

Table 1. Station data for the Gulf of Cadiz samples yielding Gastropoda taxa. Observations from TTR11-TTR17, MSM01-03, 64PE237, 64PE253, 64PE284 and JC10 cruise reports (Akhmetzhanov et al., 2007; 2008; Kenyon et al., 2003; 2006; Pinheiro et al., 2003; Ivanov et al., 2009; de Haas and Mienis, 2005; Weaver et al., 2007). D: dredge; Gr: TV-assisted grab; UB: USNEL box core; MC: Megacore/Multicore; K: Kasten core; BL: Bigo Lander; FL: FLUFO Lander; ROV: Remote operated vehicle. EA: El-Araiche; CP: Carbonate Province; DF: Deep Field.

Structure	Cruise	Station	Sampler	Date dd.mm.yy	Latitude (N)	Longitude (W)	Depth (m)	Sample description	Substrate
Mud volcanoes									
<i>El-Araiche</i>									
Mercator	MSM01-03	242	UB	06.05.06	35°17.87'	06°38.81'	350	Crater; Mud breccia, <i>Hyalonecia</i> facies	Soft
	MSM01-03	237.2	MC	06.05.06	35°17.91'	06°38.69'	353	Crater; Mud breccia	Soft
	MSM01-03	241	UB	06.05.06	35°17.92'	06°38.72'	353	Crater; Mud breccia, <i>Caryophyllia</i> facies	Soft
	TTR15	AT575	UB	26.07.05	35°17.90'	06°38.71'	355	Crater; Mud breccia	Soft
	TTR15	AT569	Gr	25.07.05	35°17.92'	06°38.72'	358	Crater; Mud breccia	Soft
	64PE253	M2006_49	UB	14.10.06	35°17.90'	06°38.64'	360	Crater; Mud breccia and carbonate debris	Soft
	MSM01-03	287	MC	11.05.06	35°17.89'	06°39.06'	379	Crater rim; Mud breccia	Soft
	TTR15	AT576	UB	26.07.05	35°17.66'	06°39.13'	428	Flank; Mud breccia	Soft
Fiúza	TTR14	AT566	Gr	09.08.04	35°15.51'	06°41.70'	414	Crater; Mud breccia and marl	Soft
Gemini	64PE253	M2006_10	UB	07.10.06	35°16.83'	06°45.76'	432	Crater; Mud breccia	Soft
	64PE253	M2006_08	UB	07.10.06	35°16.75'	06°45.72'	444	Crater; Mud breccia and carbonate debris	Soft
	64PE253	M2006_18	UB	08.10.06	35°16.39'	06°46.40'	608	Flank; Carbonate debris	Soft
Kidd	TTR14	AT528	Gr	03.08.04	35°25.30'	06°43.97'	489	Crater; Mud breccia, carbonate debris	Soft
	TTR14	AT560	UB	08.08.04	35°25.31'	06°43.98'	498	Crater; Mud breccia	Soft
	TTR14	AT561	UB	08.08.04	35°25.60'	06°44.10'	526	Flank; Hemipelagic sediments	Soft
Carbonate Province									
Pipoca	64PE284	12706-1	K	21.02.08	36°26.81'	07°12.70'	702	Flank; Mud breccia	Soft

