

**Supplementary material**

**Comparison of bacterial communities associated with *Prorocentrum donghaiense* and *Karenia mikimotoi* strains from Chinese coastal waters**

Ruoyu Guo<sup>A</sup>, Pengbin Wang<sup>A,B,C</sup>, Douding Lu<sup>A</sup> and Xinfeng Dai<sup>A,C</sup>

<sup>A</sup>Key Laboratory of Marine Ecosystem Dynamics, Second Institute of Oceanography,

Ministry of Natural Resources, 36 Baochubei Road, Hangzhou, 310012, PR China.

<sup>B</sup>Fourth Institute of Oceanography, Ministry of Natural Resources, 26 New Century Avenue,

Beihai, 536000, PR China.

<sup>C</sup>Corresponding authors. Email: [algae@sio.org.cn](mailto:algae@sio.org.cn); [xinfengdai@sio.org.cn](mailto:xinfengdai@sio.org.cn)

**Table S1. The operational taxonomic units (OTU) classification of *K. mikimotoi* and *P. donghaiense***

Kingdom data with an en-dash (–) are classified as no rank

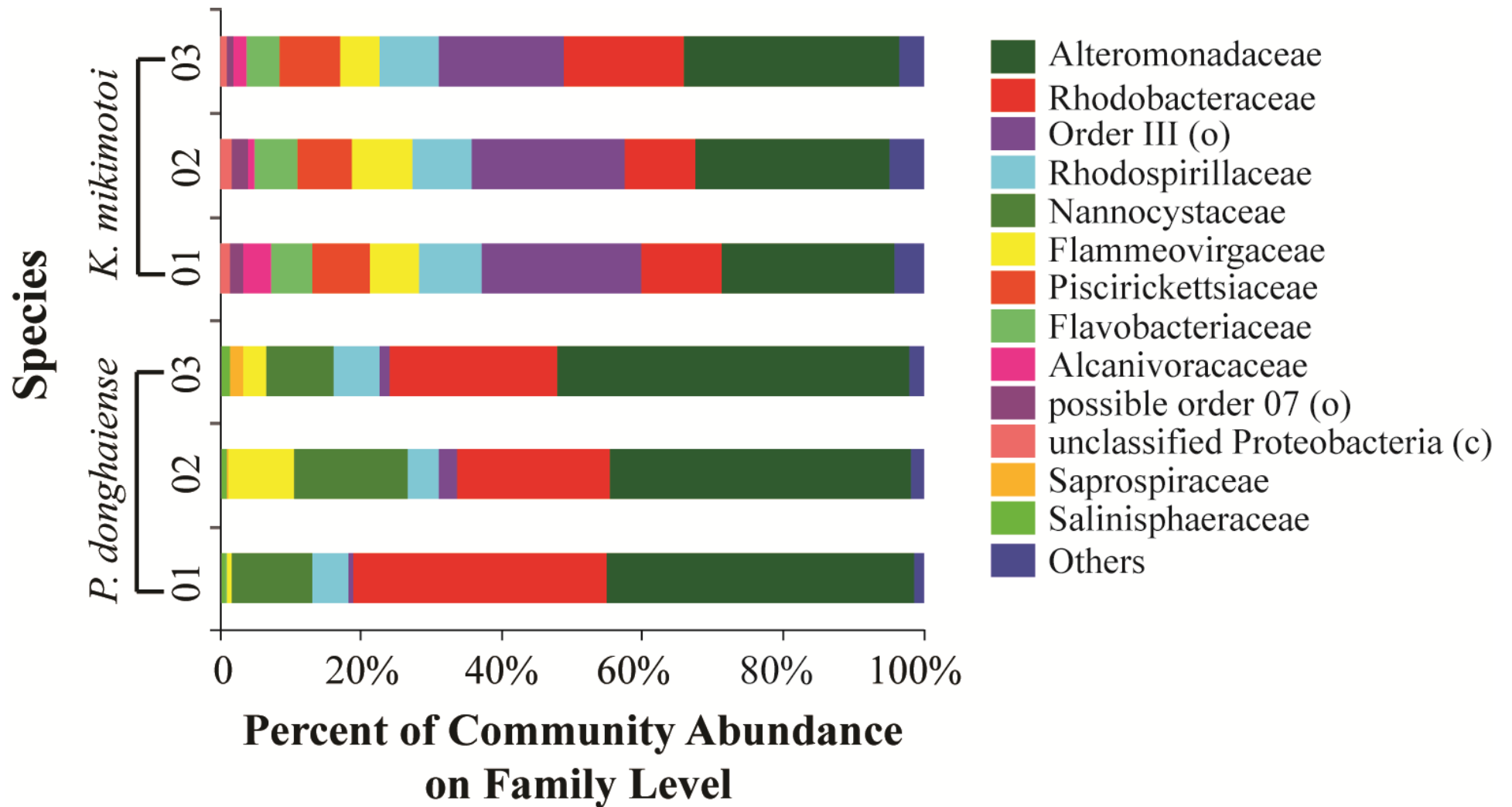
Domain	Kingdom	Phylum	Class	Order	Family	Genus	Species	OTU	Km02 1	Km02 2	Km02 3	S39 1	S39 2	S39 3	SUM
Bacteria	–	Bacteroidetes	Bacteroidetes	Order III	Unknown	<i>Balneola</i>	uncultured <i>Balneola</i> sp.	OTU36	4708	5682	5979	392	660	157	17578
			<i>incertae sedis</i>												
Bacteria	–	Bacteroidetes	Bacteroidetes	Order III	Unknown	<i>Gracilimonas</i>	unclassified <i>Gracilimonas</i>	OTU16	11	23	10	0	0	0	44
			<i>incertae sedis</i>												
Bacteria	–	Bacteroidetes	Cytophagia	Cytophagales	Flammeovirgaceae	<i>Marinoscillum</i>	bacterium DG873	OTU38	80	104	89	93	32	27	425
