

**Figure 2.1.** Locations of sampling zones. The study site was divided into three sampling zones (TC1, TC2, TC3) in Tung Chung Bay and one zone in San Tau (ST) (map generated from Google Map).

TC1



TC2



TC3



ST



**Figure 2.2** *Photographic record of the environment in every sampling zone. (June 2020)*



TC1



Plastic waste



Trash gill net

TC3



Boat wreckage

ST



Trash gill net and hand trolley



A tangled horseshoe crab on a trash net (record in June 2017)

**Figure 2.3** *Examples of photographic record of the big trashes found on the mudflat.*



**ST *Carcinoscorpius rotundicauda***



**ST *Tachypleus tridentatus***



**Figure 3.1** Examples of photographic records of horseshoe crab (June 2020)

**Table 3.1** Summary of juvenile horseshoe crab survey in every sampling zone

	TC1	TC2	TC3	ST
Search duration (hr)	2	2	3	3
<b><i>Carcinoscorpius rotundicauda</i></b>				
No. of individuals	0	0	0	32
Mean prosomal width (mm)	\	\	\	39.05
Max. prosomal width (mm)	\	\	\	53.27
Min. prosomal width (mm)	\	\	\	27.34
Search record (ind. hr-1 person-1)	0.00	0.00	0.00	5.33
<b><i>Tachypleus tridentatus</i></b>				
No. of individuals	0	0	0	25
Mean prosomal width (mm)	\	\	\	42.67
Max. prosomal width (mm)	\	\	\	55.46
Min. prosomal width (mm)	\	\	\	28.53
Search record (ind. hr-1 person-1)	0.00	0.00	0.00	4.17



**March 2015 - ST**



**June 2017 – TC2**



(Female)



(Male)

**June 2017 – TC3**



**Figure 3.2** Photographic records of mating pairs of horseshoe crab

December 2017 – TC3



June 2018 – TC3



(Female)



(Male)

**Figure 3.2(Cont'd)** *Photographic records of mating pair of horseshoe crab*



**March 2019 – TC2**



**June 2019 – TC3**



**March 2020 – TC1**



**Figure 3.2 (Cont'd).** *Photographic records of mating pair of horseshoe crab*



TC1



TC2



**Figure 3.3** *Photographic records of newly hatched individuals of horseshoe crab (September 2018)*

***Carcinoscorpius rotundicauda***

**June 2017**



**December 2017**



**March 2019**



**December 2018**



**Figure 3.4** *Photographic records of large individuals (>100 mm) of horseshoe crabs records were excluded from data analysis*



***Tachypleus tridentatus***

**September 2017**



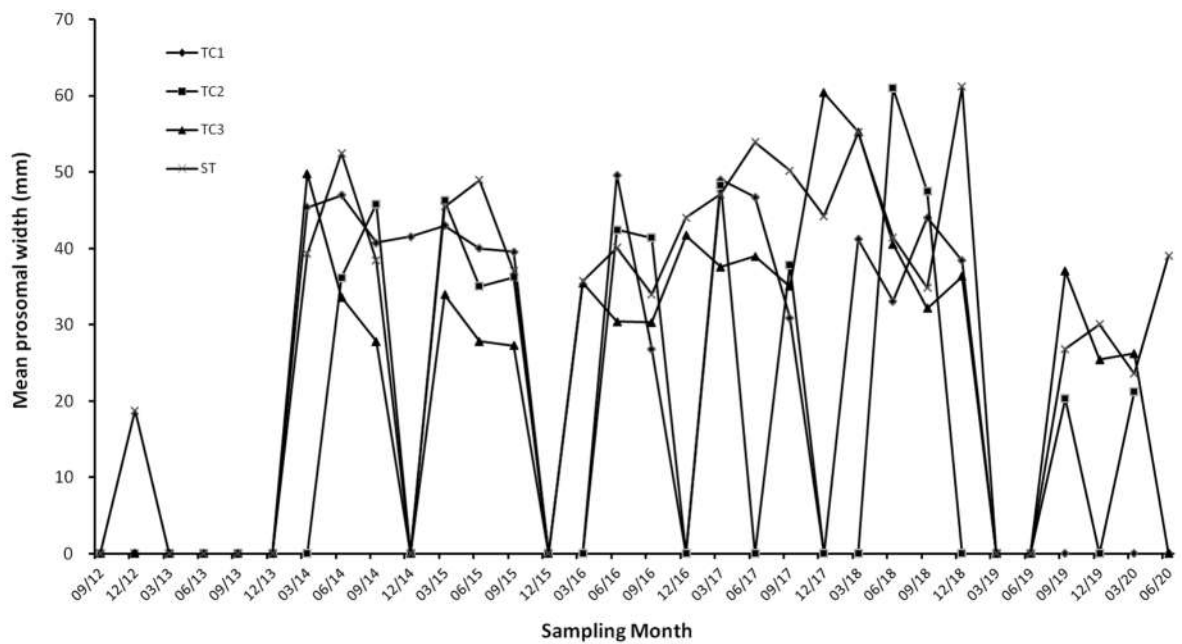
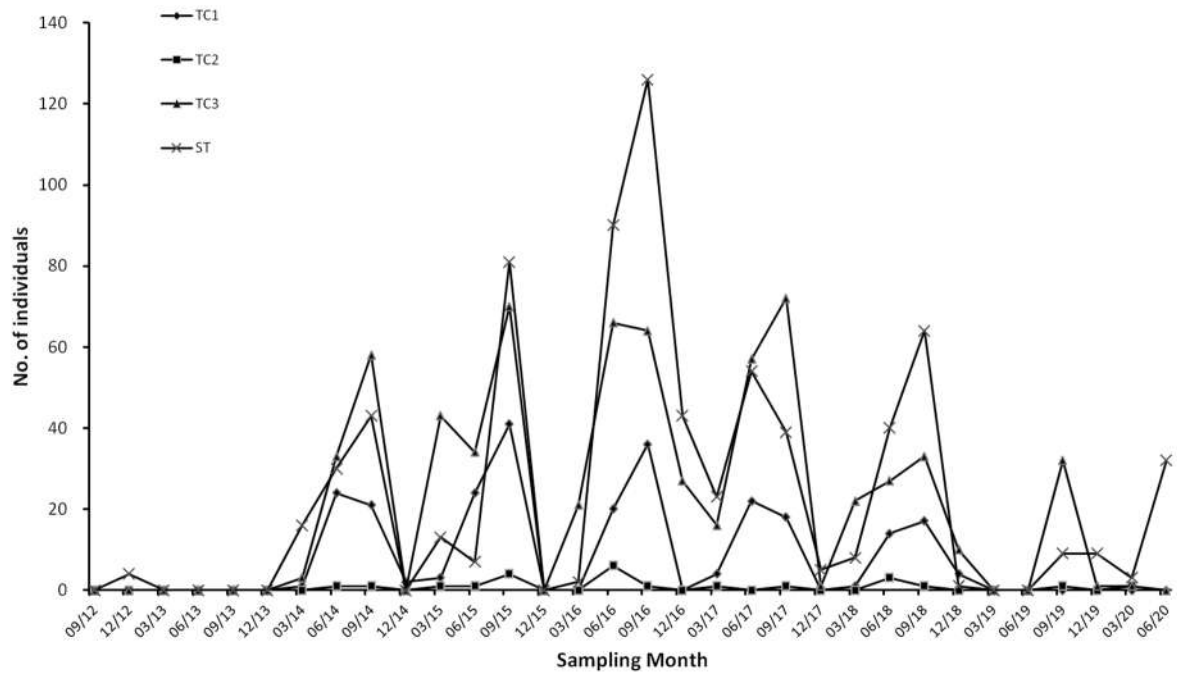
**June 2019**



