

Appendix 1 Continue.

Genus	species	Family	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19a	19b	20a	20b	21a	21b	Total	
Cymatosyrinx	clavulina	Turridae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Diodora	italica	Fissurellidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Diodora	sp1	Fissurellidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Dorsanum	nodosocostatum	Nassariidae	0	0	0	0	0	0	0	0	0	0	0	0	16	14	0	0	0	0	0	0	0	0	0	30	
Ellobium	cf0woodi	Ellobiidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Epitonium	sp1	Epitoniidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	
Eulima	spp.	Eulimidae	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	2	8	
Eupleura	sp1	Muricidae	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
Euspira	helicina	Naticidae	0	0	0	0	0	0	0	0	2	0	0	0	0	0	11	2	4	0	0	0	0	0	0	19	
Euspira	helicina protracta	Naticidae	2	15	7	5	9	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	
Euspira	sp1	Naticidae	1	0	0	0	0	6	8	0	0	21	17	0	0	0	0	0	0	0	0	0	0	0	0	53	
Exilifusus	attenuatus	Fasciolariidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
unidentified	unidentified	Fasciolariidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Fasciolaria	burdigalensis	Fasciolariidae	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
Fusiturris	aquensis	Turridae	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Fusiturris	flexiplicata	Turridae	4	8	1	0	0	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
Gemmula	coronata	Turridae	0	0	2	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Gemmula	zimmermanni	Turridae	13	9	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	27	
Gemmula	denticula borealis	Turridae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Gibbula	affines	Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	1	24	2	0	0	0	0	0	0	0	27	
Hadriana	coelata	Muricidae	0	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Haedropleura	maitreja	Turridae	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Haustellum	inornatum	Muricidae	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Hemiacirsa	lanceolata	Epitoniidae	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Hinia	bocholtensis	Nassariidae	2	32	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	
Hinia	hoernesii	Nassariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242	201	41	22	23	19	349
Hinia	inconstans	Nassariidae	0	0	0	0	0	0	0	0	0	1	4	0	0	0	1	0	0	0	0	0	0	0	0	6	
Hinia	limata	Nassariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	2	2	1	0	16	
Hinia	tenuistriata	Nassariidae	3	2	3	4	6	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	
Hinia	voorthuyseni	Nassariidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Hinia	sp1	Nassariidae	0	0	0	0	0	0	0	0	0	77	0	0	0	2	0	2	2	0	0	0	0	0	0	83	
Hinia	sp2	Nassariidae	0	0	0	0	0	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	4	
Hinia	sp3	Nassariidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Hydrobia	hoernesii	Hydrobiidae	0	0	0	0	0	0	0	0	0	0	0	0	61	39	0	0	0	0	0	0	0	0	0	100	
Hydrobia	immutata	Hydrobiidae	0	0	0	0	0	0	0	0	0	3	0	8	3	0	0	0	0	0	0	0	0	0	0	14	
Hydrobia	tournoueri	Hydrobiidae	0	0	0	0	0	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7	
Hydrobia	sp1	Hydrobiidae	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
Jujubinus	celinae	Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Kleinella	humboldtii	Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	

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Genus	species	Family	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19a	19b	20a	20b	21a	21b	Total
Tricola	eichwaldi	Phasianellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3
Trigonostoma	gradata	Cancellariidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Triphora	sp1	Triphoridae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Triphora	perversa	Triphoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	4
Tudicula	rusticula	Vasidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Turbonilla	koeneniana	Pyramidellidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Turbonilla	spp.	Pyramidellidae	0	2	0	0	1	0	1	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	9
Turbonilla	sp2	Pyramidellidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Turricula	spp.	Turridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Turritella	archimedes	Turritellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
Turritella	badensis	Turritellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	21	25	9	7	2	96
Turritella	eryna	Turritellidae	0	0	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Turritella	subangulata	Turritellidae	0	0	5	0	0	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Turritella	bicarinata	Turritellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Turritella	turris	Turritellidae	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Turritella	spp.	Turritellidae	0	0	0	0	0	0	3	0	0	1	5	0	0	1	5	0	0	0	0	0	0	0	0	15
unidentified	unidentified	Turritellidae	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Typhis	pungens	Muricidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Unedogemmula	boreoturricula	Turridae	1	1	6	7	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Unedogemmula	stoffelsi	Turridae	0	0	0	0	5	1	2	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Uromitra	sp1	Vexillidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Urosalpinx	sismondai	Muricidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Vermicularia	milleti	Vermetidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
unidentified	unidentified	unidentified	0	0	0	2	1	0	0	1	1	2	2	0	0	1	0	0	0	0	0	0	0	0	0	10
unidentified	unidentified	unidentified	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
unidentified	unidentified	unidentified	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
unidentified	unidentified	unidentified	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
unidentified	unidentified	unidentified	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Diversity of bivalves (number of species)			8	8	18	16	16	12	17	25	3	7	2	24	16	14	6	14	13	6	6	8	9	5	5	99
Diversity of gastropods (number of species)			17	31	39	30	31	27	17	28	18	24	13	16	22	22	18	21	30	15	14	17	16	8	11	198
Diversity of mollusks (number of species)			25	39	57	46	47	39	34	53	21	31	15	40	38	36	24	35	43	21	20	25	25	13	16	297
Abundance of bivalves (number of disarticulated valves)			196	117	104	117	225	189	112	95	9	46	22	228	76	142	98	188	121	812	1010	271	298	488	364	5328
Abundance of gastropods (number of shells)			51	219	134	152	208	68	35	65	110	186	46	44	162	110	40	63	132	418	331	294	146	55	58	3127
Abundance of mollusks (bivalves + gastropods)			247	336	238	269	433	257	147	160	119	232	68	272	238	252	138	251	253	1230	1341	565	444	543	422	8455