Bacteria	–	Bacteroidetes	Cytophagia	Cytophagales	Flammeovirgaceae	<i>Marinoscillum</i>	uncultured bacterium	OTU22	122	213	149	0	0	0	484
							<i>Marinoscillum</i>								
Bacteria	–	Bacteroidetes	Cytophagia	Cytophagales	Flammeovirgaceae	Reichenbachiella	uncultured bacterium	OTU19	34	72	52	0	0	0	158
							Reichenbachiella								
Bacteria	–	Bacteroidetes	Cytophagia	Cytophagales	Flammeovirgaceae	<i>Reichenbachiella</i>	uncultured bacterium	OTU4	1238	1898	1592	0	0	0	4728
							<i>Reichenbachiella</i>								
Bacteria	–	Bacteroidetes	Cytophagia	Cytophagales	Flammeovirgaceae	<i>Roseivirga</i>	<i>Roseivirga spongicola</i>	OTU42	0	0	0	728	2446	175	3349
Bacteria	–	Bacteroidetes	Flavobacteriia	Flavobacteriales	Cryomorphaceae	no rank	uncultured deep-sea bacterium	OTU5	12	13	7	0	0	0	32
						Cryomorphaceae	no rank Cryomorphaceae								
Bacteria	–	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	<i>Mesoflavibacter</i>	unclassified <i>Mesoflavibacter</i>	OTU10	1249	1605	1547	0	0	0	4401
Bacteria	–	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	<i>Muricauda</i>	uncultured bacterium	OTU55	0	0	0	53	30	13	96
							<i>Muricauda</i>								
Bacteria	–	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Saprosiraceae	no rank	<i>Saccharina japonica</i> no rank	OTU43	0	0	0	510	121	92	723
						Saprosiraceae									
Bacteria	–	Fibrobacteres	Chitinivibrionia	possible order 07	no rank possible order 07	no rank possible order 07	uncultured <i>Desulfobulbus</i> sp.	OTU13	248	653	436	0	0	0	1337
						07	no rank								