**March 2020**

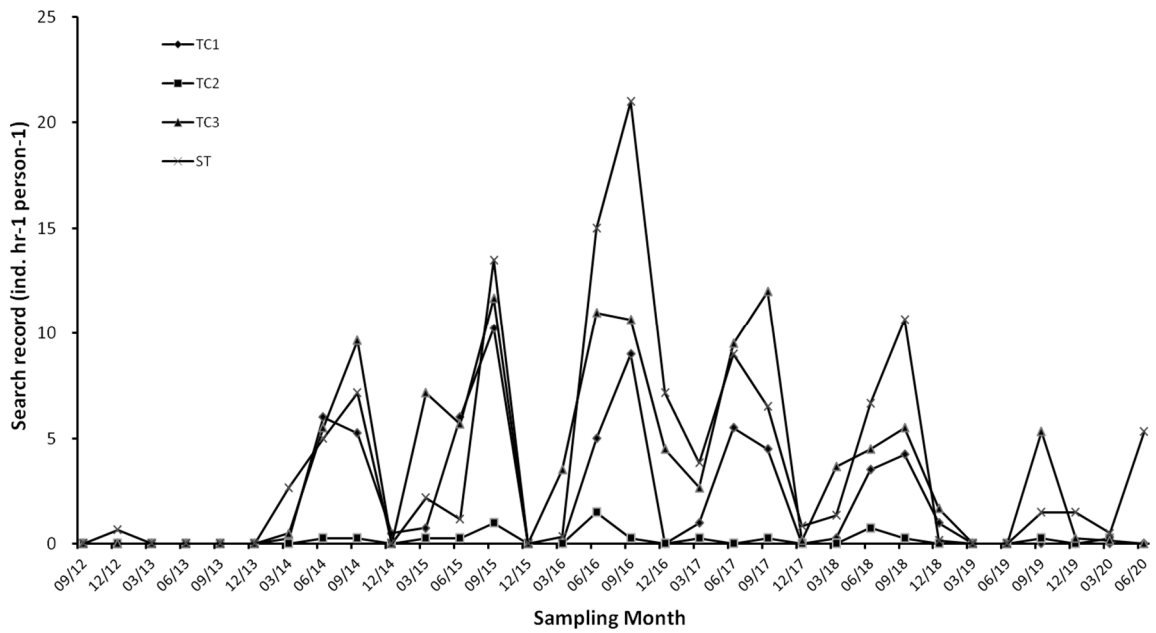


**Figure 3.4 (Cont'd)** *Photographic records of large individuals (>100 mm) of horseshoe crabs records were excluded from data analysis*

