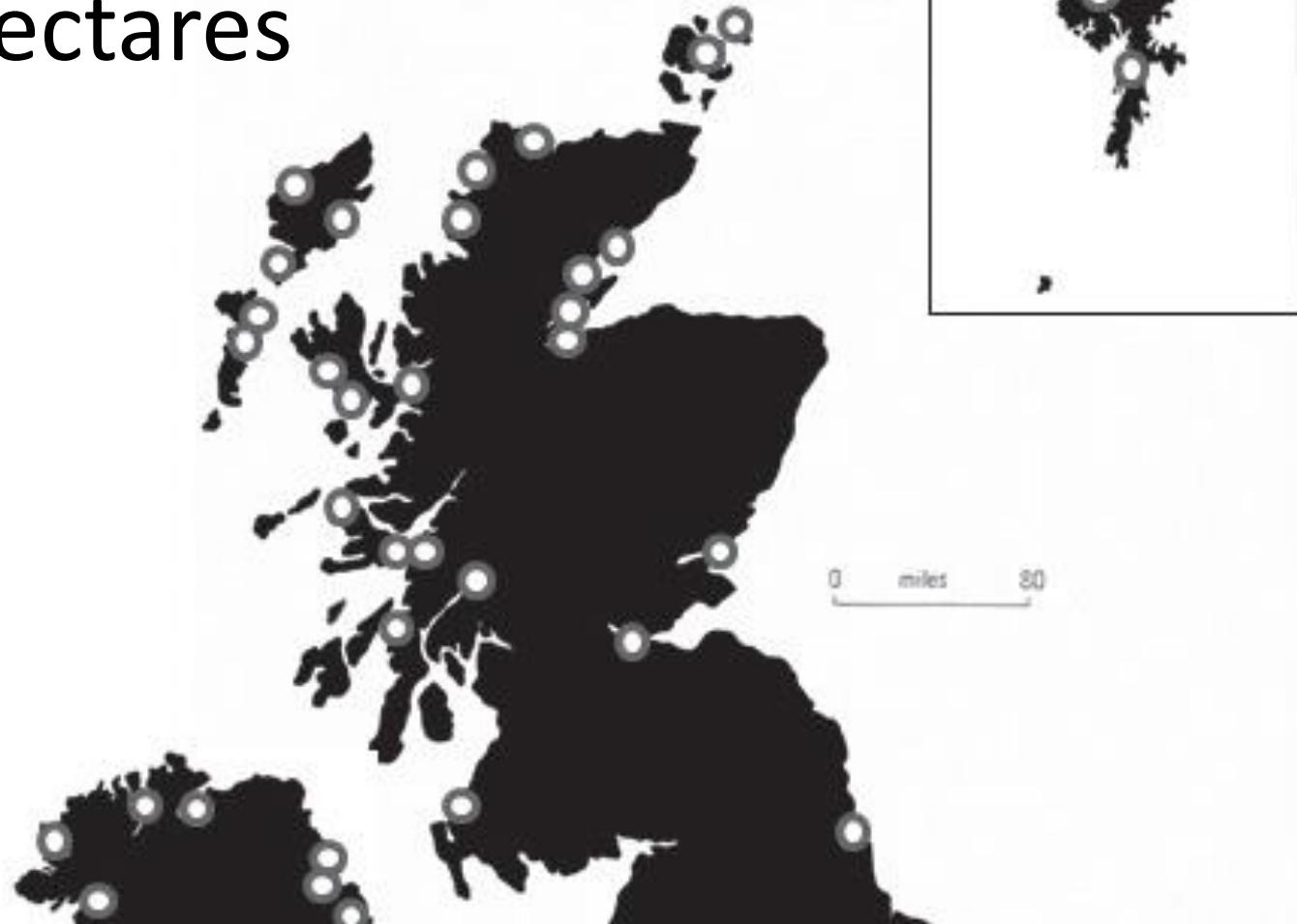
SALINE

The Lagoon Spectrum

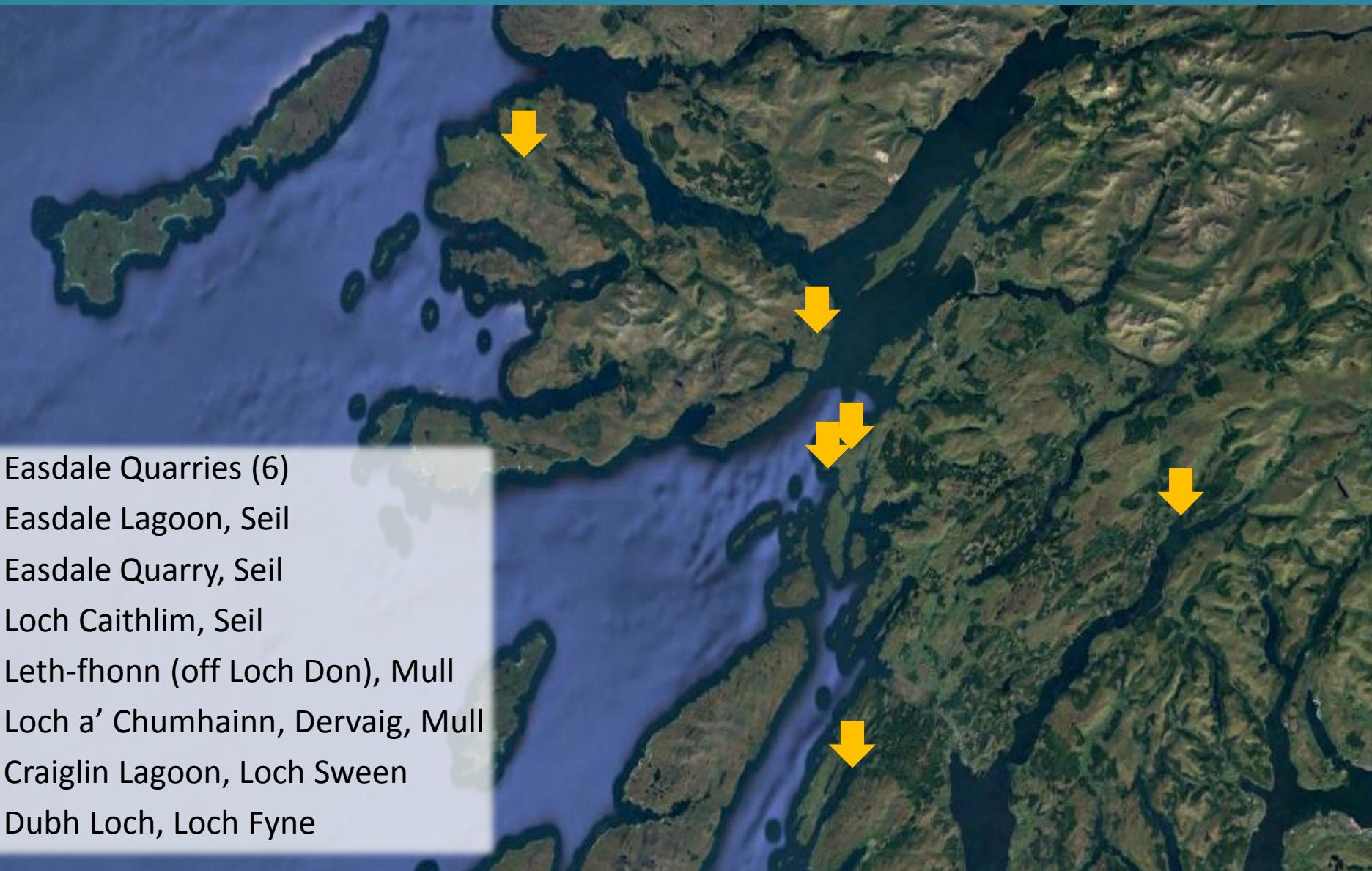
# Saline Lagoons in Scotland

106 sites

3,000 hectares



# Saline Lagoons in Scotland



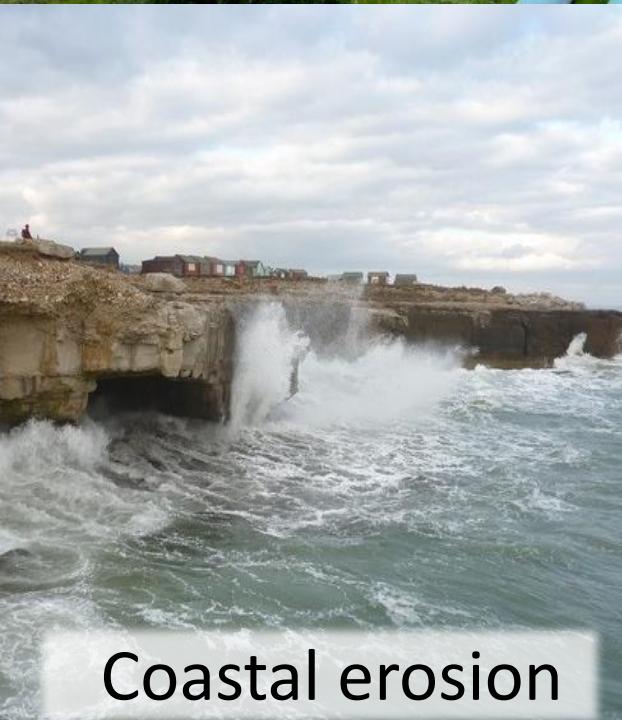