Domain	Kingdom	Phylum	Class	Order	Family	Genus	Species	OTU	Km02.1	Km02.2	Km02.3	S39.1	S39.2	S39.3	SUM
Bacteria	-	Proteobacteria	AEGEAN-245	no rank AEGEAN-245	no rank AEGEAN-245	no rank AEGEAN-245	uncultured bacterium no rank AEGEAN-245	OTU39	12	14	17	0	0	0	43
Bacteria	-	Proteobacteria	Alphaproteobacteria	Caulobacterales	Hyphomonadaceae	<i>Henriciella</i>	unclassified <i>Henriciella</i>	OTU6	51	49	43	0	0	0	143
Bacteria	-	Proteobacteria	Alphaproteobacteria	Kordiimonadales	Kordiimonadaceae	<i>Kordiimonas</i>	<i>Kordiimonas gwangyangensis</i> DSM 19435 JCM 12864	OTU17	3	9	6	0	0	0	18
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae	<i>Hoeflea</i>	uncultured bacterium <i>Hoeflea</i>	OTU63	0	0	0	18	30	25	73
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae	<i>Mesorhizobium</i>	BTEX-degrading bacterium enrichment culture <i>Mesorhizobium</i>	OTU18	25	23	20	1	0	1	70
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae	<i>Nitratireductor</i>	unclassified <i>Nitratireductor</i>	OTU21	15	11	12	1	0	0	39
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhizobiales	PS1 clade	no rank PS1 clade	uncultured bacterium no rank PS1 clade	OTU15	20	32	32	0	0	0	84
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Dinoroseobacter	Dinoroseobacter shibae	OTU51	0	0	0	5	3	3	11
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	<i>Labrenzia</i>	<i>Labrenzia alba</i>	OTU37	163	122	132	0	0	0	417
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	<i>Loktanella</i>	unclassified <i>Loktanella</i>	OTU60	0	0	0	1900	477	2172	4549
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	unclassified Rhodobacteraceae	unclassified Rhodobacteraceae	OTU23	4199	2415	2818	1037	1431	2010	13910
Bacteria	-	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	unclassified Rhodobacteraceae	unclassified Rhodobacteraceae	OTU61	159	102	78	2587	776	1342	5044

Domain	Kingdom	Phylum	Class	Order	Family	Genus	Species	OTU	Km02.1	Km02.2	Km02.3	S39.1	S39.2	S39.3	SUM
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	unclassified	unclassified Rhodobacteraceae	OTU62	10	3	4	765	3040	4026	7848
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	<i>Magnetospira</i>	<i>Candidatus Nitrosoarchaeum limnia</i> SFB1 <i>Magnetospira</i>	OTU27	5	7	3	0	0	0	15
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	<i>Nisaea</i>	uncultured bacterium <i>Nisaea</i>	OTU8	502	626	564	0	0	0	1692
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	no rank	unclassified no rank	OTU28	0	2	0	0	0	0	2
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	no rank	unclassified no rank	OTU58	3	0	2	89	67	26	187
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	no rank	unclassified no rank	OTU59	0	0	0	1555	1069	1295	3919
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	<i>Thalassobaculum</i>	<i>Thalassobaculum salexigens</i> DSM 19539	OTU54	0	0	0	52	35	21	108
Bacteria	–	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	<i>Thalassospira</i>	uncultured bacterium <i>Thalassospira</i>	OTU11	1697	1611	1766	0	0	0	5074
Bacteria	–	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Erythrobacteraceae	<i>Erythrobacter</i>	<i>Altererythrobacter ishigakiensis</i>	OTU57	1	2	0	39	8	14	64
Bacteria	–	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Erythrobacteraceae	<i>Erythrobacter</i>	unclassified <i>Erythrobacter</i>	OTU7	49	65	53	0	0	0	167
Bacteria	–	Proteobacteria	Alphaproteobacteria	unclassified	unclassified Alphaproteobacteria	unclassified	unclassified	OTU9	24	31	20	0	0	0	75
Bacteria	–	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	<i>Limnobacter</i>	unclassified <i>Limnobacter</i>	OTU29	169	212	230	10	5	2	628
Bacteria	–	Proteobacteria	Betaproteobacteria	Methylophilales	Methylophilaceae	<i>Methylotenera</i>	unclassified <i>Methylotenera</i>	OTU50	0	0	0	127	184	106	417