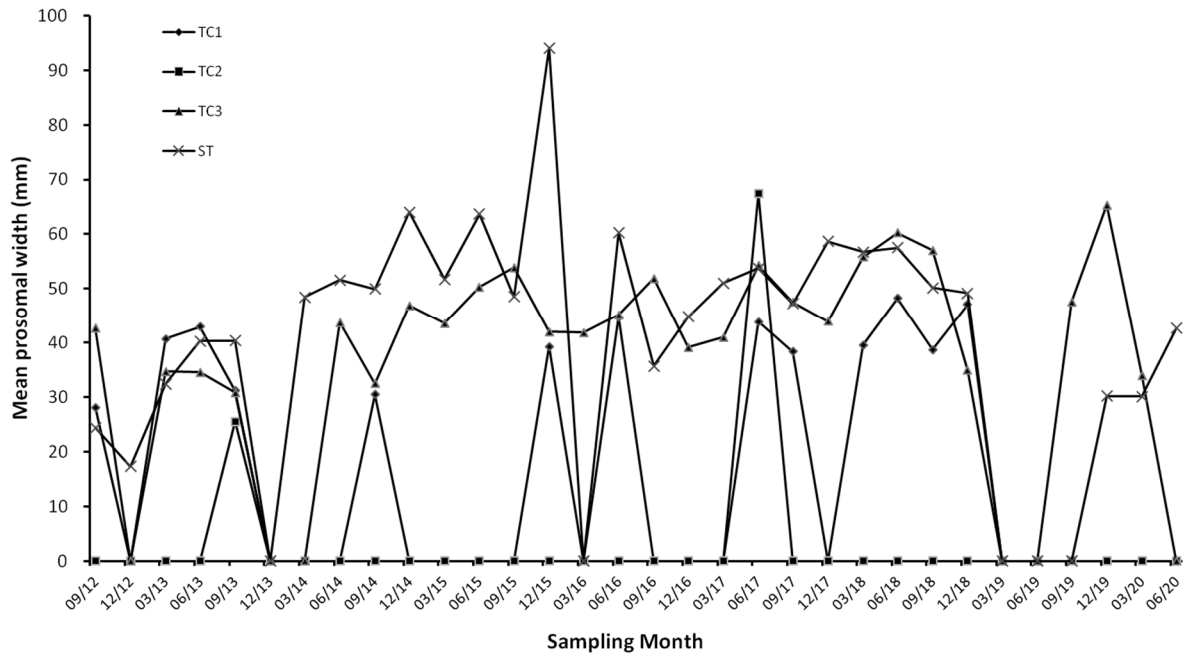
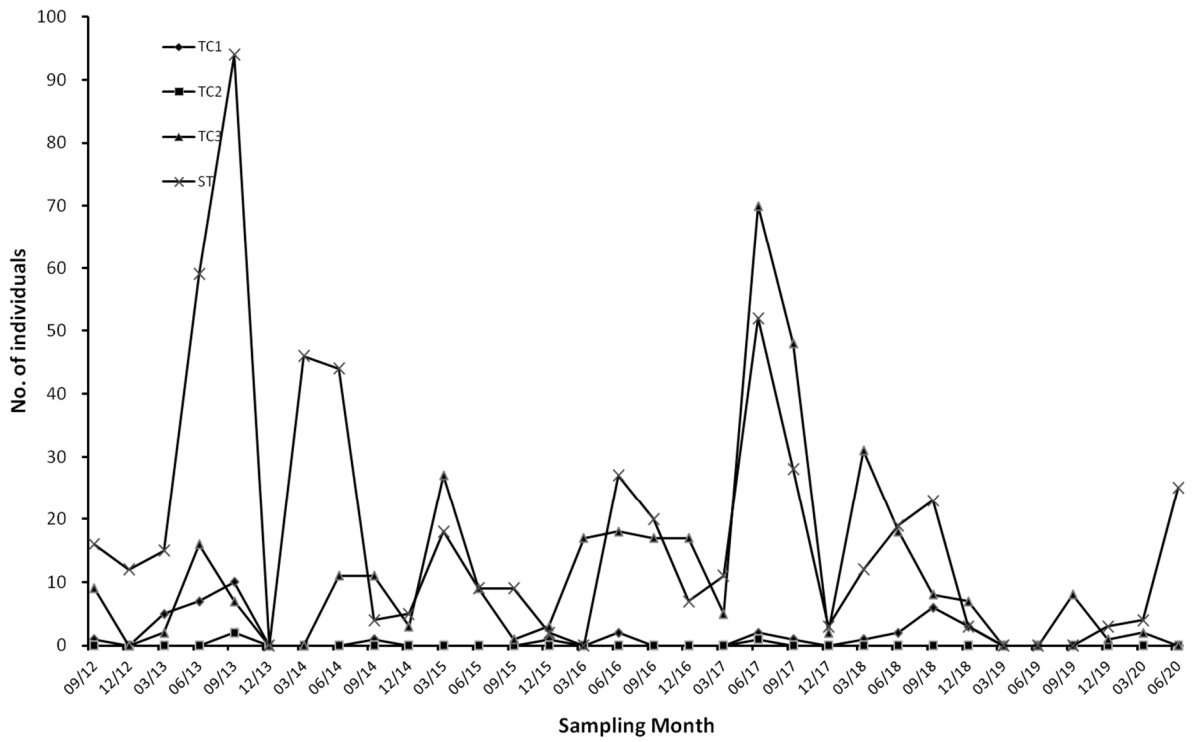


**Figure 3.5** Changes of number of individuals mean prosomal width and search record of horseshoe crab *Carcinoscorpius rotundicauda* in every sampling zone along the sampling months



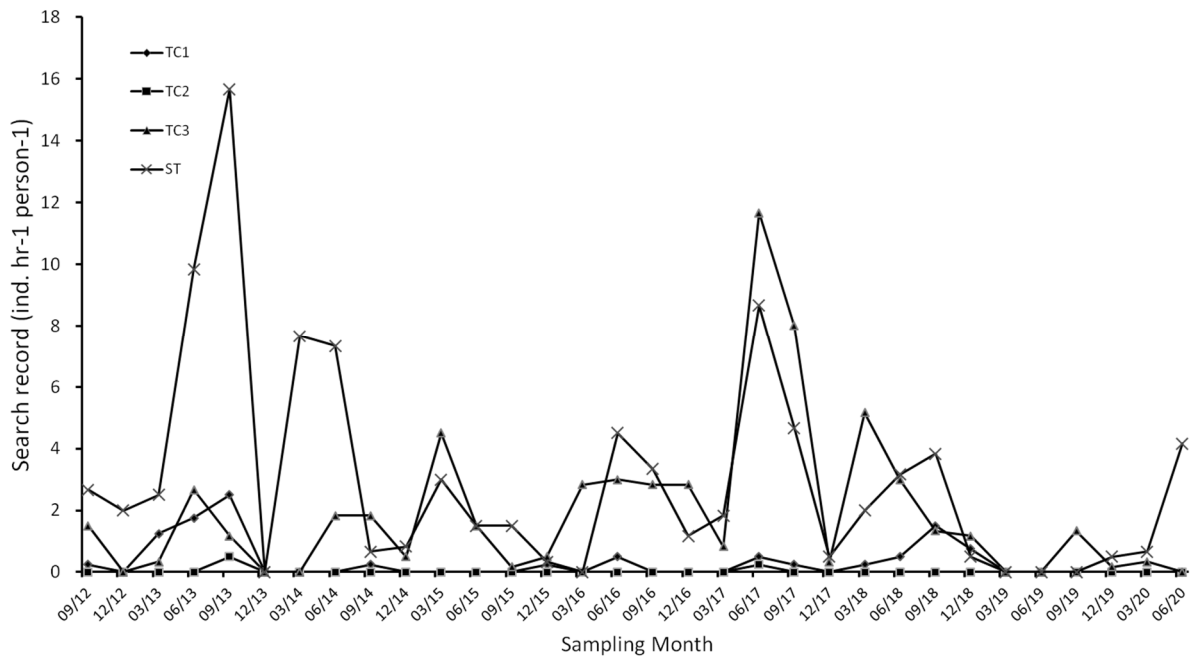


**Figure 3.5 (Cont'd)** Changes of number of individuals mean prosomal width and search record of horseshoe crab *Carcinoscorpius rotundicauda* in every sampling zone along the sampling months

