

Trophic niche of two co-occurring ophiuroid species in impacted coastal systems, derived from fatty acid and stable isotope analyses

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Marine Ecology Progress Series 525: 127–141 (2015)

Table S1. Values of $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ in tissues of consumers (*Ophiocomina nigra* and *Ophiothrix fragilis*) and their potential food sources (SPOM: suspended particulate organic matter, SOM: sedimented organic matter, TOM: terrestrial organic matter, and *Ulva* sp.) at four locations: the Bay of Brest (BB), the inshore zone of the Bay of Douarnenez (Di), the offshore zones of the Blancs-Sablons (BS) and the Bay of Douarnenez (Do), between June 2010 and April 2011. Values are means \pm SD (n=3).

	$\delta^{15}\text{N}$ (‰)					$\delta^{13}\text{C}$ (‰)				
	Jun-10	Aug-10	Oct-10	Jan-11	Apr-11	Jun-10	Aug-10	Oct-10	Jan-11	Apr-11
BB										
<i>O. nigra</i>	10.5 \pm 0.2	10.4 \pm 0.1	10.8 \pm 0.2	10.9 \pm 0.2	10.6 \pm 0.1	-18.4 \pm 0.1	-17.8 \pm 0.1	-17.42 \pm 0.1	-17.5 \pm 0.5	-17.7 \pm 0.1
<i>O. fragilis</i>	10.1 \pm 0.1	9.9 \pm 0.1	10.3 \pm 0.1	10.8 \pm 0.1	9.8 \pm 0.3	-18.8 \pm 0.3	-18.3 \pm 0.1	-18.4 \pm 0.2	-17.9 \pm 0.1	-17.7 \pm 0.3
SPOM	7.2 \pm 0.1	6.5 \pm 0.3	7.8 \pm 1.9	8.3 \pm 1.7	4.8 \pm 1.7	-21.7 \pm 0.0	-21.3 \pm 0.1	-	-26.8 \pm 0.0	-22.9 \pm 0.4
SOM	6.8 \pm 0.1	6.6 \pm 0.1	6.5 \pm 0.0	6.2 \pm 0.2	7.8 \pm 1.1	-20.9 \pm 0.1	-21.1 \pm 0.1	-21.1 \pm 0.0	-21.0 \pm 0.1	-21.1 \pm 0.0
TOM (<i>Elorn</i>)	7.3 \pm 0.6	9.1 \pm 0.6	6.0 \pm 1.2	5.7 \pm 1.4	4.2 \pm 0.6	-28.2 \pm 0.1	-28.2 \pm 0.1	-28.9 \pm 0.0	-28.9 \pm 0.1	-28.6 \pm 0.1
BS										
<i>O. nigra</i>	10.3 \pm 0.0	10.9 \pm 0.4	11.1 \pm 0.4	11.1 \pm 0.1	11.4 \pm 0.1	-18.6 \pm 0.1	-18.1 \pm 0.2	-14.6 \pm 1.1	-17.7 \pm 0.2	-17.8 \pm 0.2
<i>O. fragilis</i>	9.1 \pm 0.1	8.9 \pm 0.2	9.1 \pm 0.1	9.9 \pm 0.1	9.3 \pm 0.2	-19.8 \pm 0.2	-19.0 \pm 0.2	-17.1 \pm 0.4	-18.2 \pm 0.8	-18.3 \pm 0.2
SPOM	6.6 \pm 0.4	5.1 \pm nd	5.8 \pm 1.4	7.2 \pm 0.5	4.8 \pm 2.0	-20.1 \pm 0.0	-21.4 \pm 0.2	-24.5 \pm 0.0	-26.2 \pm 0.0	-23.0 \pm 0.7
SOM	6.5 \pm 0.1	6.4 \pm 0.1	6.4 \pm 0.2	6.7 \pm 0.1	7.1 \pm 0.1	-21.1 \pm 0.1	-20.8 \pm 0.7	-21.5 \pm 0.3	-21.0 \pm 0.1	-21.0 \pm 0.1
Di										
<i>O. nigra</i>	10.0 \pm 0.2	10.7 \pm 0.2	10.9 \pm 0.1	10.6 \pm 0.1	10.5 \pm 0.1	-17.9 \pm 0.1	-17.8 \pm 0.0	-17.8 \pm 0.3	-17.7 \pm 0.1	-17.4 \pm 0.1
<i>O. fragilis</i>	8.7 \pm 0.2	9.0 \pm 0.2	9.4 \pm 0.1	8.7 \pm 0.0	8.3 \pm 0.0	-18.1 \pm 0.1	-18.2 \pm 0.1	-18.1 \pm 0.3	-17.8 \pm 0.2	-16.6 \pm 0.1
SPOM	6.7 \pm 0.2	8.1 \pm 0.4	6.5 \pm 0.4	7.9 \pm 1.0	3.0 \pm 2.1	-20.7 \pm 0.1	-16.0 \pm 0.1	-22.4 \pm 0.1	-24.0 \pm 0.1	-22.3 \pm 1.7
SOM	7.4 \pm 0.3	6.8 \pm 0.1	6.2 \pm 0.6	6.2 \pm 0.2	7.0 \pm 0.6	-20.6 \pm 0.0	-21.6 \pm 0.1	-21.4 \pm 0.4	-21.5 \pm 0.1	-21.5 \pm 0.2
Do										
<i>O. nigra</i>	9.2 \pm 0.1	9.9 \pm 0.2	10.2 \pm 0.1	10.3 \pm 0.1	10.2 \pm 0.2	-17.7 \pm 0.1	-17.8 \pm 0.1	-17.6 \pm 0.1	-17.3 \pm 0.1	-17.3 \pm 0.0
<i>O. fragilis</i>	8.8 \pm 0.0	9.0 \pm 0.1	9.1 \pm 0.1	9.1 \pm 0.2	8.6 \pm 0.1	-18.0 \pm 0.0	-18.0 \pm 0.1	-17.9 \pm 0.1	-17.4 \pm 0.1	-17.6 \pm 0.0
SPOM	6.6 \pm 0.4	7.0 \pm 0.1	6.5 \pm 0.2	3.8 \pm 0.5	3.7 \pm 0.6	-19.8 \pm 0.1	-20.7 \pm 0.1	-23.3 \pm 0.0	-24.3 \pm 0.1	-23.6 \pm 1.6
SOM	6.9 \pm 0.1	7.0 \pm 0.1	6.9 \pm 0.1	6.4 \pm 0.4	6.0 \pm 1.5	-20.5 \pm 0.1	-20.8 \pm 0.0	-21.0 \pm 0.2	-21.2 \pm 0.2	-20.6 \pm 0.2
Di and Do										
<i>Ulva</i> sp -water column	9.2 \pm 0.5	7.7 \pm 0.4	7.1 \pm 0.0	9.9 \pm 0.1	9.4 \pm 0.2	-20.7 \pm 1.0	-16.3 \pm 2.1	-18.6 \pm 0.1	-18.2 \pm 0.1	-19.5 \pm 0.1
<i>Ulva</i> sp -stranded	-	7.7 \pm 0.0	8.4 \pm 0.1	-	-	-	-16.4 \pm 2.1	-15.9 \pm 0.0	-	-
TOM (<i>Ris</i>)	6.3 \pm 0.1	5.3 \pm 0.3	6.7 \pm 0.1	3.4 \pm 1.3	3.4 \pm 2.0	-28.8 \pm 0.0	-28.5 \pm 0.4	-28.8 \pm 0.1	-28.8 \pm 0.0	-28.7 \pm 0.1

Table S2. Fatty acid compositions of neutral lipids (%mass) in soft tissues of both ophiuroids (*Ophiocomina nigra* and *Ophiothrix fragilis*) by sampling dates and sites (BB BS, Di, Do) and exposure (IN and OUT). Values are means \pm SD (n=3). Abbreviations: Do: off-shore Bay of Douarnenez; Di: in-shore Bay of Douarnenez; BB: Bay of Brest; BS:Blancs-Sablons. Bacterial fatty acids include *iso* and *anteiso* branched chains containing 15–17 carbon atoms.