Disrupted water flow



Climate change

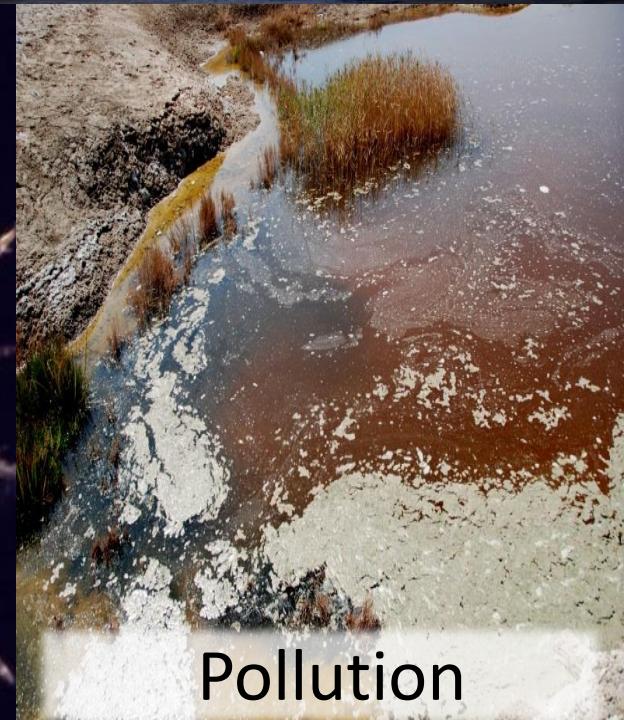


Threats



Coastal erosion

Invasive species



Pollution

# Saline Lagoon Legislation

## EC Habitats Directive (1992)

- ❖ Annex I: Priority Habitat

## UK Biodiversity Action Plan (1999, 2007): Priority Habitat

- ❖ UK Post-2010 Biodiversity Framework (2012)
- ❖ 2020 Challenge for Scotland's Biodiversity (2013)

