

Supplementary Material

A comparison of visual observation and DNA metabarcoding to assess the diet of juvenile sea turtle *Caretta caretta* in the French Mediterranean sea

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Table S1. Description of items used for visual Identification of prey in the diet of 21 loggerhead turtles.

Taxonomic group	Identification items	State
Annelids	Annelids' tubes	Empty and partially fragmented
Crustaceans	Abdomen	Partially fragmented
	Claws	Partially fragmented
	Entire organism	Hermit crabs within and without shells
	Exoskeleton	Highly fragmented
Echinoderms	Entire organism	Little to no digestion
	(<i>Holothuroidea</i>)	Highly fragmented
	Shell fragments (<i>Echinoidea</i>)	
Fish	Bones	Partially to highly fragmented
	Entire organism	Partially digested
	Otoliths	-
	Scales	Partially fragmented
	Skin	Highly digested
Molluscs	Cephalopod beaks	Entire to partially fragmented
	Cephalopod tentacles or suckers	Highly digested
		-
	Gastropods opercula	Entire to highly fragmented
	Shells	
Plathelminthes	Entire organisms	Little to no digestion
Viridiplantae	Pieces of fronds/leaves	Little to no digestion / fragmented

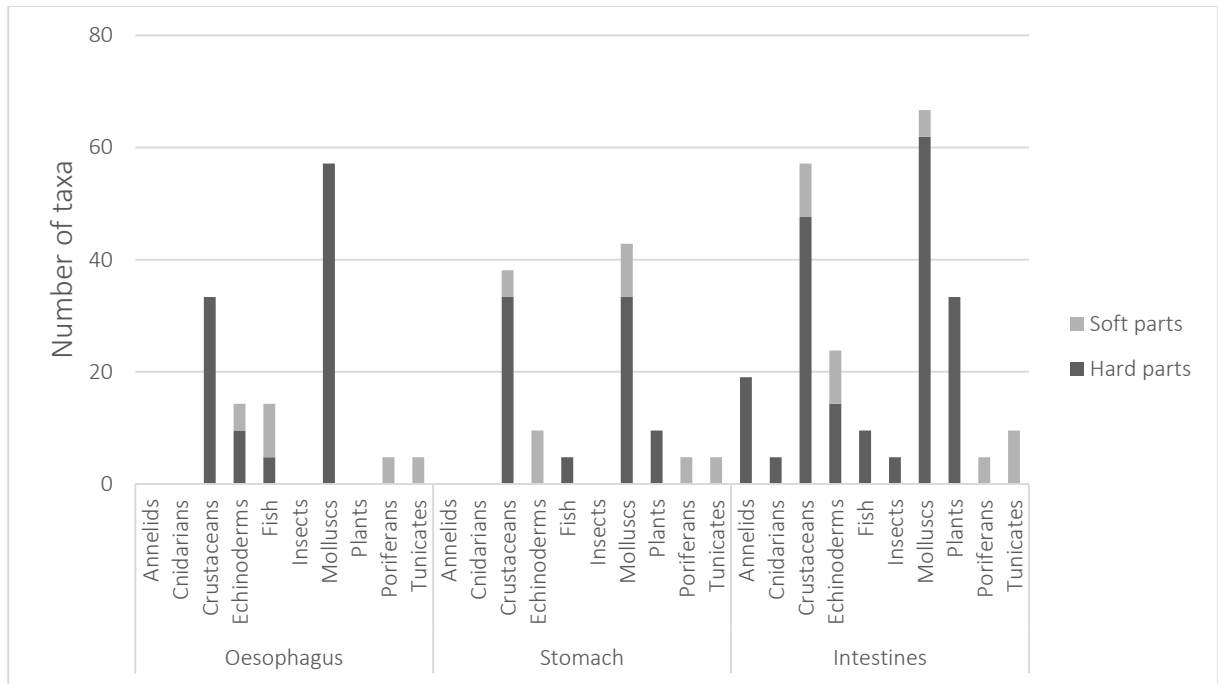


Fig. S1. Taxa visually identified in the three sections of the sea turtle digestive tracts (shown in proportions of soft and hard parts).

Table S2. List and of taxa identified with visual observation and eDNA metabarcoding in the diet of 21 loggerhead turtles.