	BB-<i>Ophiothrix fragilis</i>-IN				
	June-10 n=3	August-10 n=3	October-10 n=3	January-11 n=3	April-11 n=3
Bacteria	1.0 +/- 0.0	1.1 +/- 0.0	1.3 +/- 0.0	1.4 +/- 0.0	1.7 +/- 0.1
Saturates					
14:0	11.4 +/- 0.5	10.7 +/- 0.4	9.9 +/- 0.3	9.6 +/- 0.3	7.8 +/- 0.3
15:0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
16:0	8.5 +/- 0.1	8.5 +/- 0.4	9.4 +/- 0.4	9.0 +/- 0.6	9.0 +/- 0.1
18:0	3.9 +/- 0.2	4.0 +/- 0.3	4.6 +/- 0.5	4.5 +/- 0.2	4.8 +/- 0.1
TOTAL	24.7 +/- 0.3	24.1 +/- 0.9	24.7 +/- 0.6	23.9 +/- 0.8	22.8 +/- 0.6
Monosaturates					
16:1(n-9)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.0
16:1(n-7)	6.7 +/- 0.2	7.8 +/- 0.3	6.7 +/- 0.1	7.1 +/- 0.3	6.6 +/- 0.4
16:1(n-13)t	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.1	0.4 +/- 0.0	0.7 +/- 0.0
18:1(n-11)	3.2 +/- 0.2	2.6 +/- 0.4	2.8 +/- 0.1	3.6 +/- 0.2	2.8 +/- 0.2
18:1(n-9)	0.7 +/- 0.0	0.8 +/- 0.0	0.9 +/- 0.1	1.2 +/- 0.1	1.7 +/- 0.3
18:1(n-7)	6.4 +/- 0.1	7.2 +/- 0.3	6.8 +/- 0.2	8.0 +/- 0.3	7.0 +/- 0.3
20:1(n-11)	3.0 +/- 0.1	3.1 +/- 0.2	3.5 +/- 0.4	4.7 +/- 0.4	4.4 +/- 0.2
20:1(n-9)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1	0.1 +/- 0.1	0.1 +/- 0.0
20:1(n-7)	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
22:1(n-9)	0.1 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0
TOTAL	21.8 +/- 0.5	23.8 +/- 0.4	22.8 +/- 0.8	26.9 +/- 0.6	25.3 +/- 0.5
Polyunsaturates					
16:2(n-7)	0.7 +/- 0.0	0.7 +/- 0.0	0.6 +/- 0.0	0.7 +/- 0.0	0.5 +/- 0.0
16:2(n-6)	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.9 +/- 0.0	1.8 +/- 0.0	1.5 +/- 0.1	1.6 +/- 0.1	1.3 +/- 0.0
16:3(n-6)	0.5 +/- 0.1	0.7 +/- 0.1	0.5 +/- 0.1	1.1 +/- 0.1	3.0 +/- 1.1
16:3(n-4)	4.3 +/- 0.1	2.2 +/- 1.9	3.1 +/- 0.2	3.2 +/- 0.1	2.5 +/- 0.0
16:3(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.3 +/- 0.1
16:4(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
16:4(n-1)	7.7 +/- 0.0	7.2 +/- 0.2	6.8 +/- 0.6	5.7 +/- 0.3	6.0 +/- 0.2
18:2(n-6)	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.7 +/- 0.0
18:2(n-4)	1.6 +/- 0.0	1.5 +/- 0.0	1.4 +/- 0.0	1.7 +/- 0.0	1.1 +/- 0.1
18:3(n-6)	0.6 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
18:3(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0
18:4(n-3)	8.6 +/- 0.1	5.9 +/- 0.5	5.9 +/- 0.3	6.9 +/- 0.2	6.8 +/- 0.2
18:5(n-3)	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0
20:2i	0.2 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0	0.5 +/- 0.0	0.3 +/- 0.1
20:2j	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.5 +/- 0.5
20:2(n-6)	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0
20:3(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1	0.1 +/- 0.1
20:4(n-6)	1.2 +/- 0.0	1.6 +/- 0.0	1.5 +/- 0.0	1.6 +/- 0.0	1.4 +/- 0.1
20:4(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
20:5(n-3)	16.8 +/- 0.5	19.7 +/- 0.6	20.3 +/- 0.6	17.4 +/- 0.6	18.0 +/- 1.4
21:5(n-3)	0.5 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
22:2i	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:2j	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:4(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1
22:4(n-9)t	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-6)	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
22:5(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.4 +/- 0.1
FA ind	0.2 +/- 0.0	0.4 +/- 0.4	0.2 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0
22:6(n-3)	0.8 +/- 0.1	0.7 +/- 0.1	0.9 +/- 0.0	0.3 +/- 0.0	0.9 +/- 0.1
24:6 (n-3)	2.2 +/- 0.3	2.5 +/- 0.3	2.5 +/- 0.3	1.5 +/- 0.2	1.7 +/- 0.1
TOTAL	51.8 +/- 0.8	50.5 +/- 1.2	50.7 +/- 1.4	47.1 +/- 1.4	49.9 +/- 1.0

	Di-Ophiothrix fragilis-IN				
	June-10 n=3	August-10 n=3	October-10 n=3	January-11 n=3	April-11 n=3
Bacteria	0.9 +/- 0.0	1.1 +/- 0.1	1.2 +/- 0.0	1.4 +/- 0.1	0.9 +/- 0.0
Saturates					
14:0	11.1 +/- 0.4	10.7 +/- 0.2	10.7 +/- 0.1	9.0 +/- 0.6	10.7 +/- 0.3
15:0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
16:0	8.8 +/- 0.2	9.6 +/- 0.2	9.7 +/- 0.3	9.6 +/- 0.3	10.0 +/- 0.2
18:0	4.2 +/- 0.1	4.6 +/- 0.3	4.2 +/- 0.1	4.6 +/- 0.2	4.0 +/- 0.2
TOTAL	24.9 +/- 0.4	25.8 +/- 0.2	25.6 +/- 0.4	24.2 +/- 0.7	25.3 +/- 0.3
Monosaturates					
16:1(n-9)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