## EC Water Framework Directive (2000)

- ❖ Water Environment and Water Services (Scotland) Act 2003

## SACs, SSSIs, SPAs





# Lagoon Specialists



# Lagoon Specialists: Isopods



*Idotea chelipes*



*Lekanesphaera hookeri*

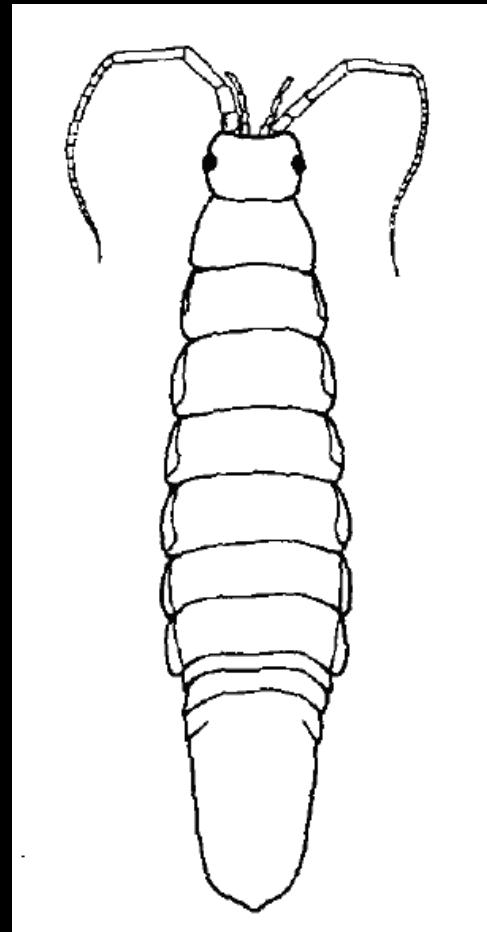
# Lagoon Specialists: Isopods



# Lagoon Specialists: Isopods



*Idotea chelipes*

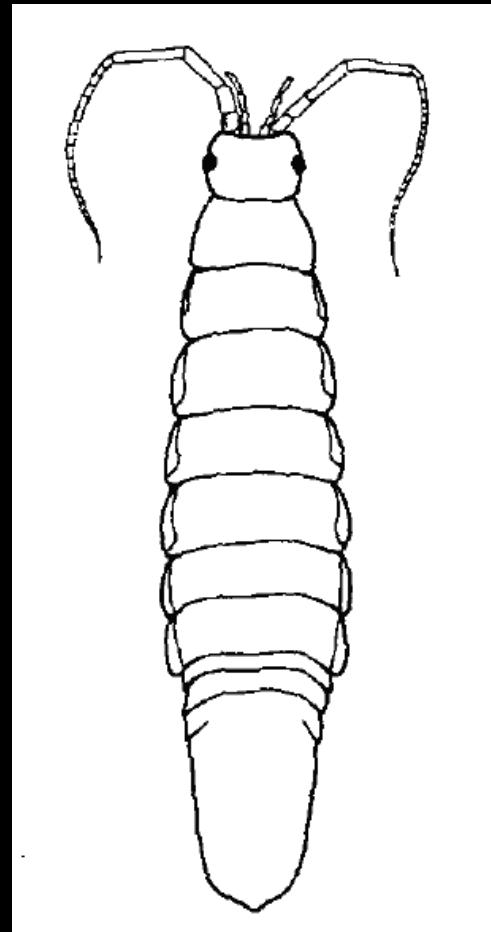


*Idotea chelipes*

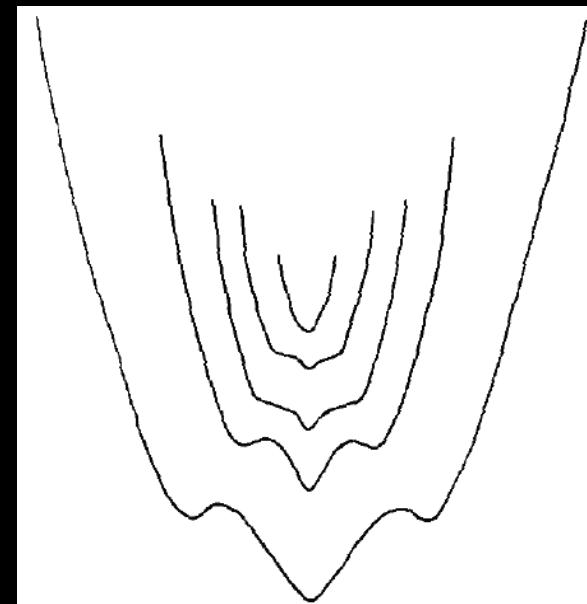
# Lagoon Specialists: Isopods



*Idotea chelipes*



*Idotea chelipes*



*Idotea baltica*

