

Supplementary Data 2.

Ecological traits of 93 extant bivalve species inhabiting the coastal shelf (<200 m depth) along the temperate Pacific coast of South America between 15°S

Attribute	Sources
Size	Ramorino 1968, Herm 1969, Keen 1971, Marincovich 1973, Ramírez 1993, Guzmán et al. 1998
Latitudinal range	Ramírez 1993, Valdovinos 1999, Lancellotti & Vasquez 2000
Bathymetric midpoint	Ramorino 1965, Keen 1971, Ramírez 1993, Guzmán et al. 1998
Shell mineralogy	Moore (1969a, 1969b, 1971), Taylor (1971, 1973), Coan et al. (2000)
Presence in the Quaternary fossil record	Herm (1969), Ortlieb et al. (1994, 1996, 1997a, 1997b, 1999), Paskoff et al. (1995), Rivadeneira & Marquez

Clade	Subclass	Order	Family	Genus	Species
Arcoids	Pteriomorpha	Arcoida	Arcidae	Acar	gradata
Arcoids	Pteriomorpha	Arcoida	Arcidae	Acar	pusilla
Heteroconchs	Heterodonta	Myoida	Pholadidae	Anchomasa	subtruncata
Pteriomorphs	Pteriomorpha	Ostreoida	Pectinidae	Argopecten	purpurata
Mytiloids	Pteriomorpha	Mytiloida	Mytilidae	Aulacomya	atra
Mytiloids	Pteriomorpha	Mytiloida	Mytilidae	Brachidontes	granulata
Heteroconchs	Heterodonta	Veneroida	Condylocardiidae	Carditella	naviformis
Heteroconchs	Heterodonta	Veneroida	Condylocardiidae	Carditella	pygmaea
Heteroconchs	Heterodonta	Veneroida	Condylocardiidae	Carditella	semen
Heteroconchs	Heterodonta	Veneroida	Condylocardiidae	Carditella	tegulata
Heteroconchs	Heterodonta	Veneroida	Condylocardiidae	Carditopsis	flabellum
Heteroconchs	Heterodonta	Veneroida	Chamidae	Chama	pellucida
Heteroconchs	Heterodonta	Veneroida	Donacidae	Chion	obesulus
Mytiloids	Pteriomorpha	Mytiloida	Mytilidae	Choromytilus	chorus
Pteriomorphs	Pteriomorpha	Ostreoida	Ostreidae	Crassostrea	gigas
Heteroconchs	Heterodonta	Veneroida	Semelidae	Cumingia	mutica
Anomalodesmatans	Pholadomyoida	Septibranchia	Cuspidariidae	Cuspidaria	patagonica
Heteroconchs	Heterodonta	Veneroida	Veneridae	Cyclinella	kroyeri
Heteroconchs	Heterodonta	Veneroida	Carditidae	Cyclocardia	paeteliana
Heteroconchs	Heterodonta	Veneroida	Carditidae	Cyclocardia	spurca
Heteroconchs	Heterodonta	Veneroida	Carditidae	Cyclocardia	velutina
Anomalodesmatans	Anomalodesmata	Septibranchia	Poromyidae	Dermatomya	mactroides

S to 30°S

t (2007), Rivadeneira and Carmona (2008).

Lenght (mm)	Height (mm)	Northern latitudinal Limit (°N)	Southern latitudinal Limit (°N)	Maximum bathymetric distribution (m)	Minimum bathymetric distribution (m)	Size (log ₂ mm)	Lat Range (log ₁₀ ° lat)
33	11	28	-20	40	0	4.3	1.7
12	7	0	-20	5	0	3.2	1.3
75	25	48	-55	30	0	5.4	2.0
135	124	10	-30	25	7	7.0	1.6
200	110	-11	-55	40	0	7.2	1.6
28	14	-6	-41	1	0	4.3	1.5
6	4	-18	-55	63	4	2.3	1.6
5	4	-22	-23	56.5	2	2.2	0.0
11	8	-22	-23	100	0	3.2	0.0
5	3	-12	-54	50	0	2.0	1.6
4	4	-12	-54	150	10	2.0	1.6
76	52	33	-33	46	0	6.0	1.8
38	20	12	-23	15	0	4.8	1.5
300	138	-7	-55	20	4	7.7	1.7
166	71	-20	-45	5	0	6.8	1.4
35	26	-1	-43	25	0	4.9	1.6
29	14	0	-55	300	30	4.3	1.7
30	29	36	-33	6	0	4.9	1.8
5	4	-20	-21	250	10	2.2	0.0
20	16	23	-54	80	10	4.2	1.9
19	19	-18	-55	250	5	4.2	1.6
17	15	0	-55	1000	25	4.0	1.7