16:1(n-7)	7.9 +/- 0.2	7.8 +/- 0.2	8.7 +/- 0.1	7.5 +/- 0.1	8.1 +/- 0.1
16:1(n-13)t	0.3 +/- 0.0	0.3 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.4 +/- 0.0
18:1(n-11)	4.1 +/- 0.0	4.5 +/- 0.7	2.7 +/- 0.1	3.0 +/- 0.2	4.2 +/- 0.3
18:1(n-9)	0.9 +/- 0.0	1.1 +/- 0.1	1.3 +/- 0.1	1.4 +/- 0.1	1.0 +/- 0.0
18:1(n-7)	6.7 +/- 0.2	6.8 +/- 0.2	6.4 +/- 0.2	6.6 +/- 0.2	6.4 +/- 0.2
20:1(n-11)	3.8 +/- 0.2	4.8 +/- 0.4	3.1 +/- 0.1	4.1 +/- 0.4	3.3 +/- 0.1
20:1(n-9)	0.1 +/- 0.0	0.1 +/- 0.1	0.2 +/- 0.0	0.0 +/- 0.1	0.0 +/- 0.0
20:1(n-7)	0.4 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.1	0.3 +/- 0.0	0.3 +/- 0.0
22:1(n-9)	0.1 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0
TOTAL	25.3 +/- 0.3	27.2 +/- 1.3	24.5 +/- 0.5	24.9 +/- 0.6	24.9 +/- 0.4
Polyunsaturates					
16:2(n-7)	0.6 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0	0.5 +/- 0.0	0.3 +/- 0.0
16:2(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.7 +/- 0.1	1.4 +/- 0.0	1.5 +/- 0.0	1.3 +/- 0.1	1.3 +/- 0.0
16:3(n-6)	0.7 +/- 0.1	0.7 +/- 0.2	0.9 +/- 0.1	1.7 +/- 0.4	1.5 +/- 0.2
16:3(n-4)	2.8 +/- 0.1	2.6 +/- 0.1	2.6 +/- 0.1	2.1 +/- 0.1	2.8 +/- 0.1
16:3(n-3)	0.4 +/- 0.0	0.3 +/- 0.1	0.6 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
16:4(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.5 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
16:4(n-1)	6.7 +/- 0.2	5.7 +/- 0.3	6.5 +/- 0.4	6.7 +/- 0.6	6.0 +/- 0.3
18:2(n-6)	0.4 +/- 0.0	0.5 +/- 0.0	0.8 +/- 0.0	0.6 +/- 0.0	1.3 +/- 0.0
18:2(n-4)	1.1 +/- 0.0	1.1 +/- 0.0	1.0 +/- 0.0	0.9 +/- 0.0	0.7 +/- 0.0
18:3(n-6)	0.4 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0
18:3(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.1	0.5 +/- 0.0
18:4(n-3)	6.5 +/- 0.1	5.6 +/- 0.3	4.1 +/- 0.2	4.3 +/- 0.2	6.0 +/- 0.1
18:5(n-3)	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0
20:2i	0.2 +/- 0.0	0.2 +/- 0.1	0.3 +/- 0.2	0.2 +/- 0.0	0.3 +/- 0.0
20:2j	0.3 +/- 0.0	0.4 +/- 0.1	0.1 +/- 0.2	0.3 +/- 0.3	0.1 +/- 0.0
20:2(n-6)	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0
20:3(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
20:4(n-6)	1.1 +/- 0.0	1.4 +/- 0.1	2.6 +/- 0.1	3.3 +/- 0.1	1.1 +/- 0.1
20:4(n-3)	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0
20:5(n-3)	17.8 +/- 0.4	17.2 +/- 0.7	18.8 +/- 0.3	20.5 +/- 0.3	20.7 +/- 0.2
21:5(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
22:2i	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:2j	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.0 +/- 0.0
22:4(n-6)	0.1 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:4(n-9)t	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
22:5(n-6)	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0
22:5(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0
FA ind	0.2 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.1
22:6(n-3)	0.6 +/- 0.0	0.7 +/- 0.0	1.2 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
24:6(n-3)	2.1 +/- 0.1	2.2 +/- 0.0	1.8 +/- 0.0	1.8 +/- 0.1	1.4 +/- 0.1
TOTAL	47.4 +/- 0.6	44.7 +/- 1.4	47.9 +/- 0.8	49.2 +/- 0.9	48.8 +/- 0.7

	BS-Ophiothrix fragilis-OUT				
	June-10	August-10	October-10	January-11	April-11
	n=3	n=3	n=3	n=3	n=3
Bacteria	0.9 +/- 0.0	0.9 +/- 0.0	1.0 +/- 0.1	1.1 +/- 0.0	1.6 +/- 0.2
Saturates					
14:0	10.5 +/- 0.5	10.8 +/- 0.3	10.3 +/- 0.4	9.7 +/- 0.3	8.6 +/- 0.1
15:0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0
16:0	9.4 +/- 0.5	9.4 +/- 0.2	9.8 +/- 0.4	9.8 +/- 0.3	9.9 +/- 0.3
18:0	4.6 +/- 0.5	4.2 +/- 0.1	4.4 +/- 0.3	4.7 +/- 0.1	5.6 +/- 0.4
TOTAL	25.4 +/- 0.5	25.3 +/- 0.2	25.4 +/- 0.8	25.4 +/- 0.6	25.2 +/- 0.7
Monosaturates					
16:1(n-9)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
16:1(n-7)	6.3 +/- 0.3	7.1 +/- 0.3	6.7 +/- 0.2	7.2 +/- 0.1	7.4 +/- 0.1
16:1(n-13)t	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.1	0.5 +/- 0.0
18:1(n-11)	3.7 +/- 0.3	3.1 +/- 0.1	2.8 +/- 0.2	4.1 +/- 0.3	3.9 +/- 0.4
18:1(n-9)	0.8 +/- 0.0	0.8 +/- 0.0	0.9 +/- 0.0	1.3 +/- 0.0	1.5 +/- 0.1
18:1(n-7)	6.5 +/- 0.4	6.6 +/- 0.1	6.6 +/- 0.2	7.5 +/- 0.0	7.9 +/- 0.4
20:1(n-11)	3.8 +/- 0.6	3.2 +/- 0.2	3.2 +/- 0.3	4.5 +/- 0.1	5.8 +/- 0.5
20:1(n-9)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1	0.0 +/- 0.0