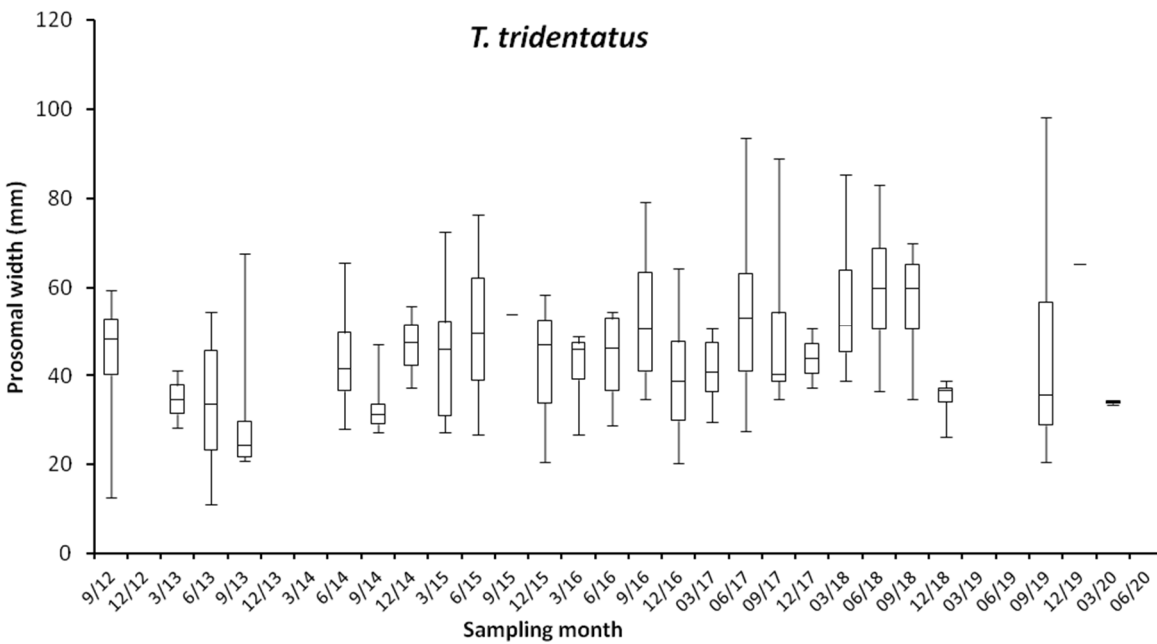
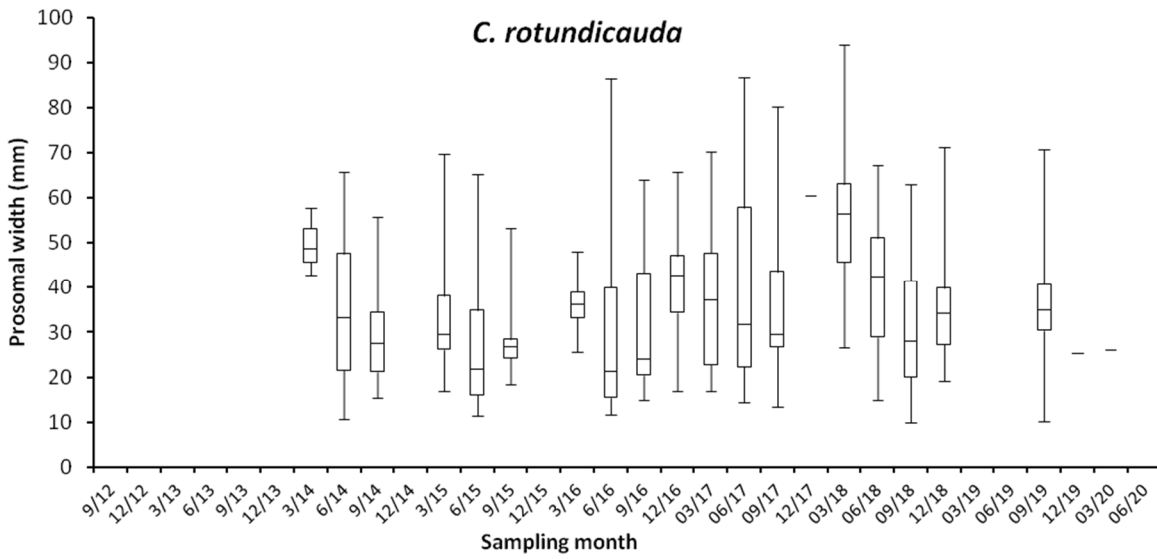


**Figure 3.6** Changes of number of individuals mean prosomal width and search record of horseshoe crab *Tachypleus tridentatus* in every sampling zone along the sampling months

