RESEARCH ARTICLE

Histological, elemental, and ultrastructural analysis of melanin in mantle of Pacific oyster (*Crassostrea gigas*)

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Abstract

C , - . M , . H , *Crassostrea gigas* . D - . I , C TYR , H&E . T C , F , Z - . N , TEM , . M - G . S , , G . F , - , . T - .

KEYWORDS
Crassostrea gigas, , , , , ,

Research highlights

1. M *of C. gigas* TEM.
2. E *C. gigas* STEM EDS .
3. T *C. gigas*

1 INTRODUCTION

T , . U , (A ., 2006). F , (B ., 2004). M (S & S , 2021). T , (F ., 2019; L ., 2015; L ., 2021, 2022; M ., 2022; P , 2003; Y ., 2018, 2018 ; Z ., 2018; Z ., 2021). H , M , (I ., 2013). M . U (EDS) , , C , F , Z , C (B ., 2011, 2016; E ., 2006; H ., 2004; L & S , 2005; M ., 2019). N , . B , (H&E) , . I , , , M -F (C ., 2011; Żą ł & S , 2019). S . (2020) Z . (2020) . A , , (T), 1 (T 1), 2 (T 2) (F ., 2001; H & C , 2015). I , , TYR (O ´ , 2014; S & B , 2021). N , , , (B P ., 2012; H ., 2022; J ., 2020; M ., 2021; N & G , 2015). I , , . A - (D A & S , 2019). I , (J ., 2020; P , 2003). T (J ., 2010). N , P (*Crassostrea gigas*) (TEM) (H ., 2022). H , I , *C. gigas* . M (IF) . T TEM. B , (STEM) EDS . T , *C. gigas* .

2 MATERIALS AND METHODS

2.1 Animals

S P R , S , C . T 23–25°C 10 . P (: 48 5.88 ; : 82.15 8.26) (LM), IF, TEM . T P . A .

2.2 Light microscopy

H R . (2020) . A B (S S , N) 24 , (75%, 80%, 90%, 95%, 100%) 30 , 5 . T 5 μ . T , , - . A - , H&E - O BX53 (O C , J).

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F - (L , DJ002, C) . S , , 45 5 . T (: 4% : - = 2:1:1) 30 20 . F , 2 . A , O BX53 (O C - , J).

2.3 Immunofluorescence

A (5 μ) - - . T (100%, 95%, 80%, 70%). T , PBS 5 . N , 0.01 M (H 6) 100°C 10 . P - , 7.5% (B) 30 . A , -C TYR (, 1:50) 37°C 1 4°C . S A 488- G A -R (1:500 , . . A0423, B) 1 . T . C DAPI (B) 5 . F , - (TCS SP98, L , G) LASX (L).

2.4 Transmission electron microscopy

M J ., 2020. B , 1 ^{3} 2.5% 4°C. S 1% 2 0.1 M (H 7.0) 10 , (30%, 50%, 70%, 90%, 100%) 10 , EPON 812 37, 45, 65°C 24 . F , (60) 15 , 15 JME-1200EX (JEOL, J) 80.0 V. I , (60) .

2.5 STEM EDS mapping analysis

F , (60) N . STEM EDS Z 500 SEM, EDS (O X-M 80) 20.0 V 15,000 X. T 10 . T EDS . T EDS INCA

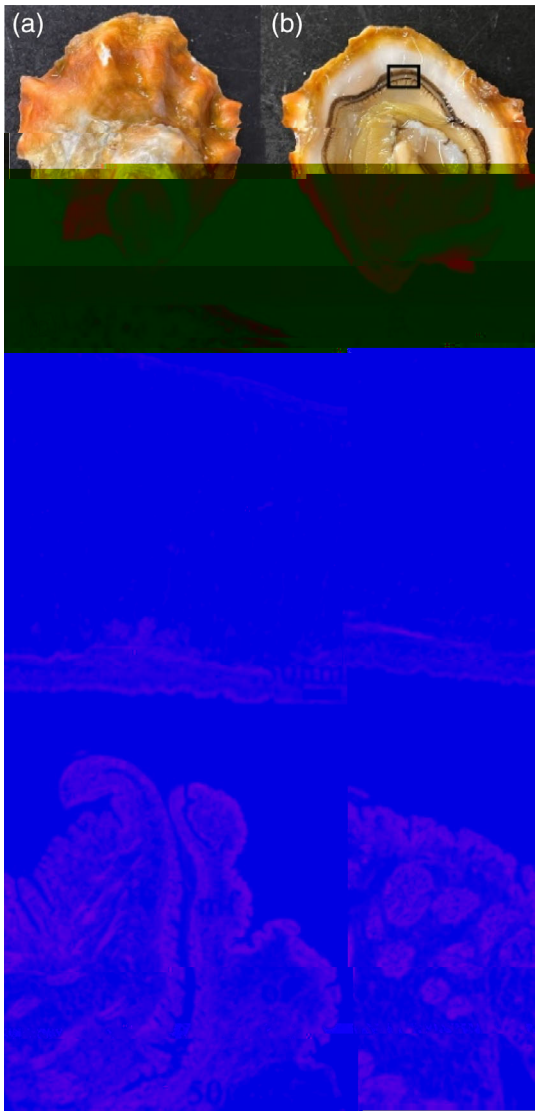

FIGURE 1 H&E *C. gigas*. ( ) T . ( ) T . ( ) C *C. gigas*. T ( ) (M), (V). T (M) . ( ) . T : O ( ), ( ), ( )

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(INCA 2001) C -L - - .
T E . (2006).

3 RESULTS

3.1 Histology of mantle in *C. gigas*

T F 1 , , -
. T , (E)

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SUPPORTING INFORMATION

A S - I .

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