20:1(n-7)	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0
22:1(n-9)	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.1
TOTAL	22.9 +/- 0.9	22.8 +/- 0.1	22.2 +/- 0.2	26.5 +/- 0.2	28.6 +/- 1.3
Polyunsaturates					
16:2(n-7)	0.7 +/- 0.1	0.6 +/- 0.0	0.6 +/- 0.1	0.6 +/- 0.0	0.5 +/- 0.0
16:2(n-6)	0.2 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.7 +/- 0.1	1.6 +/- 0.1	1.4 +/- 0.1	1.5 +/- 0.0	1.3 +/- 0.1
16:3(n-6)	0.4 +/- 0.1	0.6 +/- 0.1	0.5 +/- 0.2	1.0 +/- 0.2	3.6 +/- 0.6
16:3(n-4)	3.7 +/- 0.3	3.1 +/- 0.0	2.7 +/- 0.2	2.7 +/- 0.0	1.5 +/- 1.3
16:3(n-3)	0.3 +/- 0.1	0.4 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.1	0.3 +/- 0.0
16:4(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
16:4(n-1)	6.6 +/- 0.8	6.8 +/- 0.0	6.5 +/- 0.4	5.9 +/- 0.1	4.9 +/- 0.2
18:2(n-6)	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.1
18:2(n-4)	1.6 +/- 0.1	1.4 +/- 0.0	1.3 +/- 0.0	1.4 +/- 0.0	1.3 +/- 0.1
18:3(n-6)	0.7 +/- 0.0	0.6 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0
18:3(n-3)	0.3 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
18:4(n-3)	8.3 +/- 0.4	6.4 +/- 0.2	5.7 +/- 0.3	5.7 +/- 0.2	5.7 +/- 0.4
18:5(n-3)	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
20:2i	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.7 +/- 0.0	0.2 +/- 0.0
20:2j	0.1 +/- 0.1	0.3 +/- 0.0	0.2 +/- 0.0	0.0 +/- 0.0	0.3 +/- 0.1
20:2(n-6)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0
20:3(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0
20:4(n-6)	1.3 +/- 0.0	1.6 +/- 0.0	1.5 +/- 0.0	1.8 +/- 0.0	1.9 +/- 0.1
20:4(n-3)	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
20:5(n-3)	16.5 +/- 0.2	19.1 +/- 0.1	20.9 +/- 0.3	17.9 +/- 0.7	15.6 +/- 0.5
21:5(n-3)	0.6 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
22:2i	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0
22:2j	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:4(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1
22:4(n-9)t	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.1
22:5(n-6)	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
22:5(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.2 +/- 0.1	0.2 +/- 0.1
FA ind	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:6(n-3)	0.8 +/- 0.0	0.9 +/- 0.1	1.1 +/- 0.0	0.4 +/- 0.1	0.6 +/- 0.1
24:6 (n-3)	3.1 +/- 0.4	2.9 +/- 0.0	2.9 +/- 0.3	1.7 +/- 0.2	1.8 +/- 0.2
TOTAL	50.5 +/- 1.4	50.9 +/- 0.2	51.2 +/- 0.8	46.5 +/- 0.5	44.3 +/- 1.6

	Do-Ophiothrix fragilis-OUT				
	June-10	August-10	October-10	January-11	April-11
	n=3	n=3	n=3	n=3	n=3
Bacteria	1.0 +/- 0.0	1.2 +/- 0.1	1.2 +/- 0.0	1.3 +/- 0.1	1.5 +/- 0.1
Saturates					
14:0	10.8 +/- 0.2	10.3 +/- 0.3	10.1 +/- 0.2	8.4 +/- 0.1	8.7 +/- 0.2
15:0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
16:0	8.9 +/- 0.5	8.8 +/- 0.4	8.9 +/- 0.1	8.8 +/- 0.1	8.7 +/- 0.1
18:0	4.3 +/- 0.5	4.0 +/- 0.2	3.9 +/- 0.1	4.5 +/- 0.4	4.3 +/- 0.3
TOTAL	24.9 +/- 0.8	24.3 +/- 0.3	24.0 +/- 0.1	22.9 +/- 0.4	22.8 +/- 0.3
Monosaturates					
16:1(n-9)	0.3 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
16:1(n-7)	6.5 +/- 0.2	7.4 +/- 0.4	6.9 +/- 0.1	6.8 +/- 0.3	7.8 +/- 0.4
16:1(n-13)t	0.3 +/- 0.0	0.3 +/- 0.1	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
18:1(n-11)	4.9 +/- 0.5	3.9 +/- 0.5	2.1 +/- 0.2	2.3 +/- 0.1	2.7 +/- 0.2
18:1(n-9)	0.9 +/- 0.1	1.0 +/- 0.0	1.1 +/- 0.0	1.4 +/- 0.3	1.4 +/- 0.2
18:1(n-7)	6.2 +/- 0.2	6.0 +/- 0.2	5.9 +/- 0.1	6.6 +/- 0.1	6.4 +/- 0.2
20:1(n-11)	4.0 +/- 0.5	3.8 +/- 0.4	2.7 +/- 0.1	3.4 +/- 0.1	3.8 +/- 0.6
20:1(n-9)	0.1 +/- 0.0	0.0 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.0	0.0 +/- 0.0
20:1(n-7)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.1
22:1(n-9)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
TOTAL	24.3 +/- 0.3	24.2 +/- 0.9	20.9 +/- 0.1	22.8 +/- 0.8	24.3 +/- 1.0
Polyunsaturates					
16:2(n-7)	0.6 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0
16:2(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.6 +/- 0.1	1.4 +/- 0.1	1.2 +/- 0.0	1.2 +/- 0.0	1.2 +/- 0.0
16:3(n-6)	0.6 +/- 0.2	0.6 +/- 0.2	0.5 +/- 0.1	1.6 +/- 0.6	2.7 +/- 0.7
16:3(n-4)	2.7 +/- 0.1	2.6 +/- 0.1	2.3 +/- 0.0	2.1 +/- 0.0	2.2 +/- 0.1