Taxonomic group	Class	Lower taxonomic level (O) Order; (F) family; (G) Genus; (SP) species	Visual ID	eDNA	<i>n</i>
Annelids	-	-	X		4
Cnidarians	-	-	X		1
	Anthozoa	Actiniaria		X	5
	Hydrozoa	-		X	1
		Anthoathecata (O)		X	2
		Leptothecata (O)		X	3
		Siphonophorae (O)		X	2
	Scyphozoa	-		X	2
		Rhizostomeae (O)		X	14
Crustaceans	Malacostraca	-		X	1
	Malacostraca	Decapoda (O)		X	1
	Malacostraca	Paguridae (F)	X		12
	Malacostraca	Cancriidae (F)	X		7
Echinoderms	Echinoidea	-	X		2
		<i>Sphaerechinus granularis</i> (SP)	X		1

Taxonomic group	Class	Lower taxonomic level (O) Order; (F) family; (G) Genus; (SP) species	Visual ID	eDNA	n
		<i>Psammechinus microtuberculatus</i> (SP)	X		1
	Holothuroidea	Holothuriidae (F)	X		1
		<i>Holothuria tubulosa</i> (SP)	X		1
		<i>Holothuria mammata</i> (SP)	X		1
Fish	Actinopterygii	-	X		
		Clupeiformes (O)		X	2
		Gadiformes (O)		X	1
		Sparidae (O), <i>Pagellus acarne</i> (SP)	X		1
Insects	Insecta	Anisoptera (SO), Odonata (O)	X		1
Molluscs	-	-	X		2
	Bivalvia	-	X		10
		Donax (G)	X		2
		Mactra (G)	X		1
		Lutraria (G)	X		2
		Parvicardium (G)	X		1
		Acanthocardia (G)	X		1
		<i>Acanthocardia aculeata</i> (SP)	X		3
		<i>Acanthocardia tuberculata</i> (SP)	X		2
		<i>Astarte sulcata</i> (SP)	X		1
		<i>Donacilla cornea</i> (SP)	X		1
		<i>Dosinia exoleta</i> (SP)	X		1
		<i>Ensis minor</i> (SP)	X		5
		<i>Mactra glauca</i> (SP)	X		3
		<i>Mactra stultorum</i> (SP)	X		4
		<i>Mimachlamys varia</i> (SP)	X		1
		<i>Moerella pulchella</i> (SP)	X		2
		<i>Mytilus galloprovincialis</i> (SP)	X		5
		<i>Nucula sulcata</i> (SP)	X		1
		<i>Ruditapes decussatus</i> (SP)	X		1
		<i>Venus verucosa</i> (SP)	X		1
	Cephalopoda	<i>Octopus vulgaris</i> (SP)	X		1
		<i>Sepia officinalis</i> (SP)	X		1
	Gastropoda	-	X	X	4
		Euspira (G)	X		1
		<i>Bolinus brandaris</i> (SP)	X		2
		<i>Calliostoma zizyphinum</i> (SP)	X		1

Taxonomic group	Class	Lower taxonomic level (O) Order; (F) family; (G) Genus; (SP) species	Visual ID	eDNA	<i>n</i>
		<i>Euspira catena</i> (SP)	X		1
		<i>Euspira fusca</i> (SP)	X		1
		<i>Euspira nitida</i> (SP)	X		1
		<i>Galeodea echinophora</i> (SP)	X		2
		<i>Galeodea rugosa</i> (SP)	X		1
		<i>Hadriana craticulata</i> (SP)	X		1
		<i>Mangelia costata</i> (SP)	X		1
		<i>Naticarius stercusmuscarum</i> (SP)	X		2
		<i>Neverita josephinia</i> (SP)	X		3
		<i>Tritia cuvierii</i> (SP)	X		1
		<i>Tritia mutabilis</i> (SP)	X		7
		<i>Tritia reticulata</i> (SP)	X		1
		<i>Turritellinella tricarinata</i> (SP)	X		9
	Scaphopoda	<i>Antalis vulgaris</i> (SP)	X		1
Plants	-	-	X	X	8
	Liliopsida	Liliopsida (O)	X		1
	Magnoliopsida	Apiales (O)		X	1
		Brassicales (O)		X	1
Poriferans	Calcarea	-		X	1
	Demospongiae	<i>Chondrosia reniformis</i> (SP)	X		1
Tunicates	Thaliacea	Salpida (O)	X	X	4

