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									
El-Araiche									
Mercator	MSM01-03	242	UB	06.05.06	35º17.87'	06º38.81'	350	Crater; Mud breccia, *Hyalonecia* facies	Soft
	MSM01-03	237.2	MC	06.05.06	35º17.91'	06º38.69'	353	Crater; Mud breccia	Soft
	MSM01-03	241	UB	06.05.06	35º17.92'	06º38.72'	353	Crater; Mud breccia, *Caryophyllia* facies	Soft
	TTR15	AT575	UB	26.07.05	35º17.90'	06º38.71'	355	Crater; Mud breccia	Soft
	TTR15	AT569	Gr	25.07.05	35º17.92'	06º38.72'	358	Crater; Mud breccia	Soft
	64PE253	M2006_49	UB	14.10.06	35º17.90'	06º38.64'	360	Crater; Mud breccia and carbonate debris	Soft
	MSM01-03	287	MC	11.05. 06	35º17.89'	06º39.06'	379	Crater rim; Mud breccia	Soft
	TTR15	AT576	UB	26.07.05	35º17.66'	06º39.13'	428	Flank; Mud breccia	Soft
Fiúza	TTR14	AT566	Gr	09.08.04	35º15.51'	06º41.70'	414	Crater; Mud breccia and marl	Soft
Gemini	64PE253	M2006_10	UB	07.10.06	35º16.83'	06º45.76'	432	Crater; Mud breccia	Soft
	64PE253	M2006_08	UB	07.10.06	35º16.75'	06º45.72'	444	Crater; Mud breccia and carbonate debris	Soft
	64PE253	M2006_18	UB	08.10.06	35º16.39'	06º46.40'	608	Flank; Carbonate debris	Soft
Kidd	TTR14	AT528	Gr	03.08.04	35º25.30'	06º43.97'	489	Crater; Mud breccia, carbonate debris	Soft
	TTR14	AT560	UB	08.08.04	35º25.31'	06º43.98'	498	Crater; Mud breccia	Soft
	TTR14	AT561	UB	08.08.04	35º25.60'	06º44.10'	526	Flank; Hemipelagic sediments	Soft
Carbonate Province									
Pipoca	64PE284	12706-1	K	21.02.08	36º26.81'	07º12.70'	702	Flank; Mud breccia	Soft