16:3(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.6 +/- 0.0	0.5 +/- 0.1	0.4 +/- 0.1
16:4(n-3)	0.3 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
16:4(n-1)	7.2 +/- 0.4	6.9 +/- 0.4	7.3 +/- 0.0	6.8 +/- 0.4	6.1 +/- 0.5
18:2(n-6)	0.4 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.8 +/- 0.1
18:2(n-4)	1.2 +/- 0.0	1.0 +/- 0.1	1.0 +/- 0.0	1.0 +/- 0.0	0.9 +/- 0.0
18:3(n-6)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
18:3(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0
18:4(n-3)	6.5 +/- 0.3	5.5 +/- 0.1	3.3 +/- 0.0	3.9 +/- 0.1	4.9 +/- 0.3
18:5(n-3)	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0
20:2i	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
20:2j	0.3 +/- 0.0	0.2 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.1	0.3 +/- 0.2
20:2(n-6)	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.0
20:3(n-6)	0.0 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
20:4(n-6)	0.8 +/- 0.0	1.1 +/- 0.0	1.4 +/- 0.0	1.8 +/- 0.1	1.5 +/- 0.1
20:4(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0
20:5(n-3)	17.0 +/- 0.4	18.8 +/- 0.6	25.1 +/- 0.1	24.7 +/- 2.0	22.5 +/- 1.5
21:5(n-3)	0.5 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.2 +/- 0.2	0.4 +/- 0.0
22:2i	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:2j	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.3 +/- 0.0	0.1 +/- 0.0
22:4(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0
22:4(n-9)t	0.0 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
22:5(n-6)	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.5 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
FA ind	0.2 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
22:6(n-3)	0.8 +/- 0.1	1.2 +/- 0.1	1.6 +/- 0.1	0.8 +/- 0.1	0.6 +/- 0.0
24:6(n-3)	2.5 +/- 0.3	2.7 +/- 0.1	2.5 +/- 0.0	2.2 +/- 0.3	1.8 +/- 0.1
TOTAL	47.2 +/- 0.9	48.3 +/- 1.2	53.1 +/- 0.2	52.1 +/- 1.4	50.9 +/- 1.4

	BB-Ophiocomina nigra-IN				
	June-10	August-10	October-10	January-11	April-11
	n=3	n=3	n=3	n=3	n=3
Bacteria	2.1 +/- 0.1	2.1 +/- 0.1	2.1 +/- 0.1	3.0 +/- 0.3	3.0 +/- 0.3
Saturates					
14:0	14.4 +/- 0.4	12.7 +/- 0.8	11.8 +/- 0.6	13.1 +/- 0.8	13.1 +/- 0.8
15:0	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.7 +/- 0.1	0.6 +/- 0.0
16:0	12.0 +/- 0.3	12.4 +/- 0.5	12.5 +/- 0.4	12.0 +/- 1.0	11.7 +/- 1.1
18:0	3.9 +/- 0.4	3.6 +/- 0.2	3.4 +/- 0.1	3.8 +/- 0.0	3.7 +/- 0.2
TOTAL	32.0 +/- 1.0	30.4 +/- 1.4	29.3 +/- 0.5	30.8 +/- 0.4	30.2 +/- 0.8
Monosaturates					
16:1(n-9)	0.5 +/- 0.1	0.5 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.5 +/- 0.0
16:1(n-7)	10.2 +/- 0.7	11.3 +/- 0.2	11.8 +/- 1.0	10.3 +/- 1.3	10.0 +/- 0.3
16:1(n-13)t	0.7 +/- 0.0	0.9 +/- 0.0	0.8 +/- 0.0	1.0 +/- 0.1	1.2 +/- 0.1
18:1(n-11)	1.2 +/- 0.1	0.7 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.1	0.7 +/- 0.1
18:1(n-9)	1.5 +/- 0.2	2.2 +/- 0.4	3.3 +/- 0.4	2.9 +/- 0.7	2.9 +/- 0.7
18:1(n-7)	3.9 +/- 0.1	4.5 +/- 0.1	4.2 +/- 0.2	4.6 +/- 0.3	4.8 +/- 0.3
20:1(n-11)	7.2 +/- 0.7	6.2 +/- 0.6	4.2 +/- 0.3	6.4 +/- 1.4	8.0 +/- 1.0
20:1(n-9)	0.0 +/- 0.0	0.3 +/- 0.1	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0
20:1(n-7)	0.4 +/- 0.0	0.4 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0
22:1(n-9)	0.4 +/- 0.1	0.5 +/- 0.1	0.3 +/- 0.0	0.5 +/- 0.1	0.6 +/- 0.1
TOTAL	27.3 +/- 0.5	28.9 +/- 0.3	27.4 +/- 0.9	28.8 +/- 0.4	30.9 +/- 1.8
Polyunsaturates					
16:2(n-7)	0.8 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.1
16:2(n-6)	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	2.2 +/- 0.3	1.9 +/- 0.1	1.4 +/- 0.1	1.4 +/- 0.1	1.4 +/- 0.1
16:3(n-6)	1.0 +/- 0.1	0.8 +/- 0.2	0.9 +/- 0.3	1.7 +/- 0.2	2.2 +/- 0.7
16:3(n-4)	1.9 +/- 0.2	1.4 +/- 0.0	1.2 +/- 0.1	1.0 +/- 0.1	1.1 +/- 0.1
16:3(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0
16:4(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.1
16:4(n-1)	3.3 +/- 0.4	2.9 +/- 0.2	2.8 +/- 0.1	1.9 +/- 0.1	2.3 +/- 0.2
18:2(n-6)	0.5 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0	0.7 +/- 0.0	0.8 +/- 0.0
18:2(n-4)	0.6 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0	0.7 +/- 0.1
18:3(n-6)	0.5 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0