Appendix 2: Principal Component Ordination Plots.

Figure 1. Principal component ordinations of samples as described by the relative abundance of bivalve genera (left column of plots) and families (right column of plots). For each column, the uppermost plot shows the correlation pattern for variables that display a notable correlation with PC1 and/or PC2, the three remaining plots show the same ordination of samples grouped by three different grouping variables (province, facies, stratigraphic stage).

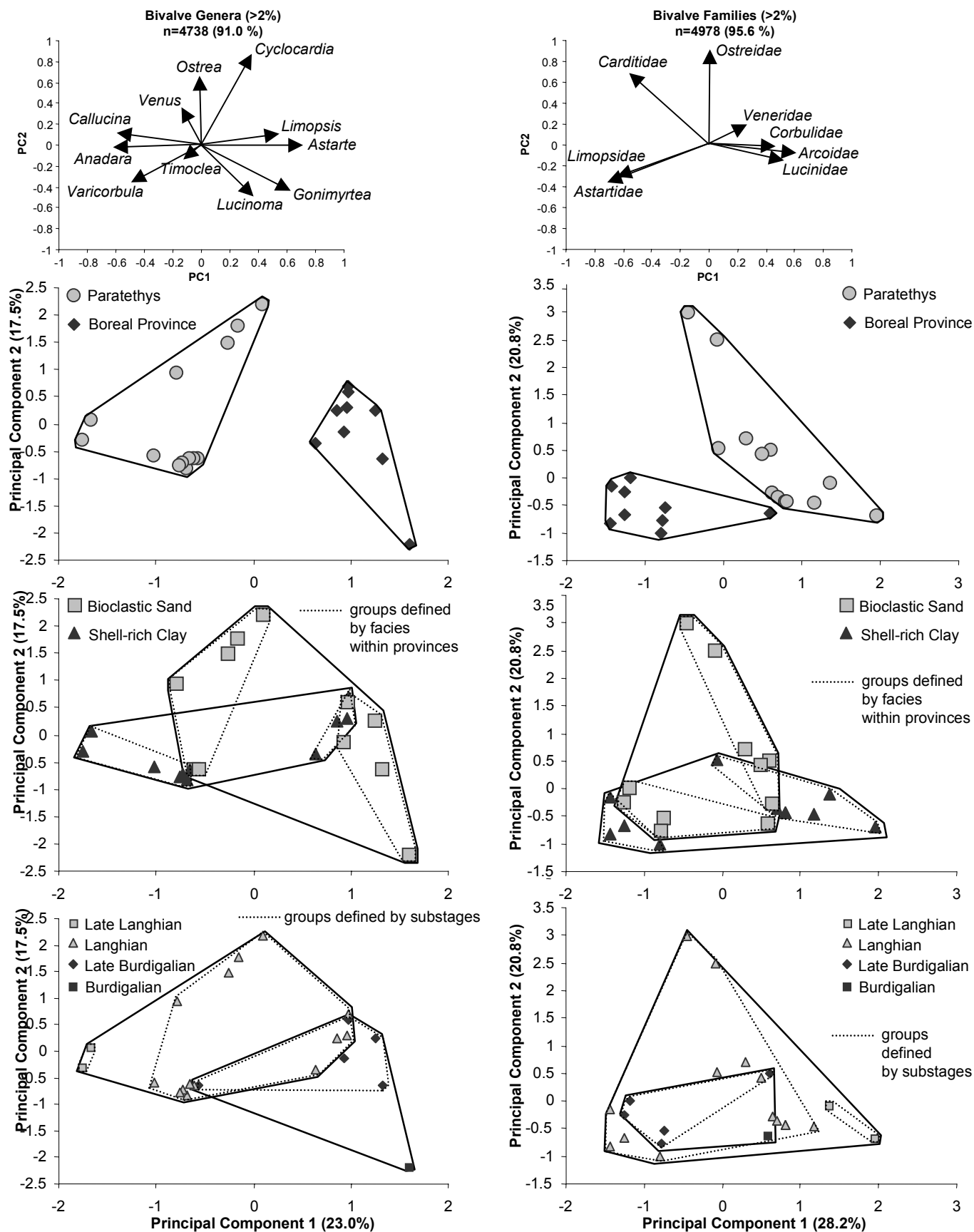


Figure 2. Principal component ordinations of samples as described by the relative abundance of gastropod genera (left column of plots) and families (right column of plots). For each column, the uppermost plot shows the correlation pattern for variables that display a notable correlation with PC1 and/or PC2, the three remaining plots show the same ordination of samples grouped by three different grouping variables (province, facies, stratigraphic stage).

