Pteropod molluscs
Toward an understanding of population connectivity and species delimitations

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DENSE POPULATIONS

Hyalocylis striata
CRITICAL FOOD WEB COMPONENTS

- CARNIVOROUS ZOOPLANKTON
- SQUID
- FISH - INCLUDING COMMERCIALLY IMPORTANT SPECIES
- SEABIRDS
- MARINE MAMMALS
Increase in metabolic rates

Increase demand for food

Increase in oxygen requirements

Metabolic suppression

May not be achievable in warmer water
Clio pyramidata

Hawaii

Southern California

Gulf of California

Northwest Atlantic (Bear Seamount)

Northern California
Clio pyramidata

- Hawaii
- Southern California
- Gulf of California
- Northwest Atlantic (Bear Seamount)
- Northern California
- Gulf of California
- Hawaii

COI

H3

118
Clio pyramidata $F_{STS}$

$F_{ST}$ - fixation index

1 no genetic mixing

0 full genetic mixing
Cavolinia uncinata

Northwest Atlantic (Bear Seamount)

Florida Gulf Stream

Gulf of California
Cavolinia uncinata $F_{STS}$

- COI 0.89584*
  H3 0.98314*
- COI 0.89085*
  H3 0.98475*
- COI -0.00582
  H3 0.0000

Ocean Data View
Hyalocyllis striata

COI

H3

Gulf of California

Northern California
Hyalocylis striata $F_{STS}$

![Image of Hyalocylis striata](image)

COI -0.01021
Corolla spectabilis

COI

H3

Northern California
Southern California
Gulf of California
Corolla spectabilis $F_{STS}$

- COI 0.91670*
- H3 0.00925

Steven Haddock

Ocean Data View
CONCLUSIONS

- Species delimitations depend on taxon
  - Behavioral, physiological, ecological, selection differences

- *Cavolinia uncinata* likely two species
  - Previously considered formae by van der Spoel

- *Clio pyramidata* cosmopolitan
  - Despite morphological differences and large geographical distances
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