18:3(n-3)	0.3 +/- 0.0	0.3 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.1
18:4(n-3)	3.7 +/- 0.3	2.3 +/- 0.1	2.7 +/- 0.1	2.3 +/- 0.2	2.7 +/- 0.2
18:5(n-3)	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
20:2i	0.2 +/- 0.0	0.1 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.2	0.2 +/- 0.0
20:2j	0.3 +/- 0.1	0.8 +/- 0.0	0.4 +/- 0.0	0.7 +/- 0.2	0.6 +/- 0.1
20:2(n-6)	0.3 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.6 +/- 0.1	0.6 +/- 0.1
20:3(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1	0.2 +/- 0.0
20:4(n-6)	1.4 +/- 0.1	1.5 +/- 0.1	1.9 +/- 0.1	2.1 +/- 0.0	1.8 +/- 0.1
20:4(n-3)	0.5 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
20:5(n-3)	7.2 +/- 0.5	10.1 +/- 0.8	13.5 +/- 0.8	9.6 +/- 1.3	7.8 +/- 0.2
21:5(n-3)	0.2 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
22:2i	0.2 +/- 0.1	0.3 +/- 0.1	0.5 +/- 0.1	0.5 +/- 0.3	0.5 +/- 0.1
22:2j	0.2 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.1	0.3 +/- 0.0
22:4(n-6)	0.2 +/- 0.0	0.2 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.1	0.2 +/- 0.1
22:4(n-9)t	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1
22:5(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-3)	1.0 +/- 0.0	1.2 +/- 0.1	0.8 +/- 0.0	0.8 +/- 0.1	0.8 +/- 0.0
FA ind	0.9 +/- 0.0	1.1 +/- 0.1	0.7 +/- 0.0	0.8 +/- 0.2	0.7 +/- 0.1
22:6(n-3)	1.0 +/- 0.0	1.8 +/- 0.1	2.5 +/- 0.3	1.6 +/- 0.2	1.0 +/- 0.2
24:6(n-3)	7.0 +/- 0.1	5.7 +/- 0.2	4.7 +/- 0.1	6.0 +/- 0.9	5.6 +/- 0.4
TOTAL	37.8 +/- 1.6	38.1 +/- 1.4	40.7 +/- 0.3	37.0 +/- 0.4	35.4 +/- 1.7

	Di-Ophiocomina nigra-IN				
	June-10 n=3	August-10 n=3	October-10 n=3	January-11 n=3	April-11 n=3
Bacteria	1.9 +/- 0.0	2.6 +/- 0.1	2.8 +/- 0.1	2.8 +/- 0.1	1.8 +/- 0.1
Saturates					
14:0	14.8 +/- 0.8	14.2 +/- 0.2	12.1 +/- 0.6	11.4 +/- 0.4	12.8 +/- 0.2
15:0	0.5 +/- 0.0	0.7 +/- 0.0	0.8 +/- 0.0	0.6 +/- 0.0	0.5 +/- 0.0
16:0	12.7 +/- 0.2	13.1 +/- 0.3	11.5 +/- 0.3	10.6 +/- 0.8	11.9 +/- 0.3
18:0	2.8 +/- 0.1	3.9 +/- 0.2	4.4 +/- 0.2	3.6 +/- 0.1	3.0 +/- 0.1
TOTAL	31.6 +/- 1.1	32.8 +/- 0.6	30.3 +/- 0.2	27.3 +/- 1.2	28.8 +/- 0.4
Monosaturates					
16:1(n-9)	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.1	0.5 +/- 0.1
16:1(n-7)	10.4 +/- 0.5	8.6 +/- 0.4	8.4 +/- 0.2	8.5 +/- 0.3	10.2 +/- 0.2
16:1(n-13)t	0.7 +/- 0.0	0.9 +/- 0.0	1.2 +/- 0.0	1.4 +/- 0.0	1.0 +/- 0.0
18:1(n-11)	0.5 +/- 0.1	0.7 +/- 0.1	0.6 +/- 0.0	0.6 +/- 0.0	1.1 +/- 0.0
18:1(n-9)	1.4 +/- 0.2	1.7 +/- 0.1	2.2 +/- 0.2	2.2 +/- 0.1	1.5 +/- 0.0
18:1(n-7)	3.8 +/- 0.0	4.3 +/- 0.1	3.6 +/- 0.3	3.9 +/- 0.0	2.9 +/- 0.1
20:1(n-11)	11.3 +/- 0.3	13.2 +/- 0.6	9.1 +/- 0.3	8.4 +/- 1.9	7.9 +/- 0.9
20:1(n-9)	0.0 +/- 0.0	0.0 +/- 0.0	0.4 +/- 0.1	0.2 +/- 0.2	0.0 +/- 0.0
20:1(n-7)	0.3 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
22:1(n-9)	1.0 +/- 0.1	1.2 +/- 0.1	0.9 +/- 0.1	0.7 +/- 0.2	0.6 +/- 0.1
TOTAL	31.0 +/- 0.4	32.6 +/- 0.8	28.6 +/- 0.5	28.0 +/- 2.3	27.1 +/- 0.9
Polyunsaturates					
16:2(n-7)	0.6 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.1	0.4 +/- 0.0	0.3 +/- 0.0
16:2(n-6)	0.0 +/- 0.1	0.0 +/- 0.0	0.0 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.8 +/- 0.1	1.2 +/- 0.1	0.9 +/- 0.1	1.4 +/- 0.1	1.4 +/- 0.1
16:3(n-6)	1.0 +/- 0.1	1.0 +/- 0.2	1.4 +/- 0.1	1.9 +/- 0.7	1.6 +/- 0.1
16:3(n-4)	1.7 +/- 0.0	1.1 +/- 0.0	1.0 +/- 0.1	1.3 +/- 0.2	2.0 +/- 0.2
16:3(n-3)	0.2 +/- 0.1	0.2 +/- 0.0	0.8 +/- 0.0	0.6 +/- 0.0	0.4 +/- 0.0
16:4(n-3)	0.4 +/- 0.0	0.5 +/- 0.0	0.8 +/- 0.0	0.5 +/- 0.2	0.3 +/- 0.1
16:4(n-1)	3.1 +/- 0.0	1.9 +/- 0.2	2.4 +/- 0.3	3.6 +/- 0.6	4.6 +/- 0.6
18:2(n-6)	0.6 +/- 0.0	0.6 +/- 0.0	1.0 +/- 0.1	0.8 +/- 0.0	1.0 +/- 0.0
18:2(n-4)	0.5 +/- 0.0	0.5 +/- 0.0	0.7 +/- 0.2	0.7 +/- 0.1	0.5 +/- 0.0
18:3(n-6)	0.4 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
18:3(n-3)	0.4 +/- 0.0	0.4 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
18:4(n-3)	4.1 +/- 0.0	2.7 +/- 0.1	2.2 +/- 0.1	2.6 +/- 0.3	2.8 +/- 0.2
18:5(n-3)	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0
20:2i	0.1 +/- 0.0	0.0 +/- 0.0	0.5 +/- 0.1	0.2 +/- 0.0	0.1 +/- 0.0
20:2j	0.6 +/- 0.0	1.0 +/- 0.1	0.3 +/- 0.1	0.4 +/- 0.1	0.3 +/- 0.0
20:2(n-6)	0.3 +/- 0.0	0.5 +/- 0.1	0.7 +/- 0.0	0.6 +/- 0.1	0.4 +/- 0.0