Domain	Kingdom	Phylum	Class	Order	Family	Genus	Species	OTU	Km02.1	Km02.2	Km02.3	S39.1	S39.2	S39.3	SUM
Bacteria	–	Proteobacteria	Deltaproteobacteria	Myxococcales	Nannocystaceae	no rank	uncultured proteobacterium no rank	OTU53	0	0	0	2568	4262	3058	9888
Bacteria	–	Proteobacteria	Deltaproteobacteria	Myxococcales	Sandaracinaceae	<i>Sandaracinus</i>	unclassified <i>Sandaracinus</i>	OTU30	75	109	106	0	0	0	290
Bacteria	–	Proteobacteria	Gammaproteobacteria	Alteromonadales	Alteromonadaceae	<i>Alteromonas</i>	unclassified <i>Alteromonas</i>	OTU24	3082	2127	1388	0	0	0	6597
Bacteria	–	Proteobacteria	Gammaproteobacteria	Alteromonadales	Alteromonadaceae	<i>Marinobacter</i>	<i>Marinobacter alkaliphilus</i>	OTU46	0	0	0	12860	10767	11044	34671
Bacteria	–	Proteobacteria	Gammaproteobacteria	Alteromonadales	Alteromonadaceae	<i>Marinobacter</i>	<i>Marinobacter hydrocarbonoclasticus</i>	OTU2	4427	4648	4588	0	0	0	13663
Bacteria	–	Proteobacteria	Gammaproteobacteria	Alteromonadales	Alteromonadaceae	<i>Marinobacter</i>	<i>Marinobacter sediminum</i>	OTU31	554	537	486	377	575	508	3037
Bacteria	–	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Haliaceae	unclassified	unclassified Haliaceae	OTU52	0	0	0	2	5	1	8
Bacteria	–	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Porticoccaceae	<i>Porticoccus</i>	uncultured bacterium	OTU32	118	170	157	0	0	0	445
Bacteria	–	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Porticoccaceae	SAR92 clade	unclassified SAR92 clade	OTU1	9	27	16	0	0	0	52
Bacteria	–	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Songiibacteraceae	<i>Litorivivens</i>	unclassified <i>Litorivivens</i>	OTU49	0	0	0	94	71	52	217
Bacteria	–	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Songiibacteraceae	<i>Songiibacter</i>	uncultured bacterium	OTU35	77	98	100	0	0	0	275
Bacteria	–	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Songiibacteraceae	<i>Zhongshania</i>	uncultured bacterium	OTU45	0	0	0	50	35	25	110
Bacteria	–	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Alcanivoracaceae	<i>Alcanivorax</i>	<i>Alcanivorax dieselolei</i>	OTU34	490	247	1066	0	0	0	1803

Domain	Kingdom	Phylum	Class	Order	Family	Genus	Species	OTU	Km02.1	Km02.2	Km02.3	S39.1	S39.2	S39.3	SUM
Bacteria	–	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Oceanospirillaceae	<i>Bermanella</i>	<i>Oceanospirillales</i> bacterium Y40	OTU20	2	1	1	0	0	0	4
Bacteria	–	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Oceanospirillaceae	<i>Pseudohongiella</i>	gamma proteobacterium DG1301	OTU48	0	0	0	19	2	5	26
Bacteria	–	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Oceanospirillaceae	<i>Pseudohongiella</i>	uncultured marine bacterium <i>Pseudohongiella</i>	OTU47	69	108	73	53	15	17	335
Bacteria	–	Proteobacteria	Gammaproteobacteria	Oceanospirillales	OM182 clade	no rank OM182 clade	uncultured gamma proteobacterium no rank OM182 clade	OTU56	0	0	0	15	20	8	43
Bacteria	–	Proteobacteria	Gammaproteobacteria	PYR10d3	no rank PYR10d3	no rank PYR10d3	unclassified no rank PYR10d3	OTU3	81	121	92	0	0	0	294
Bacteria	–	Proteobacteria	Gammaproteobacteria	Salinisphaerales	Salinisphaeraeaceae	<i>Oceanococcus</i>	unclassified <i>Oceanococcus</i>	OTU40	0	0	0	332	174	123	629
Bacteria	–	Proteobacteria	Gammaproteobacteria	Thiotrichales	Piscirickettsiaceae	<i>Methylophaga</i>	<i>Methylophaga</i> sp. PBVC023FULL	OTU33	2275	2009	2158	0	0	0	6442
Bacteria	–	Proteobacteria	Gammaproteobacteria	Thiotrichales	Thiotrichaceae	<i>Thiothrix</i>	uncultured marine bacterium <i>Thiothrix</i>	OTU25	3	5	4	0	0	0	12
Bacteria	–	Proteobacteria	Gammaproteobacteria	unclassified	unclassified	unclassified	unclassified	OTU44	0	0	0	4	0	2	6
Bacteria	–	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	<i>Panacagrimonas</i>	uncultured bacterium <i>Panacagrimonas</i>	OTU41	0	0	0	34	30	20	84
Bacteria	–	Proteobacteria	Proteobacteria	Unknown	Unknown	<i>Candidatus Tenderia</i>	uncultured gamma proteobacterium <i>candidatus Tenderia</i>	OTU14	240	425	400	0	0	0	1065
Bacteria	–	unclassified	unclassified	unclassified	unclassified	unclassified	unclassified	OTU12	49	93	47	0	0	0	189
Bacteria	–	unclassified	unclassified	unclassified	unclassified	unclassified	unclassified	OTU26	10	46	27	0	0	0	83



**Fig. S1.** Associated bacterial community composition of *K. mikimotoi* and *P. donghaiense* at family level.