Student	TTR10	AT239	Gr	22.07.00	35°30.85'	07°08.82'	955	Crater; Crusts, carbonates, shell ash and coral debris	Mixed	
Darwin	JC10-D33	032-Bibo01	BC-D33	22.05.07	35°23.52'	07°11.51'	1109	Crater; shell ash	Mixed	
	JC10-D41	76	ROV-D41	01.06.07	35°23.50'	07°11.50'	1110	Crater; Mussel bed	Mixed	
	TTR16	AT608	Gr	30.05.06	35°23.53'	07°11.47'	1115	Crater; Shell ash, slabs and crusts.	Mixed	
	TTR17	AT664	Gr	26.06.2008	35°23.52'	07°11.49'	1128	Crater; Mussel bed	Mixed	
Jesus Baraza	TTR12	AT391	Gr	09.07.02	35°35.44'	07°12.26'	1105	Crater; Carbonate clay	Mixed	
Deep Field										
Capitan Arutyunov	MSM01-03	212	BL	30.04.06	35°39.68'	07°19.98'	1317	Crater center; Mud breccia and clasts	Soft	
	MSM01-03	190.2	MC	28.04.06	35°39.67'	07°19.97'	1320	Crater center; Mud breccia and clasts	Soft	
	MSM01-03	225	BL	04.05.06	35°39.70'	07°20.01'	1320	Crater center; Mud breccia and clasts	Soft	
	MSM01-03	344	FL	16.05.06	35°39.70'	07°20.04'	1320	Crater center; Mud breccia and clasts	Soft	
	MSM01-03	218	UB	30.04.06	35°39.64'	07°20.05'	1321	Crater center; Gas hydrates present	Soft	
	MSM01-03	274	BL	10.05.06	35°39.71'	07°20.00'	1321	Crater center; Mud breccia and clasts	Soft	
	MSM01-03	190.1	MC	28.04.06	35°39.66'	07°19.97'	1322	Crater center; Mud breccia and clasts	Soft	
	MSM01-03	180	UB	27.04.06	35°39.74'	07°19.96'	1323	Crater rim; Sediment	Soft	
	TTR14	AT544	G	06.08.04	35°39.71'	07°19.01'	1330	Crater center; Mud breccia and clasts	Soft	
	TTR12	AT399	Gr	13.07.02	35°39.80'	07°20.00'	1339	Crater rim; Mud breccia	Soft	
	TTR14	AT546	Gr	06.08.04	35°39.69'	07°20.05'	1345	Crater center; Mud breccia and clasts	Soft	
	Sagres	TTR17	AT667	Gr	27.06.08	36°02.20'	08°05.54'	1562	Crater; Mud breccia	Soft
	Carlos Ribeiro	JC10	54	MC	27.05.07	35°47.30'	08°25.22'	2179	Flank; Octocoral garden site NE; Hemipelagic sediments with octocoral fragments	Soft
MSM01-03		169	MC	25.04.06	35°47.26'	08°25.36'	2199	Crater center; Mud breccia	Soft	
Bonjardim	MSM01-03	133	UB	19.04.06	35°27.82'	09°00.13'	3049	Crater center; Mud breccia	Soft	
Porto	TTR17	AT687	Gr	01.07.08	35°33.77'	09°30.43'	3887	Crater; Mud breccia	Soft	
	TTR17	AT683	Gr	01.07.08	35°33.75'	09°30.36'	3890	Crater; Mud breccia	Soft	
	TTR16	AT622	Gr	03.06.06	35°33.77'	09°30.42'	3902	Crater; Mud breccia	Soft	

Adjacent habitats

Al-Idrisi	64PE253	M2006_46B	UB	14.10.06	35°13.85'	06°36.59'	227	Coral framework	Hard
Mercator	JC10-D27	018-Rock5	ROV	18.05.07	35°18.82'	06°37.15'	373	Rock	Hard
	JC10-D27	018-Rock3		18.05.07	35°18.84'	06°37.35'	426	Rock	Hard
	JC10-D27	018-Rock1		18.05.07	35°18.76'	06°37.42'	428	Rock	Hard
West of Gibraltar	TTR14	AT552	Gr	07.08.04	35°42.82'	06°30.23'	428	Carbonate chimneys in brown marl	Hard
Vernadsky Ridge	TTR15	AT574	D	26.07.05	35°02.98'	06°46.66'	508	Carbonate crusts and chimneys	Hard
Pen Duick Escarpment	TTR14	AT565	Gr	09.08.04	35°18.18'	06°47.66'	544	Coral debris	Hard
	TTR12	AT406	Gr	15.07.02	35°18.15'	06°47.67'	550	Coral framework	Hard
	64PE237	M2005_30B	UB	01.06.05	35°18.75'	06°47.89'	550	Coral framework	Hard
	TTR16	AT600	Gr	28.05.06	35°18.78'	06°48.45'	610	Mud breccia covered by coral debris and Carbonate crusts	Mixed
	64PE237	M2005_28A	UB	31.05.05	35°18.20'	06°48.53'	622	Coral framework	Hard
TTR	TTR12	AT416	Gr	17.07.02	35°21.87'	06°52.00'	695	Flank; Coral framework	Hard
Meknès	64PE284	12738-1	ROV	28.02.08	34°59.98'	07°04.51'	738	Coral framework	Hard
Ibérico	TTR11	AT335	D	25.08.01	36°07.40'	07°41.20'	905	Carbonate chimneys	Hard
Guadalquivir Ridge	TTR11	AT339	D	26.08.01	36°07.59'	07°46.59'	1021	Carbonate chimneys	Hard
Darwin	JC10-D32	028-Rock2	ROV-D32	21.05.07	35°23.50'	07°11.50'	1118	Rock	Hard
Capitan Arutyunov	MSM01-03	195	Gr	28.04.06	35°39.27'	07°20.01'	1390	Flank; Coral thicket	Hard
Carlos Ribeiro	JC10-D36	051-Bibo03	ROV-D36	27.05.07	35°47.13'	08°25.34'	2200	Wood fall	Organic