Bathymetric Midpoint (log ₁₀ m)	Shell Mineralogy	Quaternary Fossil Record
1.3	aragonite	yes
0.4	aragonite	yes
1.2	aragonite	no
1.2	calcite	yes
1.3	calcite	yes
-0.3	calcite	yes
1.5	aragonite	no
1.5	aragonite	no
1.7	aragonite	no
1.4	aragonite	yes
1.9	aragonite	no
1.4	aragonite	yes
0.9	aragonite	yes
1.1	calcite	yes
0.4	calcite	no
1.1	aragonite	yes
2.2	aragonite	no
0.5	aragonite	no
2.1	aragonite	no
1.7	aragonite	yes
2.1	aragonite	no
2.7	aragonite	no

Mytiloids	Pteriomorphia	Mytiloidea	Mytilidae	Diberus	plumula
Heteroconchs	Heterodonta	Veneroidea	Ungulinidae	Diplodonta	inconspicua
Heteroconchs	Heterodonta	Veneroidea	Donacidae	Donax	aricana
Heteroconchs	Heterodonta	Veneroidea	Donacidae	Donax	marincovichi
Heteroconchs	Heterodonta	Veneroidea	Donacidae	Donax	paytensis
Protobranchs	Protobranchia	Nuculoidea	Nuculidae	Ennucula	grayi
Protobranchs	Protobranchia	Nuculoidea	Nuculidae	Ennucula	puelcha
Heteroconchs	Heterodonta	Veneroidea	Pharidae	Ensis	macha
Anomalodesmatans	Anomalodesmata	Pholadomyoidea	Lyonsiidae	Entodesma	cuneatum
Heteroconchs	Heterodonta	Veneroidea	Veneridae	Eurhomalea	lenticularis
Heteroconchs	Heterodonta	Veneroidea	Veneridae	Eurhomalea	rufa
Heteroconchs	Heterodonta	Veneroidea	Tellinidae	Eurytellina	rubescens
Heteroconchs	Heterodonta	Veneroidea	Psammobiidae	Gari	solida
Arcoids	Pteriomorphia	Arcoidea	Glycymeridae	Glycymeris	ovatus
Heteroconchs	Heterodonta	Myoidea	Hiatellidae	Hiatella	solida
Heteroconchs	Heterodonta	Veneroidea	Kelliidae	Kellia	bullata
Heteroconchs	Heterodonta	Veneroidea	Kelliidae	Kellia	tumbesiana
Anomalodesmatans	Anomalodesmata	Pholadomyoidea	Pandoridae	Kennerlia	patagonica
Mytiloids	Pteriomorphia	Mytiloidea	Mytilidae	Labis	attenuata
Mytiloids	Pteriomorphia	Mytiloidea	Mytilidae	Labis	peruviana
Heteroconchs	Heterodonta	Veneroidea	Erycinidae	Lasaea	helenae
Heteroconchs	Heterodonta	Veneroidea	Erycinidae	Lasaea	petitiana
Heteroconchs	Heterodonta	Veneroidea	Veneridae	Lirophora	discrepans
Heteroconchs	Heterodonta	Veneroidea	Veneridae	Lirophora	peruviana
Lucinoids	Heterodonta	Veneroidea	Lucinidae	Lucinoma	aequizonata
Anomalodesmatans	Anomalodesmata	Pholadomyoidea	Lyonsiidae	Lyonsia	delicata
Heteroconchs	Heterodonta	Veneroidea	Veneridae	Macrocallista	pannosa
Heteroconchs	Heterodonta	Veneroidea	Mactridae	Mactroderma	velata
Protobranchs	Protobranchia	Nuculoidea	Malletiidae	Malletia	chilensis
Heteroconchs	Heterodonta	Veneroidea	Mesodesmatidae	Mesodesma	donacium
Heteroconchs	Heterodonta	Veneroidea	Mactridae	Mulinia	bicolor
Heteroconchs	Heterodonta	Veneroidea	Mactridae	Mulinia	byronensis
Heteroconchs	Heterodonta	Veneroidea	Mactridae	Mulinia	edulis
Mytiloids	Pteriomorphia	Mytiloidea	Mytilidae	Myoforceps	aristata
Heteroconchs	Heterodonta	Veneroidea	Montacutidae	Mysella	coquimbensis
Mytiloids	Pteriomorphia	Mytiloidea	Mytilidae	Mytilus	edulis