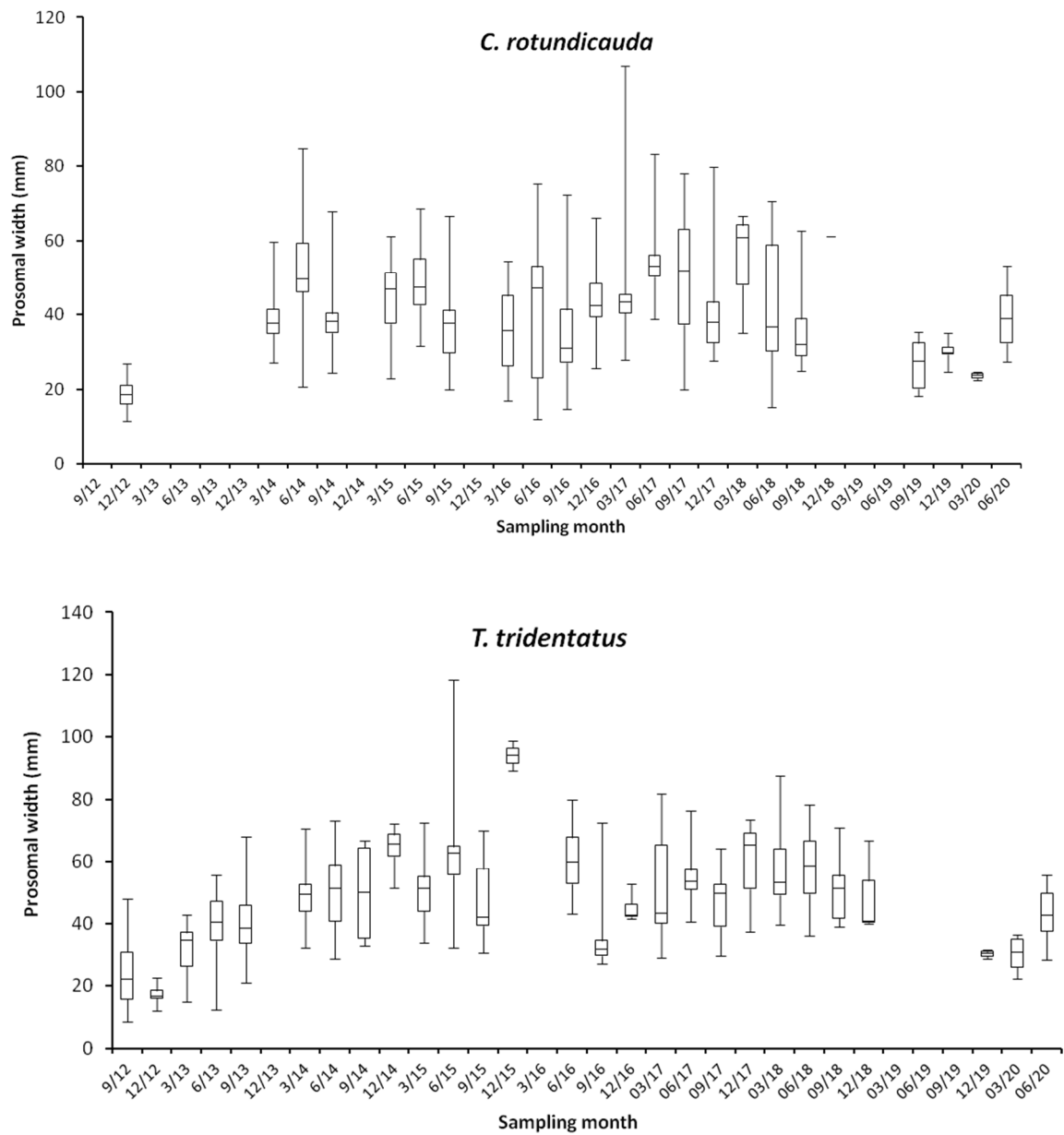




**Figure 3.6 (Cont'd)** Changes of number of individuals mean prosomal width and search record of horseshoe crab *Tachypleus tridentatus* in every sampling zone along the sampling months



**Figure 3.7** Box plot of prosomal width of horseshoe crab in the sampling zone TC3 along the sampling months. (The box represents 50% of the sample (upper to lower quartile) with a middle line showing the median value. The upper whisker and lower whisker showed the 25% of sample above upper quartile and below the lower quartile respectively)



**Figure 3.8** Box plot of prosomal width of horseshoe crab in the sampling zone ST along the sampling months. (The box represents 50% of the sample (upper to lower quartile) with a middle line showing the median value. The upper whisker and lower whisker showed the 25% of sample above upper quartile and below the lower quartile respectively.)



***Halophila ovalis* in TC3**



**Figure 3.9** *Photographic record of seagrass beds in present survey.*



***Halophila ovalis* in ST**



**Figure 3.9 (Cont'd)** *Photographic record of seagrass beds in present survey.*

**TC3**



Single patch of *Halophila ovalis*

**TC3 - ST**



Extensive patch of *Halophila ovalis*



**ST**



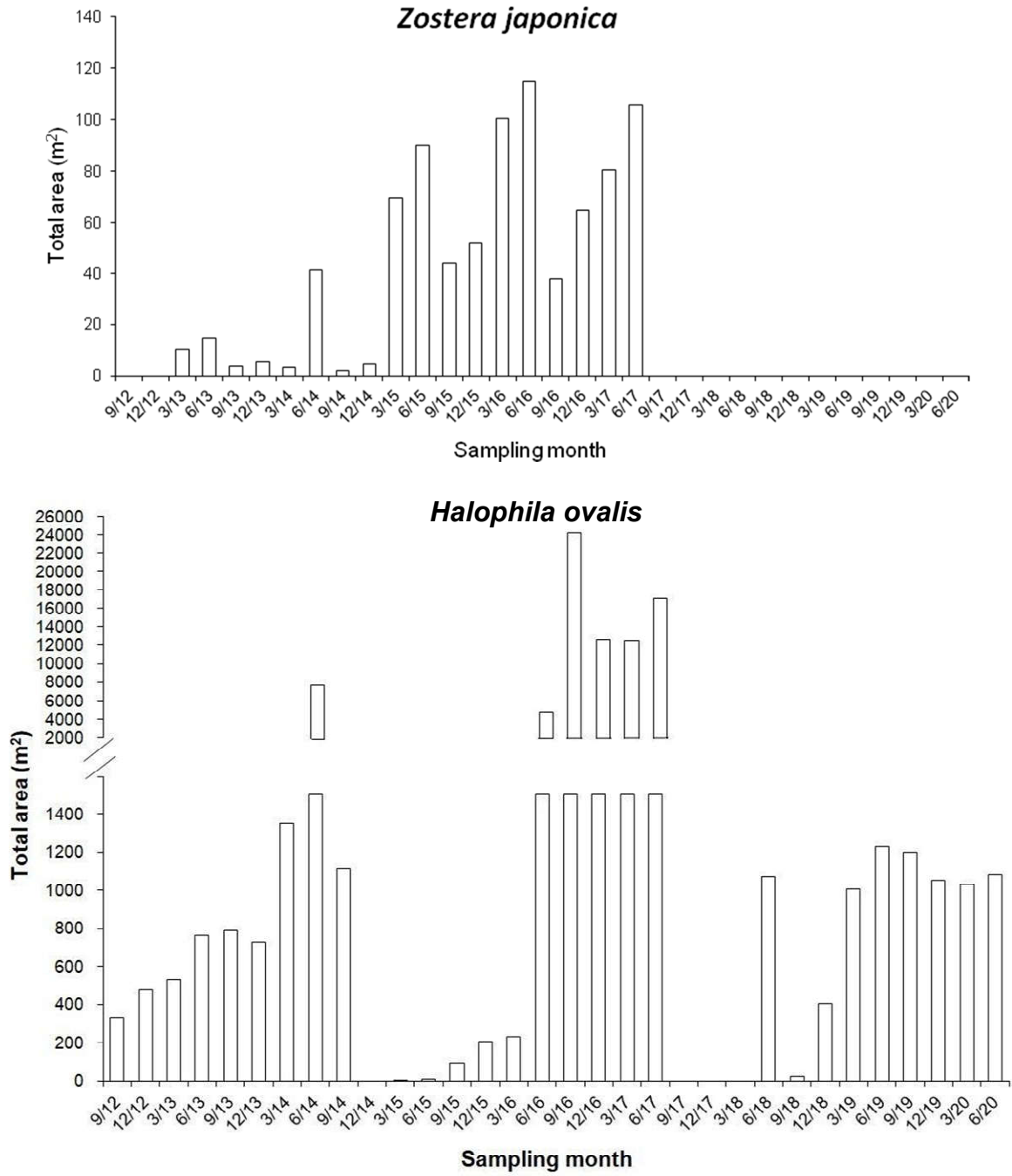
Medium, horizontal patch of *Zostera japonica*