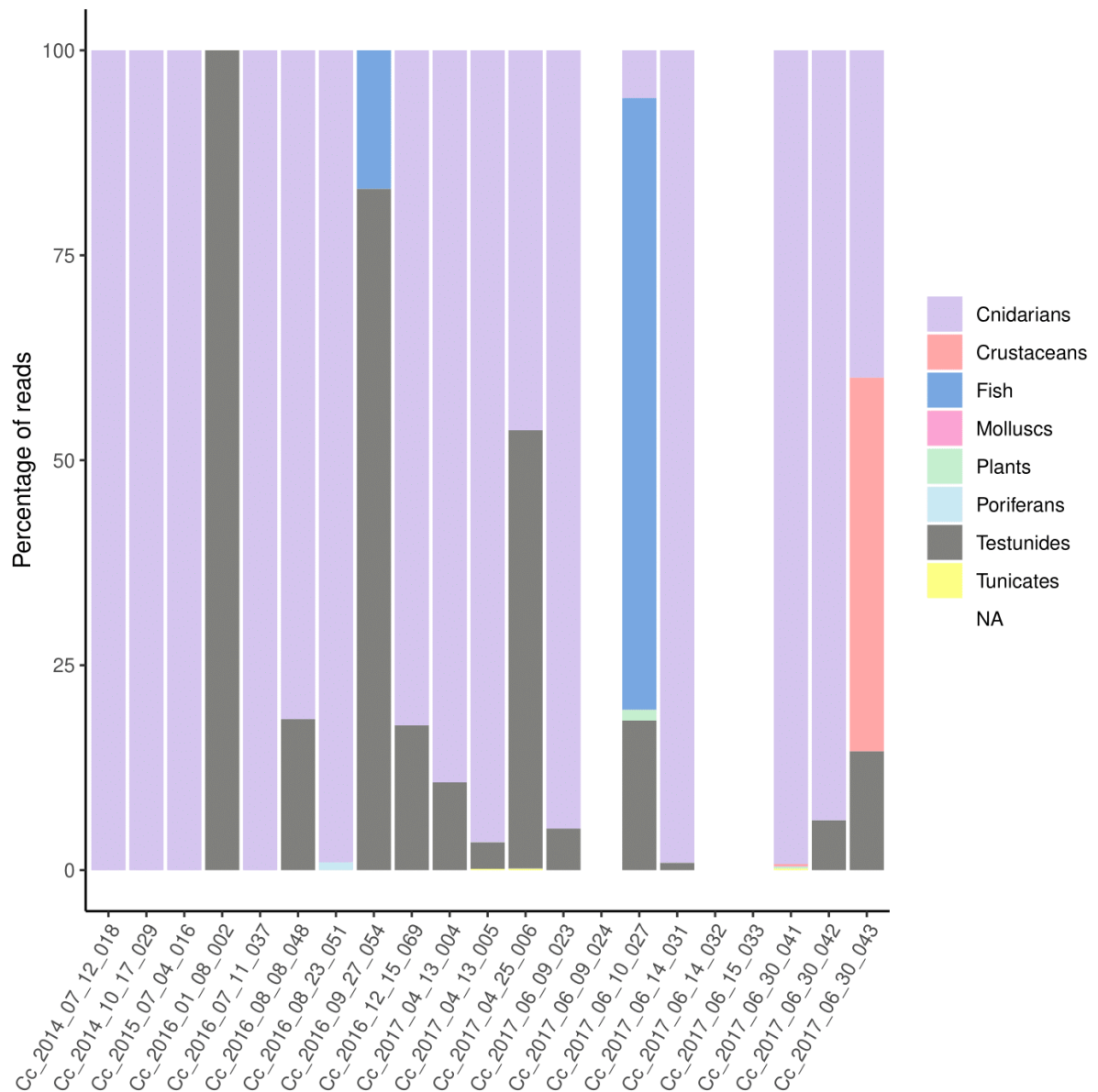


Fig. S2. Relative proportion of eDNA sequences according to taxa. Each vertical bar corresponds to the analysis of the gut contents of an individual using blocking and eukaryotic primers. On each bar, the different colours represent the taxa of the sequence reads of prey items present in the sample. Three bars are blank because the samples from these individuals (CC_2017_06_09_024, CC_2017_06_14_032 and CC_2017_06_15_033) did not reveal any PCR products.