# Lagoon Specialists: Isopods



*Idotea chelipes*

# Lagoon Specialists: Isopods



*Patella vulgata*

# Lagoon Specialists: Isopods



*Chthamalus  
stellatus*



*Patella vulgata*

# Lagoon Specialists: Isopods



*Idotea chelipes*

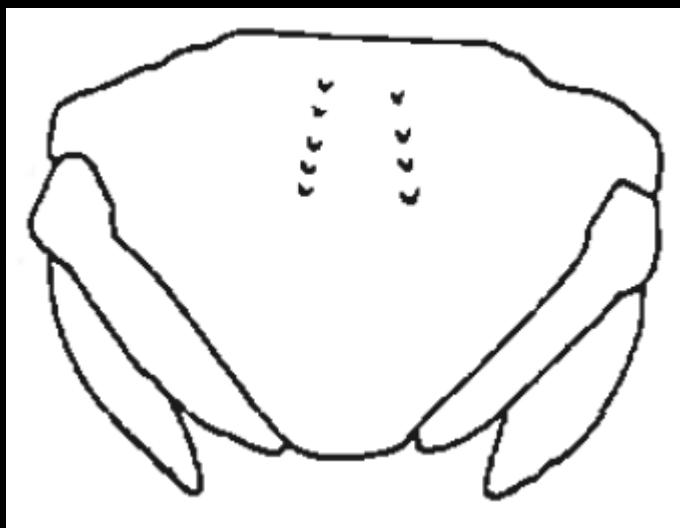


*Chthamalus  
stellatus*



*Patella vulgata*

# Lagoon Specialists: Isopods



*Lekanesphaera hookeri*

# Lagoon Specialists: Isopods



*Idotea chelipes*



*Lekanesphaera hookeri*

# Lagoon Specialists: Mudsnaails



*Ecrobia ventrosa*

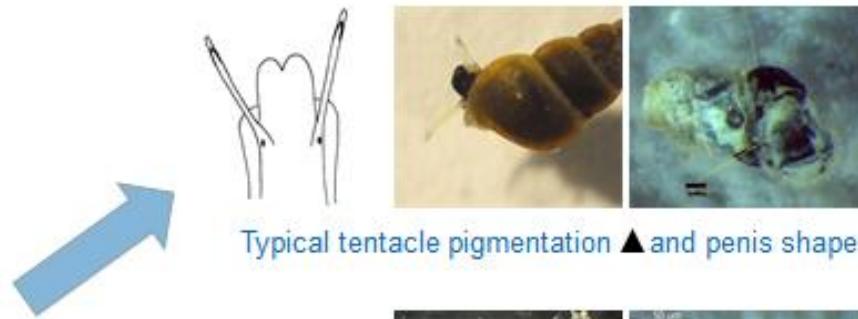
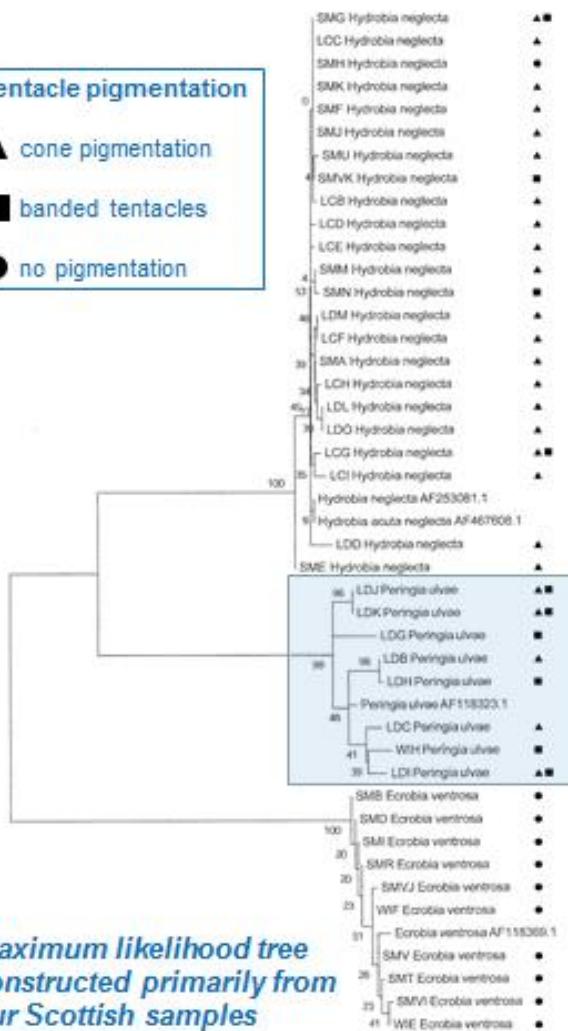