**Figure 3.10** Examples of photographic records of seagrass beds (record in June 2017)



**Table 3.2.** *Summary of seagrass beds survey*

<b>Sampling zone</b>	TC3 <i>Halophila ovalis</i>	ST <i>Halophila ovalis</i>
<b>Number of patches</b>	6	3
<b>Total area (m<sup>2</sup>)</b>	92.5	1079
<b>Average area (m<sup>2</sup>)</b>	15.4	360



**Figure 3.11** Temporal changes of estimated total area of seagrass beds in ST

**June 2014**



**December 2014 (no seagrass)**



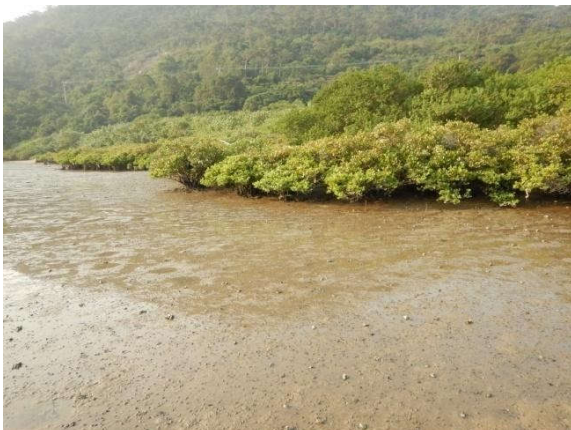
**September 2015**



**June 2017**



**September 2017-March 2018 (no seagrass)**



**September 2018**



**Figure 3.12** Comparison of pictures taken in different sampling months shows the successive disappearance and recolonization of seagrass beds. The picture of December 2018 was lacking due to night-dawn survey time.



**March 2019**



**June 2019**



**September 2019**



**December 2019**



**March 2020**



**June 2020**



**Figure 3.12 (Cont'd)** Comparison of pictures taken in different sampling months shows the successive disappearance and recolonization of seagrass beds. The picture of December 2018 was lacking due to night-dawn survey time.



**Table 3.3.** *Relative distribution (%) of types of substratum along the horizontal transect at every tidal level and in every sampling zone.*

Sampling zone	Tidal level	Percentage		
		Gravels and Boulders	Sands	Soft mud
TC1	H	70	30	
	M	80	20	
	L	60	10	30
TC2	H	70	30	
	M	50	10	40
	L	40	20	50
TC3	H	80	10	10
	M	70	10	20
	L	70	20	10
ST	H	90	10	
	M	70	30	
	L	60	20	20

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H: 2.0 m above C.D.; M: 1.5 m above C.D.; L: 1.0 m above C.D.

TC1 H



TC1 L



17/6/2020

TC2 H



TC2 L



19/6/2020

TC3 H



TC3 L



22/6/2020

**Figure 3.13** *Examples of photographic records of quadrat for intertidal soft shore community survey (H: 2.0 m above C.D.; M: 1.5 m above C.D.; L: 1.0 m above C.D.)*

**ST H**



**ST L**



23/6/2020

**Figure 3.13.(Cont'd)** *Examples of photographic records of quadrat for intertidal soft shore community survey (H: 2.0 m above C.D.; M: 1.5 m above C.D.; L: 1.0 m above C.D.)*

**Table 3.4** *Total abundance, density and number of taxon of every phylum*

<b>Phylum</b>	<b>Total Abundance</b>	<b>%</b>	<b>Density (ind. m<sup>-2</sup>)</b>	<b>Number of Taxon</b>
<i>June 2020</i>				
Mollusca	11356	95.1	379	33
Arthropoda	394	3.3	13	6
Annelida	36	0.3	1.2	3
Sipuncula	118	1.0	3.9	2
Nemertea	25	0.2	0.8	1
Cnidaria	10	0.1	0.3	1
Platyhelminthes	8	0.1	0.3	1
<b>Total</b>	<b>11947</b>			

0.0 %: Total abundance of the phylum is less than 0.1% of relative abundance.

0 ind. m<sup>-2</sup>: Density of the phylum is less than 1 ind. m<sup>-2</sup>.



