

**Supplementary material**

## Appendix 1

**Table A1.** Fishery landings (tonnes) of the ten most important species in the two local harbours (Olhão and Quarteira), during May and June of 2014 and 2015.

Species	2014	2015	Total
<i>Scomber</i> spp.	822	1576	2398
<i>Trachurus</i> spp.	329	237	566
<i>Sardina pilchardus</i>	319	197	516
<i>Octopus vulgaris</i>	85	97	182
<i>Sarda sarda</i>	3	80	83
<i>Diplodus</i> spp.	33	29	62
<i>Sepia officinalis</i>	25	23	48
<i>Merluccius merluccius</i>	16	21	37
<i>Sarpa salpa</i>	18	10	28
<i>Lophius piscatorius</i>	10	12	22
Sum	1660	2282	3942

**Table A2.** Stable isotope ratios of carbon ( $\delta^{13}\text{C}$ , ‰), nitrogen ( $\delta^{15}\text{N}$ , ‰) and C/N mass ratios of fish species regurgitated by Audouin's (*Larus audouinii*) and yellow-legged (*L. michahellis*) gulls in 2014. Group type for each species (P pelagic, D demersal) is indicated following FishBase (<http://www.fishbase.org>). For sample size  $N > 1$ , values are mean  $\pm$  SD.

Fish species	Group	$\delta^{15}\text{N}$	$\delta^{13}\text{C}$	C/N	N
<i>Ammodytes</i> sp.	P	+11.01	-18.70	3.09	1
<i>Belone belone</i>	P	+9.50	-19.71	2.91	1
<i>Sardina pilchardus</i>	P	+10.05 $\pm$ 0.35	-17.55 $\pm$ 0.57	3.03 $\pm$ 0.05	4
<i>Scomber</i> sp.	P	+10.27 $\pm$ 0.60	-18.10 $\pm$ 0.58	3.05 $\pm$ 0.09	10
<i>Trachurus</i> spp	P	+10.34 $\pm$ 0.63	-18.36 $\pm$ 0.90	3.07 $\pm$ 0.10	10
<i>Boops boops</i>	D	+11.03 $\pm$ 0.46	-17.40 $\pm$ 0.27	3.01 $\pm$ 0.04	6
<i>Conger conger</i>	D	+10.44	-16.65	3.05	1
<i>Diplodus</i> sp.	D	+11.90	-17.28	3.07	1

**Table A3.** Numeric percentage (NP, %), percentage of occurrence (PO, %) and generalised linear model (GLM) results investigating the differences in the occurrence of pelagic, demersal fish, refuse and the main prey (PO > 5%) identified in Audouin's (AG; *Larus audouinii*) and yellow-legged (YLG; *L. michahellis*) gull pellets collected in 2014 and 2015 breeding seasons, with sample size in parenthesis. Significant effects are shown in bold.

Prey	NP		PO				Species		Year		Species*Year						
	2014	2015	2014	2015	AG	YLG	$F_{1,524}$	$P$	Main effect	$F_{1,524}$	$P$	Main effect	$F_{1,522}$	$P$	Main effect		
	AG (n=449)	YLG (n=441)	AG (n=415)	YLG (n=453)													
Pelagic	67.7	32.0	58.3	33.1	86.6	68.0	87.9	57.1	40.15	<b>&lt;0.001</b>	AG > YLG	1.68	0.19	-	1.22	0.27	-
Demersal	17.6	16.3	19.5	14.6	31.7	41.4	45.8	41.0	1.03	0.31	-	2.89	0.09	-	2.84	0.09	-
<i>Diplodus</i> spp.	8.7	4.1	5.5	4.4	19.9	14.1	19.6	18.3	1.14	0.29	-	0.34	0.56	-	0.36	0.55	-
<i>Micromesistius poutassou</i>	4.0	6.6	9.9	11.5	7.5	18.0	23.4	23.1	4.44	<b>0.04</b>	AG < YLG	10.58	<b>&lt;0.01</b>	2014 < 2015	4.45	<b>0.03</b>	AG 2014 < others
<i>Sardina pilchardus</i>	12.7	9.5	7.2	7.5	24.7	25.8	21.5	18.3	0.11	0.74	-	2.00	0.16	-	0.39	0.53	-
<i>Scomber</i> spp.	7.1	5.9	3.4	4.9	16.1	19.5	13.1	20.2	2.03	0.15	-	0.18	0.67	-	0.33	0.57	-
<i>Scomberesox saurus</i>	29.0	2.3	28.9	2.9	51.1	7.0	45.8	5.8	125.65	<b>&lt;0.001</b>	AG > YLG	0.78	0.38	-	0.00	0.96	-
<i>Trachurus</i> spp.	2.4	6.3	2.4	2.4	5.9	18.0	9.3	10.6	7.60	<b>&lt;0.01</b>	AG < YLG	0.34	0.56	-	3.49	0.06	-
Insects	4.2	23.8	9.2	29.6	8.1	10.9	21.5	35.6	7.30	<b>&lt;0.01</b>	AG < YLG	30.16	<b>&lt;0.001</b>	2014 < 2015	0.49	0.48	-
Refuse	0.2	8.4	0.5	6.8	0.5	15.6	1.9	29.8	69.76	<b>&lt;0.001</b>	AG < YLG	7.51	<b>&lt;0.01</b>	2014 < 2015	0.13	0.72	-