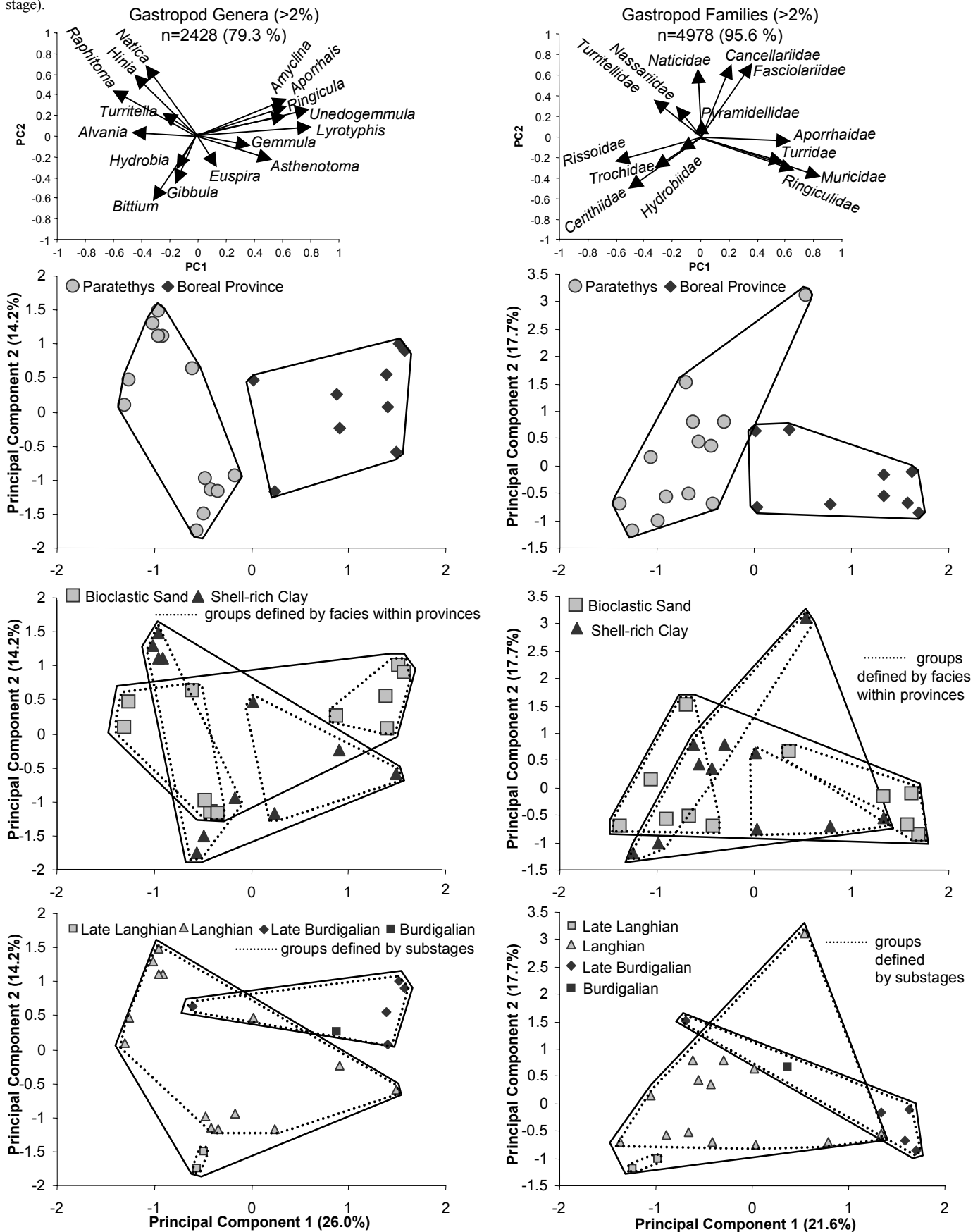


Figure 3. Principal component ordinations of samples as described by the relative abundance of ecological categories of bivalves (left column of plots) and gastropods (right column of plots). For each column, the uppermost plot shows the correlation pattern for variables that display a notable correlation with PC1 and/or PC2, the three remaining plots show the same ordination of samples