**Table 3.5** *The number of individuals, relative abundance (percentage) and density of each phylum in every sampling zone*

Phylum	TC1	%	Density (ind. m <sup>-2</sup> )	TC2	%	Density (ind. m <sup>-2</sup> )	TC3	%	Density (ind. m <sup>-2</sup> )	ST	%	Density (ind. m <sup>-2</sup> )
Mollusca	2915	93	389	2970	96	396	2354	94	314	3117	96	416
Arthropoda	161	5	21	63	2	8	106	4	14	64	2	9
Annelida	18	1	2	4	0	1	3	0	0	11	0	1
Sipuncula	16	1	2	31	1	4	34	1	5	37	1	5
Nemertea	9	0	1	12	0	2	0	0	0	4	0	1
Cnidaria	0	0	0	5	0	1	0	0	0	5	0	1
Platyhelminthes	0	0	0	6	0	1	2	0	0	0	0	0
<b>Sub-total</b>	3119			3091			2499			3238		

0.0 %: Total abundance of the phylum is less than 0.1% of relative abundance of the sampling zone.

0 ind. m<sup>-2</sup>: Density of the phylum is less than 1 ind. m<sup>-2</sup> of the sampling zone.

**Table 3.6** *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone TC1	Group	Species	Mean density (ind. m <sup>-2</sup> )	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	143	34	5
	G	<i>Monodonta labio</i>	80	19	6
Mid	Bi	<i>Saccostrea cucullata</i>	128	31	17
	G	<i>Monodonta labio</i>	92	22	30
Low	Bi	<i>Saccostrea cucullata</i>	107	26	33
	G	<i>Monodonta labio</i>	119	29	58

Bi = Bivalve, G = Gastropod

**Table 3.6(Cont'd)** *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone TC2	Group	Species	Mean density (ind. m <sup>-2</sup> )	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	75	21	43
	G	<i>Batillaria multiformis</i>	87	24	77
	G	<i>Monodonta labio</i>	47	13	4
Mid	Bi	<i>Saccostrea cucullata</i>	94	25	34
	G	<i>Batillaria zonalis</i>	84	22	57
	G	<i>Monodonta labio</i>	57	15	7
Low	Bi	<i>Saccostrea cucullata</i>	170	34	49
	G	<i>Monodonta labio</i>	113	23	6

Bi = Bivalve, G = Gastropod

**Table 3.6(Cont'd)** *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone TC3	Group	Species	Mean density (ind. m <sup>-2</sup> )	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	113	31	4
Mid	Bi	<i>Saccostrea cucullata</i>	98	29	5
	G	<i>Batillaria multiformis</i>	52	16	79
	G	<i>Monodonta labio</i>	40	12	3
Low	Bi	<i>Saccostrea cucullata</i>	130	43	37

Bi = Bivalve, G = Gastropod



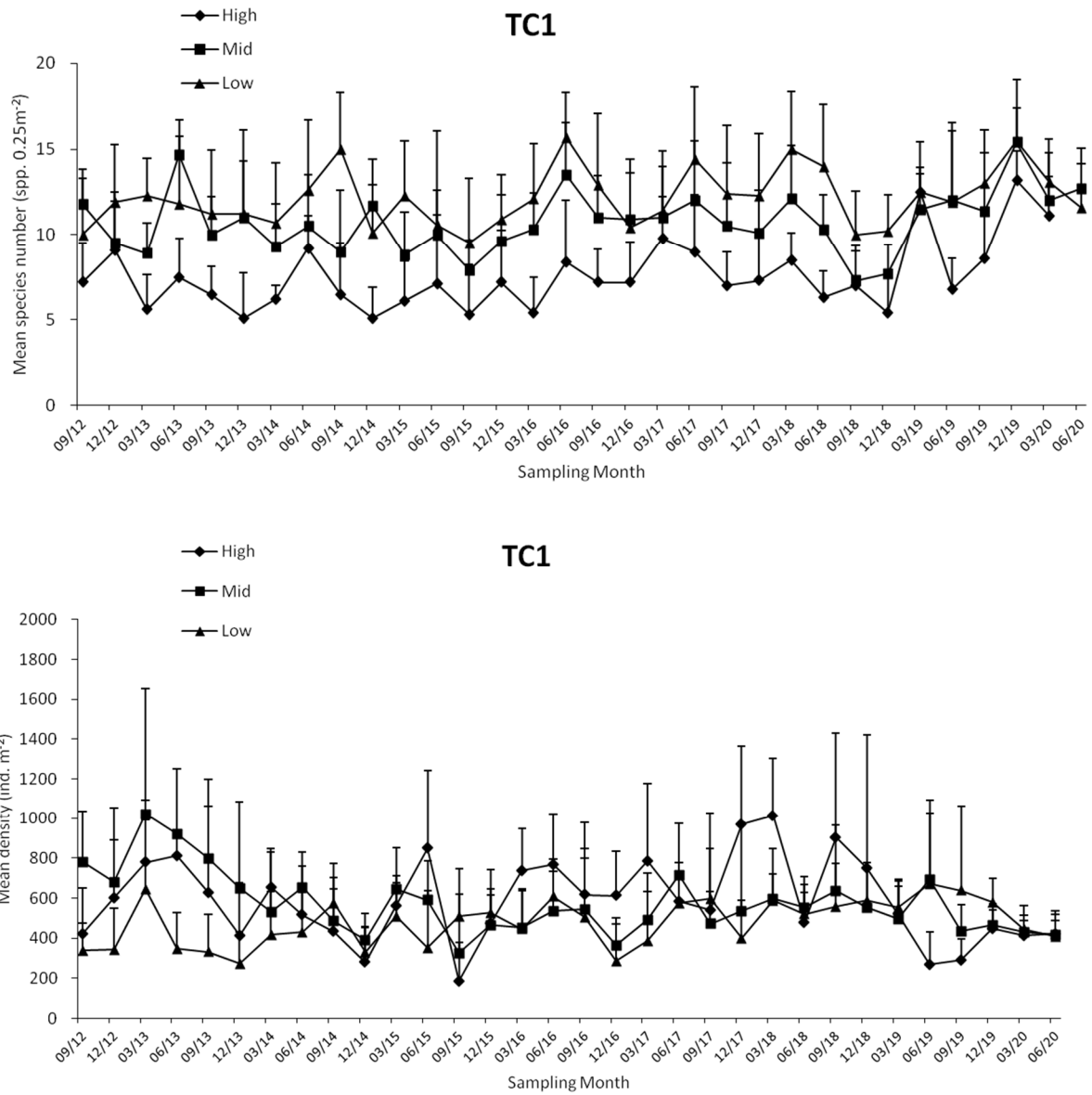
**Table 3.6(Cont'd)** *The abundant species (relative abundance >10%) in every sampling zone*