Student	TTR10	AT239	Gr	22.07.00	35º30.85'	07º08.82'	955	Crater; Crusts, carbonates, shell ash and coral debris	Mixed
Darwin	JC10-D33	032-Bibo01	BC-D33	22.05.07	35º23.52’	07º11.51’	1109	Crater; shell ash	Mixed
	JC10-D41	76	ROV-D41	01.06.07	35º23.50’	07º11.50’	1110	Crater; Mussel bed	Mixed
	TTR16	AT608	Gr	30.05.06	35º23.53’	07º11.47’	1115	Crater; Shell ash, slabs and crusts.	Mixed
	TTR17	AT664	Gr	26.06.2008	35º23.52'	07º11.49'	1128	Crater; Mussel bed	Mixed
Jesus Baraza	TTR12	AT391	Gr	09.07.02	35º35.44’	07º12.26’	1105	Crater; Carbonate clay	Mixed
Deep Field									
Capitan Arutyunov	MSM01-03	212	BL	30.04.06	35º39.68'	07º19.98'	1317	Crater center; Mud breccia and clasts	Soft
	MSM01-03	190.2	MC	28.04.06	35º39.67'	07º19.97'	1320	Crater center; Mud breccia and clasts	Soft
	MSM01-03	225	BL	04.05.06	35º39.70’	07º20.01’	1320	Crater center; Mud breccia and clasts	Soft
	MSM01-03	344	FL	16.05.06	35º39.70’	07º20.04’	1320	Crater center; Mud breccia and clasts	Soft
	MSM01-03	218	UB	30.04.06	35º39.64'	07º20.05'	1321	Crater center; Gas hydrates present	Soft
	MSM01-03	274	BL	10.05.06	35º39.71’	07º20.00’	1321	Crater center; Mud breccia and clasts	Soft
	MSM01-03	190.1	MC	28.04.06	35º39.66'	07º19.97'	1322	Crater center; Mud breccia and clasts	Soft
	MSM01-03	180	UB	27.04.06	35º39.74'	07º19.96'	1323	Crater rim; Sediment	Soft
	TTR14	AT544	G	06.08.04	35º39.71'	07º19.01'	1330	Crater center; Mud breccia and clasts	Soft
	TTR12	AT399	Gr	13.07.02	35º39.80’	07º20.00’	1339	Crater rim; Mud breccia	Soft
	TTR14	AT546	Gr	06.08.04	35º39.69'	07º20.05'	1345	Crater center; Mud breccia and clasts	Soft
Sagres	TTR17	AT667	Gr	27.06.08	36º02.20'	08º05.54'	1562	Crater; Mud breccia	Soft
Carlos Ribeiro	JC10	54	MC	27.05.07	35º47.30’	08º25.22’	2179	Flank; Coral site NE; Hemipelagic sediments with coral debris	Soft
	MSM01-03	169	MC	25.04.06	35º47.26'	08º25.36'	2199	Crater center; Mud breccia	Soft
Bonjardim	MSM01-03	133	UB	19.04.06	35º27.82'	09º00.13'	3049	Crater center; Mud breccia	Soft
Porto	TTR17	AT687	Gr	01.07.08	35º33.77'	09º30.43'	3887	Crater; Mud breccia	Soft
	TTR17	AT683	Gr	01.07.08	35º33.75'	09º30.36'	3890	Crater; Mud breccia	Soft
	TTR16	AT622	Gr	03.06.06	35º33.77’	09º30.42’	3902	Crater; Mud breccia	Soft

Adjacent habitats

Al-Idrisi	64PE253	M2006_46B	UB	14.10.06	35º13.85’	06º36.59’	227	Coral framework	Hard
Mercator	JC10-D27	018-Rock5	ROV	18.05.07	35º18.82'	06º37.15'	373	Rock	Hard
	JC10-D27	018-Rock3		18.05.07	35º18.84'	06º37.35'	426	Rock	Hard
	JC10-D27	018-Rock1		18.05.07	35º18.76'	06º37.42'	428	Rock	Hard
West of Gibraltar	TTR14	AT552	Gr	07.08.04	35º42.82’	06º30.23’	428	Carbonate chimneys in brown marl	Hard
Vernadsky Ridge	TTR15	AT574	D	26.07.05	35º02.98’	06º46.66’	508	Carbonate crusts and chimneys	Hard
Pen Duick Escarpment	TTR14	AT565	Gr	09.08.04	35º18.18'	06º47.66'	544	Coral debris	Hard
	TTR12	AT406	Gr	15.07.02	35º18.15’	06º47.67’	550	Coral framework	Hard
	64PE237	M2005_30B	UB	01.06.05	35º18.75’	06º47.89	550	Coral framework	Hard
	TTR16	AT600	Gr	28.05.06	35º18.78’	06º48.45’	610	Mud breccia covered by coral debris and Carbonate crusts	Mixed
	64PE237	M2005_28A	UB	31.05.05	35º18.20’	06º48.53’	622	Coral framework	Hard
TTR	TTR12	AT416	Gr	17.07.02	35º21.87’	06º52.00’	695	Flank; Coral framework	Hard
Meknès	64PE284	12738-1	ROV	28.02.08	34º59.98’	07º04.51’	738	Coral framework	Hard
Ibérico	TTR11	AT335	D	25.08.01	36º07.40'	07º41.20'	905	Carbonate chimneys	Hard
Guadalquivir Ridge	TTR11	AT339	D	26.08.01	36º07.59'	07º46.59'	1021	Carbonate chimneys	Hard
Darwin	JC10-D32	028-Rock2	ROV-D32	21.05.07	35º23.50’	07º11.50’	1118	Rock	Hard
Capitan Arutyunov	MSM01-03	195	Gr	28.04.06	35º39.27’	07º20.01’	1390	Flank; Coral thicket	Hard
Carlos Ribeiro	JC10-D36	051-Bibo03	ROV-D36	27.05.07	35º47.13’	08º25.34’	2200	Wood fall	Organic