**Table A4.** Area of the standard ellipse ( $SEA_c$ ) of Audouin's (AG; *Larus audouinii*) and yellow-legged (YLG, *L. michahellis*) gulls sampled in the breeding season of 2014 (AG: n = 12, YLG: n = 9) and 2015 (AG: n = 15, YLG: n = 12), during all-year (Br; breast feathers), breeding (P1; first primary feathers), non-breeding (S8; eighth secondary feathers), laying (RBC; red blood cells), and incubation (plasma) periods of adults, and of chicks (feathers; AG: n = 17, YLG: n = 16 in 2014; and AG: n = 15, YLG: n = 15 in 2015), calculated in SIBER (Stable Isotope Bayesian Ellipses in R; Jackson et al. 2011). Adult feathers reflect dietary inputs from the year previous to the sampling.

Tissue	Period	2013		2014		2015	
		AG	YLG	AG	YLG	AG	YLG
Br	All-year	0.93	4.05	2.63	1.70		
P1	Breeding	0.69	0.61	1.42	0.83		
S8	Non-breeding	0.33	2.78	2.11	1.61		
RBC	Laying			0.60	0.61	0.26	0.50
Plasma	Incubation			0.94	1.87	0.77	0.57
Chicks	Chick-rearing			0.25	0.38	0.41	0.52

**Table A5.** Ellipse area overlap (%) between Audouin's (AG; *Larus audouinii*) and yellow-legged (YLG, *L. michahellis*) gulls sampled in the breeding season of 2014 (AG: n = 12, YLG: n = 9) and 2015 (AG: n = 15, YLG: n = 12), during all-year (Br; breast feathers), breeding (P1; first primary feathers), non-breeding (S8; eighth secondary feathers), laying (RBC; red blood cells), and incubation (plasma) periods of adults, and of chicks (feathers; AG: n = 17, YLG: n = 16 in 2014; and AG: n = 15, YLG: n = 15 in 2015), calculated in SIBER (Stable Isotope Bayesian Ellipses in R; Jackson et al. 2011). Adult feathers reflect dietary inputs from the year previous to the sampling.

Tissue	Species/ Year	YLG 2013	AG 2014	YLG 2014
Br	AG 2013	60.2	55.9	0.0
Br	YLG 2013	-	21.8	38.8
Br	AG 2014	-	-	1.2
P1	AG 2013	39.3	55.1	21.7
P1	YLG 2013	-	67.2	70.5
P1	AG 2014	-	-	44.6
S8	AG 2013	100.0	100.0	0.0
S8	YLG 2013	-	61.1	69.6
S8	AG 2014	-	-	4.3
		YLG 2014	AG 2015	YLG 2015
RBC	AG 2014	71.7	46.2	52.0
RBC	YLG 2014	-	38.5	44.0
RBC	AG 2015	-	-	92.3
Plasma	AG 2014	60.6	7.8	0.5
Plasma	YLG 2014	-	12.7	89.5
Plasma	AG 2015	-	-	24.6
Chicks	AG 2014	0.0	3.8	0.0
Chicks	YLG 2014	-	63.2	86.8
Chicks	AG 2015	-	-	46.3