In-situ colonization experiments

Mercator	B09/14	B09-01	Chemecoli	19.05.09	35°17.92'	06°38.71'	354	Crater; Wood	Organic
	B09/14	B09-01	Chemecoli	19.05.09	35°17.92'	06°38.71'	354	Crater; Alfafa	Organic
	64PE284	12750-1	Chemecoli	02.03.08	35°17.89'	07°38.71'	354	Crater; Wood	Organic
	64PE284	12752-1	Chemecoli	03.03.08	35°17.89'	06°38.71'	354	Crater; Alfafa	Organic
	64PE284	12750-1	Chemecoli	02.03.08	35°17.89'	07°38.71'	354	Carbonate	Mixed
	B09/14b	B09-01	Chemecoli	19.05.09	35°17.92'	06°38.71'	354	Carbonate	Mixed
Meknès	B09/14	B09-03	Chemecoli	20.05.09	35°59.09'	07°04.42'	698	Crater; Wood	Organic
	B09/14	B09-03	Chemecoli	20.05.09	35°59.09'	07°04.42'	698	Crater; Alfafa	Organic
	B09/14	B09-03	Chemecoli	20.05.09	35°59.09'	07°04.42'	698	Crater; Carbonate	Mixed
Darwin	B09/14	B09-02	Chemecoli	19.05.09	35°23.52'	07°11.51'	1100	Crater; Wood	Organic
	B09/14	B09-02	Chemecoli	19.05.09	35°23.52'	07°11.51'	1100	Crater; Alfafa	Organic
	B09/14	B09-02	Chemecoli	19.05.09	35°23.52'	07°11.51'	1100	Crater; Carbonate	Mixed

Table 2. Substrate types, distribution patterns and larval development of Gastropoda taxa found in the Gulf of Cadiz. H: Hard substrate; M: Mixed substrate; S: Soft substrate; O: Organic substrate; Sin: Singletons; Rar: Rare species; Mod: Moderate; Abu: Abundant; Ubi: Ubiquitous; P: Planktotrophic; L; Lecithotrophic; N; Non-planktotrophic; U: Unknown. * Extremely abundant taxa (> 100 individuals) although present only in one substrate type. (i) Larval development inferred from closely related taxa.

Subclass	Family	Taxa	Substrate type			Chemecoli		Distribution	Development	References	
Caenogastropoda	Borsoniidae	<i>Drilliola loprestiana</i>	-	-	S	-	-	Sin	P	(Bouchet and Warén, 1994)	
	Buccinidae	<i>Chauvetia balgimae</i>	-	-	S	-	-	Rar	N	(Bouchet and Warén, 1985)	
		<i>Neptunea contraria</i>	H	M	-	-	-	Mod	N	(Bouchet and Warén, 1985)	
		<i>Cerithiopsidae</i> spA	H	-	-	-	-	Rar	U	-	
	Columbellidae	<i>Amphissa acutecostata</i>	H	M	S	-	O	Ubi	P	(Bouchet and Warén, 1994)	
	Conoidea	<i>Conoidea</i> spA	-	-	S	-	-	Sin	U		
	Drilliidae	<i>Spirotropis monterosatoi</i>	-	-	S	-	-	Rar	N	Bouchet and Taviani, 1992	
	Epitoniidae	<i>Claviscala</i> spA	-	-	S	-	-	Rar	P	(Bouchet and Warén, 1986)	
	Eulimidae	<i>Eulimidae</i> spA	-	-	-	-	H	O	Ubi	U	-
		<i>Fusceulima minuta</i>	-	-	S	-	-	Sin	U	-	
		<i>Melanella</i> spA	-	-	S	-	-	Rar	U	-	
	Mangeliidae	<i>Benthomangelia macra</i>	-	-	S	-	-	Sin	P	(Bouchet and Warén, 1994)	
	Marginellidae	Marginellidae und.	-	-	S	-	O	Abu	N	(Bouchet and Warén, 1985)	
	Muricidae	<i>Pagodula echinata</i>	H	M	S	-	H	Abu	N	(i)	
	Nystiellidae	<i>Iphitus marshalli</i>	H	-	-	-	-	Sin	P	(Bouchet and Warén, 1986)	
	Raphitomidae	<i>Gymnobela aquilarum</i>	-	-	S	-	-	Rar	P	(Rex and Warén, 1982)	
		<i>Taranis cf. alexandrina</i>	-	M	S	-	-	Mod	N	(Bouchet and Taviani, 1992)	
		<i>Alvania cimicoides</i>	H	-	-	-	O	Mod	P	(Gofas, 2007)	
	Rissoidae	<i>Alvania electa</i>	-	-	S	-	-	Rar	N	This study	
		<i>Alvania tomentosa</i>	H	-	S	-	-	Mod	N	This study	
		<i>Alvania zylensis</i>	H	M	-	-	O	Ubi	U	This study	
		<i>Obtusella intersecta</i>	-	-	S	-	O	Abu	N	This study	
		<i>Pseudosetia</i> spA	-	M	-	-	-	Sin	P	This study	
<i>Pseudosetia</i> spC		-	M	S	-	-	Abu	N	(i)		
	<i>Pseudosetia</i> spD	H	-	S	-	H	O	Ubi	N	(i)	