20:3(n-6)	0.1 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.1	0.2 +/- 0.0	0.1 +/- 0.0
20:4(n-6)	1.0 +/- 0.0	1.6 +/- 0.1	2.7 +/- 0.2	2.5 +/- 0.1	1.2 +/- 0.1
20:4(n-3)	0.5 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
20:5(n-3)	6.5 +/- 0.2	5.9 +/- 0.4	8.5 +/- 0.1	10.4 +/- 1.4	13.8 +/- 0.8
21:5(n-3)	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
22:2i	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
22:2j	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0
22:4(n-6)	0.2 +/- 0.0	0.3 +/- 0.1	0.6 +/- 0.1	0.2 +/- 0.1	0.1 +/- 0.1
22:4(n-9)t	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0
22:5(n-3)	1.1 +/- 0.0	0.9 +/- 0.1	1.0 +/- 0.1	1.1 +/- 0.1	1.5 +/- 0.1
FA ind	0.7 +/- 0.0	0.7 +/- 0.1	0.6 +/- 0.0	1.0 +/- 0.0	0.9 +/- 0.1
22:6(n-3)	1.0 +/- 0.0	1.5 +/- 0.2	2.2 +/- 0.2	0.9 +/- 0.1	0.6 +/- 0.0
24:6(n-3)	5.4 +/- 0.2	5.2 +/- 0.1	5.4 +/- 0.1	6.9 +/- 0.2	4.7 +/- 0.4
TOTAL	34.5 +/- 0.6	31.4 +/- 0.9	37.7 +/- 0.4	41.4 +/- 3.5	41.8 +/- 1.3

	BS-<i>Ophiocomina nigra</i>-OUT				
	June-10	August-10	October-10	January-11	April-11
	n=3	n=3	n=3	n=3	n=3
Bacteria	1.5 +/- 0.2	1.5 +/- 0.1	1.4 +/- 0.0	1.9 +/- 0.4	1.8 +/- 0.1
<i>Saturates</i>					
14:0	11.7 +/- 1.0	9.5 +/- 0.3	9.1 +/- 0.4	9.6 +/- 0.2	9.2 +/- 0.3
15:0	0.6 +/- 0.1	0.7 +/- 0.1	0.5 +/- 0.0	0.6 +/- 0.1	0.7 +/- 0.0
16:0	10.7 +/- 0.5	10.7 +/- 0.2	12.7 +/- 0.4	13.1 +/- 0.8	12.4 +/- 0.5
18:0	4.8 +/- 0.3	5.6 +/- 0.4	3.6 +/- 0.2	4.4 +/- 0.7	4.2 +/- 0.3
TOTAL	29.3 +/- 0.9	28.0 +/- 0.6	26.9 +/- 0.5	29.0 +/- 0.9	27.5 +/- 0.8
<i>Monosaturates</i>					
16:1(n-9)	0.3 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
16:1(n-7)	9.8 +/- 1.8	8.0 +/- 1.2	13.4 +/- 0.4	12.8 +/- 2.5	13.0 +/- 0.4
16:1(n-13)t	0.5 +/- 0.1	0.7 +/- 0.1	0.6 +/- 0.0	0.8 +/- 0.2	0.7 +/- 0.1
18:1(n-11)	1.2 +/- 0.4	1.4 +/- 0.2	0.6 +/- 0.0	0.7 +/- 0.1	0.9 +/- 0.0
18:1(n-9)	2.9 +/- 0.8	2.4 +/- 0.4	6.5 +/- 2.3	5.4 +/- 0.8	5.4 +/- 0.4
18:1(n-7)	4.9 +/- 0.2	5.6 +/- 0.3	4.1 +/- 0.1	4.7 +/- 0.4	5.1 +/- 0.2
20:1(n-11)	6.3 +/- 0.8	7.7 +/- 0.9	3.8 +/- 0.2	6.0 +/- 1.2	7.1 +/- 0.7
20:1(n-9)	0.1 +/- 0.2	0.3 +/- 0.2	0.3 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.0
20:1(n-7)	0.6 +/- 0.1	0.6 +/- 0.0	0.2 +/- 0.0	0.4 +/- 0.2	0.4 +/- 0.1
22:1(n-9)	0.4 +/- 0.1	0.5 +/- 0.1	0.3 +/- 0.0	0.5 +/- 0.1	0.6 +/- 0.2
TOTAL	27.9 +/- 1.2	28.4 +/- 0.9	31.1 +/- 1.9	33.3 +/- 1.4	35.2 +/- 1.3
<i>Polyunsaturates</i>					
16:2(n-7)	0.8 +/- 0.1	0.5 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.1	0.3 +/- 0.0
16:2(n-6)	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.4 +/- 0.1	0.9 +/- 0.1	0.8 +/- 0.1	0.8 +/- 0.1	0.8 +/- 0.0
16:3(n-6)	1.2 +/- 0.2	1.5 +/- 0.6	1.1 +/- 0.1	1.2 +/- 0.2	1.8 +/- 0.3
16:3(n-4)	1.6 +/- 0.2	1.1 +/- 0.1	0.8 +/- 0.1	0.7 +/- 0.2	0.8 +/- 0.1
16:3(n-3)	0.3 +/- 0.2	0.7 +/- 0.1	0.4 +/- 0.2	0.3 +/- 0.0	0.2 +/- 0.0
16:4(n-3)	0.3 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0
16:4(n-1)	2.5 +/- 0.3	2.7 +/- 0.5	2.6 +/- 0.2	1.5 +/- 0.3	2.0 +/- 0.2
18:2(n-6)	0.5 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.1	0.6 +/- 0.0
18:2(n-4)	0.8 +/- 0.1	0.9 +/- 0.1	0.5 +/- 0.0	0.6 +/- 0.1	0.6 +/- 0.1
18:3(n-6)	0.5 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
18:3(n-3)	0.4 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.4 +/- 0.0
18:4(n-3)	4.1 +/- 0.3	3.1 +/- 0.1	2.7 +/- 0.2	2.3 +/- 0.3	2.5 +/- 0.1
18:5(n-3)	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
20:2i	0.2 +/- 0.0	0.2 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.1	0.2 +/- 0.0
20:2j	0.5 +/- 0.1	0.6 +/- 0.0	0.1 +/- 0.1	0.3 +/- 0.1	0.2 +/- 0.0
20:2(n-6)	0.4 +/- 0.0	0.5 +/- 0.1	0.4 +/- 0.0	0.5 +/- 0.1	0.6 +/- 0.0
20:3(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
20:4(n-6)	2.4 +/- 0.1	2.3 +/- 0.1	2.1 +/- 0.0	2.4 +/- 0.2	2.6 +/- 0.2
20:4(n-3)	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
20:5(n-3)	10.6 +/- 0.8	12.3 +/- 0.9	15.3 +/- 0.2	12.3 +/- 1.3	11.2 +/- 1.6
21:5(n-3)	0.4 +/- 0.1	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
22:2i	0.4 +/- 0.0	0.4 +/- 0.1	0.3 +/- 0.1	0.4 +/- 0.0	0.3 +/- 0.1
22:2j	0.2 +/- 0.0	0.3 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.1	0.2 +/- 0.0
22:4(n-6)	0.2 +/- 0.0	0.5 +/- 0.1	0.2 +/- 0.0	0.3 +/- 0.1	0.3 +/- 0.1