*Hydrobia acuta neglecta*

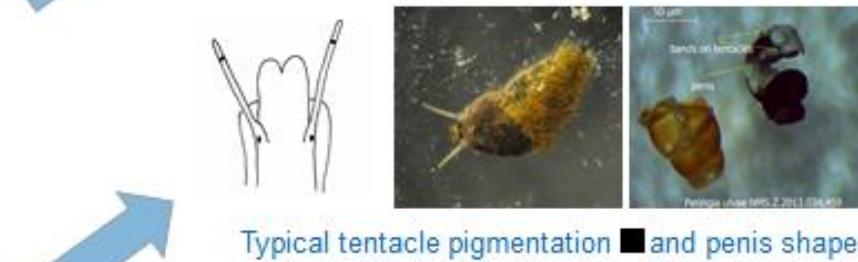
# Mudsnail Identification

## Tentacle pigmentation

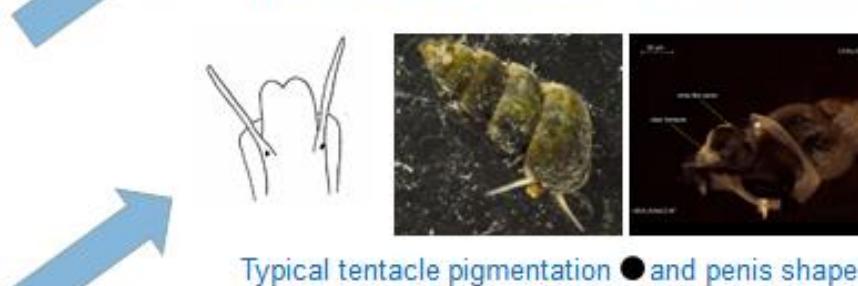
- ▲ cone pigmentation
- banded tentacles
- no pigmentation



*Hydrobia  
acuta  
neglecta*



*Peringia  
ulvae*



*Ecrobia  
ventrosa*



*Potamopyrgus  
antipodarum*

# Lagoon Specialists: Cockles



*Cerastoderma glaucum*

# Lagoon Specialists: Cockles

Lagoon cockle  
(*Cerastoderma glaucum*)



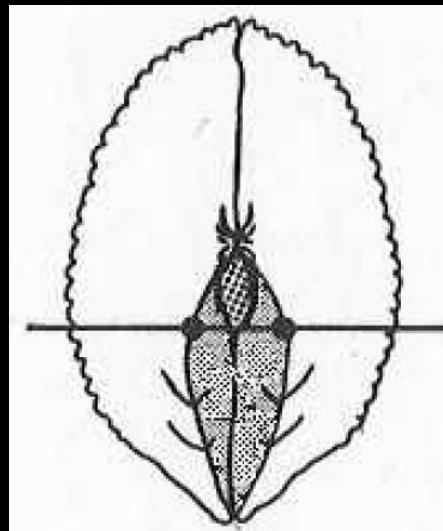
*Cerastoderma glaucum*  
Tunisia, Medenine, Ile de Jerba  
NMR 33024. Common size 30 mm

Common cockle  
(*Cerastoderma edule*)

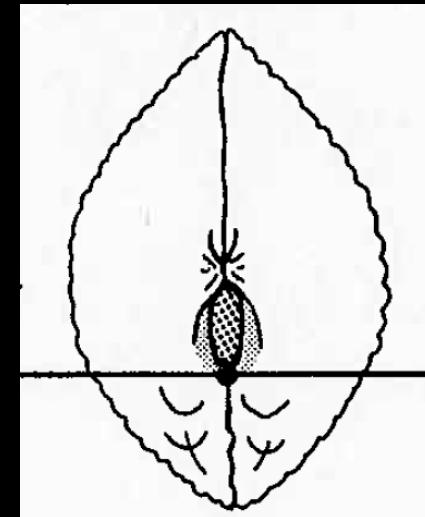


*Cerastoderma edule*  
Netherlands, Zeeland, Brouwershaven  
NMR 32644. Common size 55 mm

Shell edge forms  
2 contact points  
with a needle.



Shell edge forms  
1 contact point  
with a needle.



# Lagoon Specialists: Plants



*Lamprothamnium papulosum*



*Ruppia cirrhosa*

# Lagoon Specialists: Distribution

|          | Species                        | Uists | Mainland | Orkney |
|----------|--------------------------------|-------|----------|--------|
| Plants   | <i>Lamprotamnium papulosum</i> | ✓     | ?        | x      |
|          | <i>Ruppia cirrhosa</i>         | ✓     | ✓        | x      |
| Molluscs | <i>Hydrobia acuta neglecta</i> | ✓     | ?        | x      |
|          | <i>Ecrobia ventrosa</i>        | ✓     | ✓        | x      |
| Isopods  | <i>Cerastoderma glaucum</i>    | ✓     | ✓        | x      |
|          | <i>Idotea chelipes</i>         | ✓     | ?        | x      |
|          | <i>Lekanesphaera hookeri</i>   | ✓     | ?        | x      |

# Future Research



# Thanks for listening

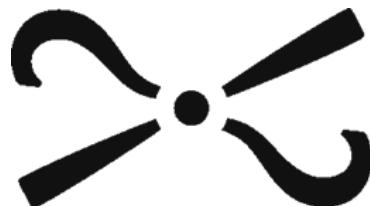
*For more information:*

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Follow my traineeship:

 Twitter: @katey\_whyte #SalineLagoons

Blog: <http://blogs.tcv.org.uk/natural-talent/>



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