		<i>Punctulum porcupinae</i>	-	M	S	-	H	-	Mod	N	This study
	Triphoridae	<i>Strobiliger a brychia</i>	H	-	-	-	-	-	Rar	P	(Bouchet and Warén, 1993)
Cocculiniformia	Cocculinidae	<i>Coccolpigya</i> spp.	-	-	-	-	-	O	Abu*	N	(Dantart and Luque, 1994)
		<i>Cocculinidae</i> spA	-	-	-	O	-	-	Mod	N	This study; (Dantart and Luque, 1994)
		<i>Fedikovella</i> spA	-	-	-	O	-	-	Sin	N	This study; (Dantart and Luque, 1994)
Heterobranchia	Cimidae	<i>Cima cuteculata</i>	-	-	-	-	-	O	Rar	U	-
		<i>Graphis gracilis</i>	-	M	-	-	-	O	Ubi	L	-
	Pyramidellidae	<i>Odostomia</i> spA	-	M	S	-	-	-	Mod	U	-
		cf. <i>Odostomia</i> sp.	-	-	S	-	-	-	Sin	U	-
		<i>Eulimella</i> spA	H	-	-	-	-	-	Sin	P	(Rex and Warén, 1982)
		<i>Pyramidellidae</i> spA	-	-	S	-	-	-	Sin	U	-
		<i>Syrnola</i> spA	-	-	S	-	-	-	Sin	U	-
		<i>Turbonilla</i> spA	H	-	-	-	-	-	Sin	P	This study
	Xylodisculidae	<i>Xylodiscula</i> spA	-	M	S	-	H	O	Ubi	N	This study
Neomphalina	Melanodrymiidae	<i>Leptogyra</i> spA	-	M	-	-	H	O	Ubi	L	This study
Patellogastropoda	Lepetidae	<i>lothia</i> spA	-	M	-	-	-	-	Sin	N	(Dantart and Luque, 1994)
Vetigastropoda	Calliotropidae	<i>Putzeysia</i> cf. <i>wiseri</i>	H	M	-	-	H	O	Ubi	L	This study
	Chilodontidae	<i>Danilia tinei</i>	H	-	-	-	-	-	Sin	L	(i)
	Colloniidae	<i>Cantrainea peloritana</i>	-	M	S	-	-	-	Mod	L	(i)
	Fissurellidae	<i>Emarginula multistriata</i>	H	-	-	-	-	-	Sin	L	(i)
		<i>Fissurisepta</i> cf. <i>granulosa</i>	H	M	-	-	-	-	Mod	L	(i)
		<i>Puncturella</i> spA	-	-	S	-	-	-	Sin	L	(i)
	Lepetellidae	<i>Lepetella</i> spA	H	-	-	-	-	-	Sin	L	(i)
	Pseudococculinidae	<i>Copulabyssia</i> spp.	-	-	-	-	-	O	Abu*	L	(i)
	Pyropeltidae	<i>Pyropelta</i> aff. <i>sibuetae</i>	-	M	-	-	-	-	Rar	L	(i)
	Scissurellidae	<i>Anatoma</i> spA	H	M	-	-	-	-	Mod	L	(i)
		<i>Anatoma</i> spB	H	-	-	-	-	-	Mod	L	(i)
	Seguenziidae	<i>Akritogyra</i> spA	H	-	-	-	-	-	Sin	L	This study

		<i>Lissotesta</i> spA	-	-	S	-	-	-	Sin	L	(i)
		<i>Sahlingia</i> spA	-	-	S	-	-	-	Sin	L	This study
		<i>Sahlingia</i> spB	-	-	S	-	-	-	Mod	L	This study
		cf. <i>Sahlingia</i> spA	-	-	S	-	-	-	Sin	L	This study
		<i>Seguenziidae</i> spA	-	-	S	-	-	-	Rar	L	(i)
	Solariellidae	<i>Solariella amabilis</i>	H	-	-	-	-	-	Sin	L	(i)
	Turbinidae	<i>Bathyxylophila</i> spA	-	-	-	-	-	O	Mod	L	(i)
		cf. <i>Lissospira</i>	-	-	-	-	-	O	Mod	L	(i)
		<i>Cirsonella</i> aff. <i>romettensis</i>	-	M	-	-	H	-	Mod	L	(i)
		<i>Moelleriopsis</i> cf. <i>messanensis</i>	-	M	-	-	H	O	Ubi	L	This study
		<i>Xyloskenea excavata</i>	-	-	-	O	-	-	Sin	L	This study
Vetigastropoda	Vetigastropoda fam und	Vetigastropoda spA	-	-	S	-	-	-	Mod	U	-

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