73	15	37	-55	40	0	5.0	2.0
26	27	-24	-44	65	0	4.7	1.3
34	20	-5	-18	40	0	4.7	1.1
32	19	-2	-18	1	0	4.6	1.2
10	8	10	-18	20	0	3.2	1.4
19	14	36	-55	700	50	4.0	2.0
16	13	-6	-55	800	30	3.9	1.7
200	37	-27	-55	30	20	6.4	1.4
41	25	-14	-54	100	0	5.0	1.6
95	92	-14	-43	15	0	6.5	1.5
150	110	8	-37	20	0	7.0	1.7
40	35	19	-30	10	0	5.2	1.7
102	75	-12	-46	5	0	6.5	1.5
56	56	-6	-40	30	0	5.8	1.5
28	20	8	-56	368	0	4.6	1.8
9	8	-23	-53	50	0	3.1	1.5
9	7	-15	-37	50	0	3.0	1.3
22	14	-30	-55	665	20	4.1	1.4
111	23	33	-18	25	0	5.7	1.7
112	36	-12	-37	25	3	6.0	1.4
3	3	-20	-21	5	0	1.6	0.0
3	2	-11	-54	1	0	1.3	1.6
36	31	23	-17	80	20	5.1	1.6
46	37	-11	-18	1	0	5.4	0.8
12	10	34	-37	725	21.5	3.5	1.9
6	4	-14	-20	2	0	2.3	0.8
36	30	36	-33	50	0	5.0	1.8
115	80	19	-40	1	0	6.6	1.8
51	28	-30	-37	400	50	5.2	0.8
118	67	-6	-43	20	0	6.5	1.6
98	81	-27	-33	25	0	6.5	0.8
47	34	-3	-54	25	0	5.3	1.7
80	64	-12	-55	50	0	6.2	1.6
50	11	33	-20	20	0	4.6	1.7
3	3	-27	-30	50	15	1.6	0.5
106	56	-20	-54	25	0	6.3	1.5

1.3	calcite	no
1.5	aragonite	yes
1.3	aragonite	yes
-0.3	aragonite	no
1.0	aragonite	no
2.6	aragonite	no
2.6	aragonite	no
1.4	aragonite	yes
1.7	aragonite	no
0.9	aragonite	yes
1.0	aragonite	yes
0.7	aragonite	no
0.4	aragonite	yes
1.2	aragonite	yes
2.3	aragonite	no
1.4	aragonite	no
1.4	aragonite	no
2.5	aragonite	no
1.1	calcite	no
1.1	calcite	no
0.4	aragonite	no
-0.3	aragonite	yes
1.7	aragonite	no
-0.3	aragonite	yes
2.6	aragonite	no
0.0	aragonite	no
1.4	aragonite	yes
-0.3	aragonite	yes
2.4	aragonite	no
1.0	aragonite	yes
1.1	aragonite	yes
1.1	aragonite	no
1.4	aragonite	yes
1.0	calcite	no
1.5	aragonite	no
1.1	calcite	no

Heteroconchs	Heterodonta	Veneroida	Corbiculidae	Neocyrena	fontainei
Protobranchs	Protobranchia	Nuculoida	Nuculidae	Nucula	interflucta
Protobranchs	Protobranchia	Nuculoida	Nuculidae	Nucula	pisum
Heteroconchs	Heterodonta	Veneroida	Veneridae	Paphonotia	ellipticus
Heteroconchs	Heterodonta	Veneroida	Tellinidae	Peronidia	hanleyi
Mytiloids	Pteriomorphia	Mytiloida	Mytilidae	Perumytilus	purpuratus
Heteroconchs	Heterodonta	Veneroida	Petricolidae	Petricola	olssoni
Heteroconchs	Heterodonta	Veneroida	Petricolidae	Petricolaria	concinna
Heteroconchs	Heterodonta	Veneroida	Petricolidae	Petricolirus	rugosa
Heteroconchs	Heterodonta	Veneroida	Veneridae	Pitar	inconspicua
Heteroconchs	Heterodonta	Veneroida	Veneridae	Pitar	tomeana
Heteroconchs	Heterodonta	Veneroida	Veneridae	Planitivela	planulata
Heteroconchs	Heterodonta	Veneroida	Veneridae	Protothaca	thaca
Heteroconchs	Heterodonta	Veneroida	Tellinidae	Psammacoma	inornata
Heteroconchs	Heterodonta	Veneroida	Mactridae	Raeta	undulata
Heteroconchs	Heterodonta	Veneroida	Veneridae	Retrotapes	exalbidus
Heteroconchs	Heterodonta	Myoida	Rocellariidae	Rocellaria	denticulata
Heteroconchs	Heterodonta	Veneroida	Montacutidae	Rochefortia	molinae
Protobranchs	Protobranchia	Nuculoida	Nuculanidae	Saccella	callimene
Protobranchs	Protobranchia	Nuculoida	Nuculanidae	Saccella	cuneata
Heteroconchs	Heterodonta	Veneroida	Tellinidae	Scissula	virgo
Heteroconchs	Heterodonta	Veneroida	Semelidae	Semele	corrugata
Heteroconchs	Heterodonta	Veneroida	Semelidae	Semele	elliptica
Heteroconchs	Heterodonta	Veneroida	Semelidae	Semele	solida
Heteroconchs	Heterodonta	Veneroida	Semelidae	Semele	sparsilineata
Mytiloids	Pteriomorphia	Mytiloida	Mytilidae	Semimytilus	algosus
Heteroconchs	Heterodonta	Veneroida	Solenidae	Solen	gaudichaudi
Pteriomorphs	Pteriomorphia	Limoida	Limidae	Submantellum	orbigny
Heteroconchs	Heterodonta	Veneroida	Solecurtidae	Tagelus	dombeii
Heteroconchs	Heterodonta	Veneroida	Veneridae	Tawera	gayi
Heteroconchs	Heterodonta	Myoida	Pholadidae	Thovana	chiloensis
Pteriomorphs	Pteriomorphia	Ostreoida	Ostreidae	Tiostrea	chilensis
Heteroconchs	Heterodonta	Veneroida	Veneridae	Tropithaca	grata
Heteroconchs	Heterodonta	Veneroida	Veneridae	Venus	antiqua
Heteroconchs	Heterodonta	Myoida	Pholadidae	Xylophaga	globosa