22:4(n-9)t	0.0 +/- 0.0	0.0 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1	0.1 +/- 0.1
22:5(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-3)	0.7 +/- 0.1	0.8 +/- 0.1	0.6 +/- 0.0	0.6 +/- 0.1	0.7 +/- 0.1
FA ind	0.5 +/- 0.0	0.6 +/- 0.1	0.4 +/- 0.0	0.4 +/- 0.0	0.4 +/- 0.0
22:6(n-3)	1.4 +/- 0.3	1.9 +/- 0.7	2.4 +/- 0.1	1.5 +/- 0.1	1.3 +/- 0.2
24:6 (n-3)	6.7 +/- 0.6	6.4 +/- 0.1	4.3 +/- 0.6	4.8 +/- 0.8	4.9 +/- 0.3
TOTAL	41.0 +/- 0.9	41.9 +/- 1.2	40.1 +/- 1.4	35.6 +/- 2.2	35.4 +/- 1.6

	Do-Ophiocomina nigra-OUT				
	June-10	August-10	October-10	January-11	April-11
	n=3	n=3	n=3	n=3	n=3
Bacteria	2.5 +/- 0.2	3.2 +/- 0.1	3.0 +/- 0.2	3.2 +/- 0.1	2.9 +/- 0.1
Saturates					
14:0	14.5 +/- 0.3	12.6 +/- 1.1	12.0 +/- 0.4	11.1 +/- 0.2	11.1 +/- 0.4
15:0	0.6 +/- 0.0	0.7 +/- 0.0	0.8 +/- 0.0	0.9 +/- 0.0	0.8 +/- 0.0
16:0	12.7 +/- 0.2	11.5 +/- 0.5	9.9 +/- 0.4	10.1 +/- 0.6	10.1 +/- 0.5
18:0	3.1 +/- 0.2	3.9 +/- 0.2	4.3 +/- 0.3	4.8 +/- 0.1	4.3 +/- 0.3
TOTAL	31.7 +/- 0.2	29.8 +/- 1.5	28.7 +/- 0.6	28.2 +/- 0.7	27.5 +/- 0.9
Monosaturates					
16:1(n-9)	0.5 +/- 0.1	0.5 +/- 0.0	0.7 +/- 0.1	0.4 +/- 0.0	0.5 +/- 0.0
16:1(n-7)	8.4 +/- 0.1	8.8 +/- 0.6	8.4 +/- 0.6	7.6 +/- 0.1	8.2 +/- 0.1
16:1(n-13)t	0.9 +/- 0.0	1.1 +/- 0.1	1.1 +/- 0.0	1.3 +/- 0.0	1.4 +/- 0.1
18:1(n-11)	0.6 +/- 0.1	0.6 +/- 0.1	0.7 +/- 0.1	0.8 +/- 0.0	0.8 +/- 0.1
18:1(n-9)	1.5 +/- 0.0	2.6 +/- 0.5	2.2 +/- 0.2	2.7 +/- 0.1	2.8 +/- 0.5
18:1(n-7)	3.9 +/- 0.3	4.4 +/- 0.0	3.9 +/- 0.3	4.3 +/- 0.3	4.5 +/- 0.2
20:1(n-11)	12.1 +/- 0.7	10.7 +/- 1.4	7.2 +/- 0.6	9.4 +/- 0.7	9.4 +/- 0.2
20:1(n-9)	0.0 +/- 0.0	0.3 +/- 0.2	0.3 +/- 0.0	0.5 +/- 0.0	0.2 +/- 0.4
20:1(n-7)	0.3 +/- 0.0	0.5 +/- 0.1	0.3 +/- 0.2	0.4 +/- 0.0	0.4 +/- 0.0
22:1(n-9)	1.0 +/- 0.1	1.0 +/- 0.1	0.7 +/- 0.0	0.8 +/- 0.1	0.8 +/- 0.1
TOTAL	30.3 +/- 1.1	31.9 +/- 0.8	26.6 +/- 0.4	29.4 +/- 0.8	30.2 +/- 1.2
Polyunsaturates					
16:2(n-7)	0.5 +/- 0.1	0.6 +/- 0.0	0.6 +/- 0.1	0.3 +/- 0.0	0.1 +/- 0.2
16:2(n-6)	0.1 +/- 0.1	0.0 +/- 0.0	0.0 +/- 0.1	0.1 +/- 0.0	0.2 +/- 0.0
16:2(n-4)	1.7 +/- 0.0	1.1 +/- 0.1	0.9 +/- 0.0	0.8 +/- 0.0	0.9 +/- 0.1
16:3(n-6)	0.9 +/- 0.2	0.8 +/- 0.2	1.7 +/- 0.3	2.7 +/- 0.3	3.1 +/- 0.1
16:3(n-4)	1.1 +/- 0.9	1.0 +/- 0.1	1.0 +/- 0.0	0.8 +/- 0.1	1.0 +/- 0.1
16:3(n-3)	0.3 +/- 0.0	0.4 +/- 0.0	1.1 +/- 0.0	0.8 +/- 0.0	0.7 +/- 0.1
16:4(n-3)	0.4 +/- 0.0	0.6 +/- 0.1	0.6 +/- 0.3	0.4 +/- 0.1	0.5 +/- 0.0
16:4(n-1)	3.2 +/- 0.3	2.1 +/- 0.2	3.2 +/- 0.1	2.5 +/- 0.3	2.5 +/- 0.2
18:2(n-6)	0.6 +/- 0.0	0.8 +/- 0.1	0.7 +/- 0.0	0.6 +/- 0.0	0.7 +/- 0.0
18:2(n-4)	0.6 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.3	0.8 +/- 0.2	0.8 +/- 0.0
18:3(n-6)	0.3 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.0
18:3(n-3)	0.4 +/- 0.0	0.4 +/- 0.1	0.4 +/- 0.0	0.3 +/- 0.0	0.4 +/- 0.1
18:4(n-3)	3.7 +/- 0.0	2.6 +/- 0.1	2.0 +/- 0.1	1.7 +/- 0.2	2.3 +/- 0.1
18:5(n-3)	0.1 +/- 0.0	0.1 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0	0.0 +/- 0.0
20:2i	0.1 +/- 0.0	0.0 +/- 0.1	0.5 +/- 0.2	0.2 +/- 0.0	0.2 +/- 0.0
20:2j	0.6 +/- 0.0	0.9 +/- 0.1	0.2 +/- 0.2	0.4 +/- 0.0	0.3 +/- 0.1
20:2(n-6)	0.3 +/- 0.0	0.5 +/- 0.0	0.5 +/- 0.0	0.6 +/- 0.0	0.6 +/- 0.0
20:3(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.1
20:4(n-6)	1.2 +/- 0.1	1.5 +/- 0.1	1.9 +/- 0.1	2.6 +/- 0.1	2.2 +/- 0.1
20:4(n-3)	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0
20:5(n-3)	6.6 +/- 0.4	7.7 +/- 0.9	12.4 +/- 0.2	10.5 +/- 0.7	10.6 +/- 1.2
21:5(n-3)	0.2 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
22:2i	0.2 +/- 0.0	0.4 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
22:2j	0.2 +/- 0.0	0.3 +/- 0.0	0.2 +/- 0.0	0.3 +/- 0.0	0.3 +/- 0.0
22:4(n-6)	0.2 +/- 0.1	0.2 +/- 0.0	0.2 +/- 0.0	0.2 +/- 0.1	0.3 +/- 0.2
22:4(n-9)t	0.0 +/- 0.0	0.2 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-6)	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0	0.1 +/- 0.0
22:5(n-3)	1.0 +/- 0.1	0.7 +/- 0.0	0.8 +/- 0.1	0.6 +/- 0.0	0.9 +/- 0.4
FA ind	0.7 +/- 0.1	0.6 +/- 0.1	0.6 +/- 0.1	0.6 +/- 0.1	0.6 +/- 0.0
22:6(n-3)	1.2 +/- 0.0	2.2 +/- 0.6	2.4 +/- 0.2	1.2 +/- 0.1	1.0 +/- 0.1
24:6(n-3)	5.7 +/- 0.3	5.9 +/- 0.3	5.6 +/- 0.1	7.0 +/- 0.4	6.0 +/- 0.1
TOTAL	34.1 +/- 1.2	34.3 +/- 1.7	40.9 +/- 0.7	38.7 +/- 1.2	38.9 +/- 1.9