In-situ colonization experiments									
Mercator	B09/14	B09-01	Chemecoli	19.05.09	35º17.92'	06º38.71'	354	Crater; Wood	Organic
	B09/14	B09-01	Chemecoli	19.05.09	35º17.92'	06º38.71'	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	35º17.92'	06º38.71'	354	Carbonate	Mixed
Meknès	B09/14	B09-03	Chemecoli Chemecoli	20.05.09	35º59.09’	07º04.42’	698	Crater; Wood	Organic
	B09/14	B09-03	Chemecoli	20.05.09	35º59.09’	07º04.42’	698	Crater; Alfafa	Organic
	B09/14	B09-03	Chemecoli	20.05.09	35º59.09’	07º04.42’	698	Crater; Carbonate	Mixed
Darwin	B09/14	B09-02	Chemecoli Chemecoli	19.05.09	35º23.52’	07º11.51’	1100	Crater; Wood	Organic
	B09/14	B09-02	Chemecoli	19.05.09	35º23.52’	07º11.51’	1100	Crater; Alfafa	Organic
	B09/14	B09-02	Chemecoli	19.05.09	35º23.52’	07º11.51’	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	*Drilliola loprestiana*	-	-	S	-	-	-	Sin	P	(Bouchet and Warén, 1994)
	Buccinidae	*Chauvetia balgimae*	-	-	S	-	-	-	Rar	N	(Bouchet and Warén, 1985)
		Neptunea contraria	H	M	-	-	-	-	Mod	N	(Bouchet and Warén, 1985)
	Cerithiopsidae	*Cerithiopsidae* spA	H	-	-	-	-	-	Rar	U	-
	Columbellidae	*Amphissa acutecostata*	H	M	S	-	-	O	Ubi	P	(Bouchet and Warén, 1994)
	Conoidea	*Conoidea* spA	-	-	S	-	-	-	Sin	U	
	Drilliidae	*Spirotropis monterosatoi*	-	-	S	-	-	-	Rar	N	Bouchet and Taviani, 1992
	Epitoniidae	*Claviscala* spA	-	-	S	-	-	-	Rar	P	(Bouchet and Warén, 1986)
	Eulimidae	*Eulimidae* spA	-	-	-	-	H	O	Ubi	U	-
		Fusceulima minuta	-	-	S	-	-	-	Sin	U	-
		Melanella spA	-	-	S	-	-	-	Rar	U	-
	Mangeliidae	*Benthomangelia macra*	-	-	S	-	-	-	Sin	P	(Bouchet and Warén, 1994)
	Marginellidae	Marginellidae und.	-	-	S	-	-	O	Abu	N	(Bouchet and Warén, 1985)
	Muricidae	*Pagodula echinata*	H	M	S	-	H	-	Abu	N	(i)
	Nystiellidae	*Iphitus marshalli*	H	-	-	-	-	-	Sin	P	(Bouchet and Warén, 1986)
	Raphitomidae	*Gymnobela aquilarum*	-	-	S	-	-	-	Rar	P	(Rex and Warén, 1982)
		Taranis cf. *alexandrina*	-	M	S	-	-	-	Mod	N	(Bouchet and Taviani, 1992)
	Rissoidae	*Alvania cimicoides*	H	-	-	-	-	O	Mod	P	(Gofas, 2007)
		Alvania electa	-	-	S	-	-	-	Rar	N	This study
		Alvania tomentosa	H	-	S	-	-	-	Mod	N	This study
		Alvania zylensis	H	M	-	-	-	O	Ubi	U	This study
		Obtusella intersecta	-	-	S	-	-	O	Abu	N	This study
		Pseudosetia spA	-	M	-	-	-	-	Sin	P	This study
		Pseudosetia spC	-	M	S	-	-	-	Abu	N	(i)

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

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

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