51	42	-1	-18	5	0	5.5	1.2
1	1	-15	-20	1	0	0.0	0.7
4	3.4	-14	-55	200	5	2.0	1.6
39	29	23	-41	25	0	5.1	1.8
10	4	-29	-30	100	0	2.7	0.0
39	20	0	-54	1	0	4.8	1.7
30	13	-3	-20	10	0	4.3	1.2
25	15	-1	-18	5	0	4.3	1.2
84	37	-6	-43	10	0	5.8	1.6
35	39	-5	-37	25	10	5.2	1.5
24	20	8	-37	40	15	4.5	1.7
65	43	27	-30	20	0	5.7	1.8
78	68	-10	-46	50	0	6.2	1.6
27	21	36	-55	120	30	4.6	2.0
120	95	34	-21	20	2	6.7	1.7
106	86	-14	-55	150	10	6.6	1.6
20	14	6	-18	23	0	4.1	1.4
6	5	-11	-34	20	8	2.5	1.4
16	11	10	-37	200	150	3.7	1.7
10	6	-14	-34	200	20	3.0	1.3
20	12	25	-30	15	0	4.0	1.7
98	86	-2	-46	10	0	6.5	1.6
80	43	22	-20	10	0	5.9	1.6
81	75	-12	-46	5	0	6.3	1.5
42	39	8	-18	30	0	5.3	1.4
48	22	0	-37	30	0	5.0	1.6
118	33	-24	-33	30	5	6.0	1.0
32	24	23	-34	30	5	4.8	1.8
90	25	9	-46	37	0	5.6	1.7
39	32	-30	-55	219	80	5.1	1.4
140	51	36	-43	31	0	6.4	1.9
87	102	0	-43	1	0	6.6	1.6
50	34	31	-23	400	0	5.4	1.7
85	77	-12	-55	65	0	6.3	1.6
8	13	10	-43	225	3	3.4	1.7

0.4	aragonite	no
-0.3	aragonite	no
2.0	aragonite	no
1.1	aragonite	no
1.7	aragonite	no
-0.3	calcite	yes
0.7	aragonite	no
0.4	aragonite	no
0.7	aragonite	yes
1.2	aragonite	yes
1.4	aragonite	no
1.0	aragonite	yes
1.4	aragonite	yes
1.9	aragonite	no
1.0	aragonite	yes
1.9	aragonite	yes
1.1	aragonite	no
1.1	aragonite	no
2.2	aragonite	no
2.0	aragonite	yes
0.9	aragonite	no
0.7	aragonite	yes
0.7	aragonite	yes
0.4	aragonite	yes
1.2	aragonite	no
1.2	calcite	yes
1.2	aragonite	no
1.2	calcite	no
1.3	aragonite	yes
2.2	aragonite	yes
1.2	aragonite	yes
-0.3	calcite	no
2.3	aragonite	yes
1.5	aragonite	yes
2.1	aragonite	no

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