Sampling zone ST	Group	Species	Mean density (ind. m <sup>-2</sup> )	Relative abundance (%)	Cumulative relative abundance (%)
High	Bi	<i>Saccostrea cucullata</i>	112	27	12
	G	<i>Batillaria multiformis</i>	47	11	24
	G	<i>Monodonta labio</i>	40	10	43
Mid	Bi	<i>Saccostrea cucullata</i>	127	33	27
	G	<i>Monodonta labio</i>	53	14	50
Low	Bi	<i>Saccostrea cucullata</i>	146	29	24
	G	<i>Monodonta labio</i>	91	18	41

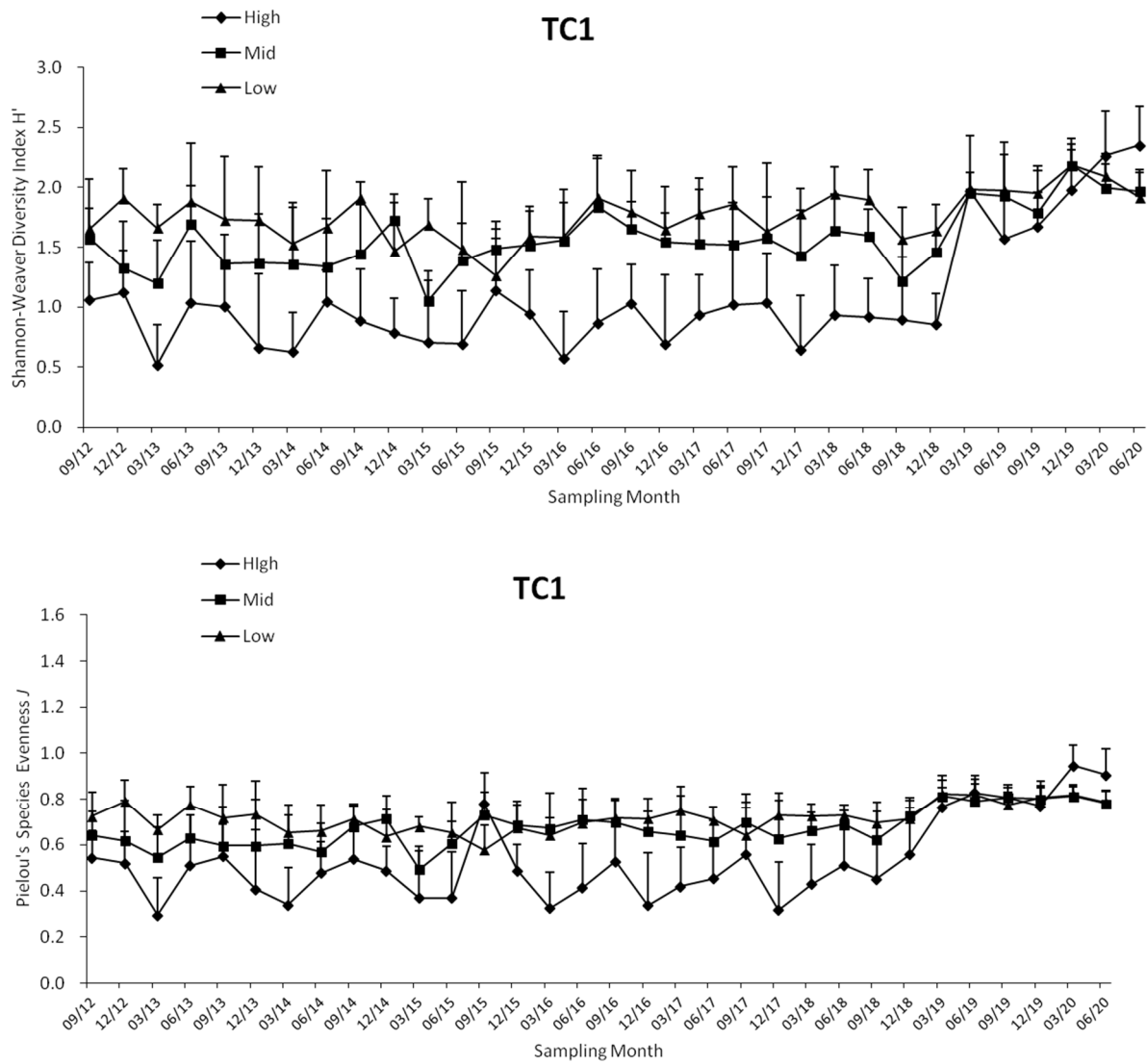
Bi = Bivalve, G = Gastropod

**Table 3.7** Mean values of species number, density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) at every tidal level and in every sampling zone

Samling zone	Tidal	Mean species number (spp. 0.25m <sup>-2</sup> )	Mean species number across tidal levels	Mean density (ind. m <sup>-2</sup> )	Mean density across tidal levels	Mean H'	Mean H' across tidal levels	Mean J	Mean J across tidal levels
TC1	H	14		421		2.4		0.9	
	M	13	13	418	416	2.0	2.10	0.8	0.82
	L	12		409		1.9		0.8	
TC2	H	11		360		1.8		0.8	
	M	12	12	381	412	1.9	1.83	0.8	0.76
	L	12		496		1.8		0.7	
TC3	H	12		366		2.0		0.8	
	M	9	10	324	330	1.7	1.77	0.8	0.82
	L	9		300		1.6		0.8	
ST	H	14		410		1.9		0.7	
	M	11	13	390	432	2.0	2.00	0.8	0.78
	L	15		495		2.1		0.8	

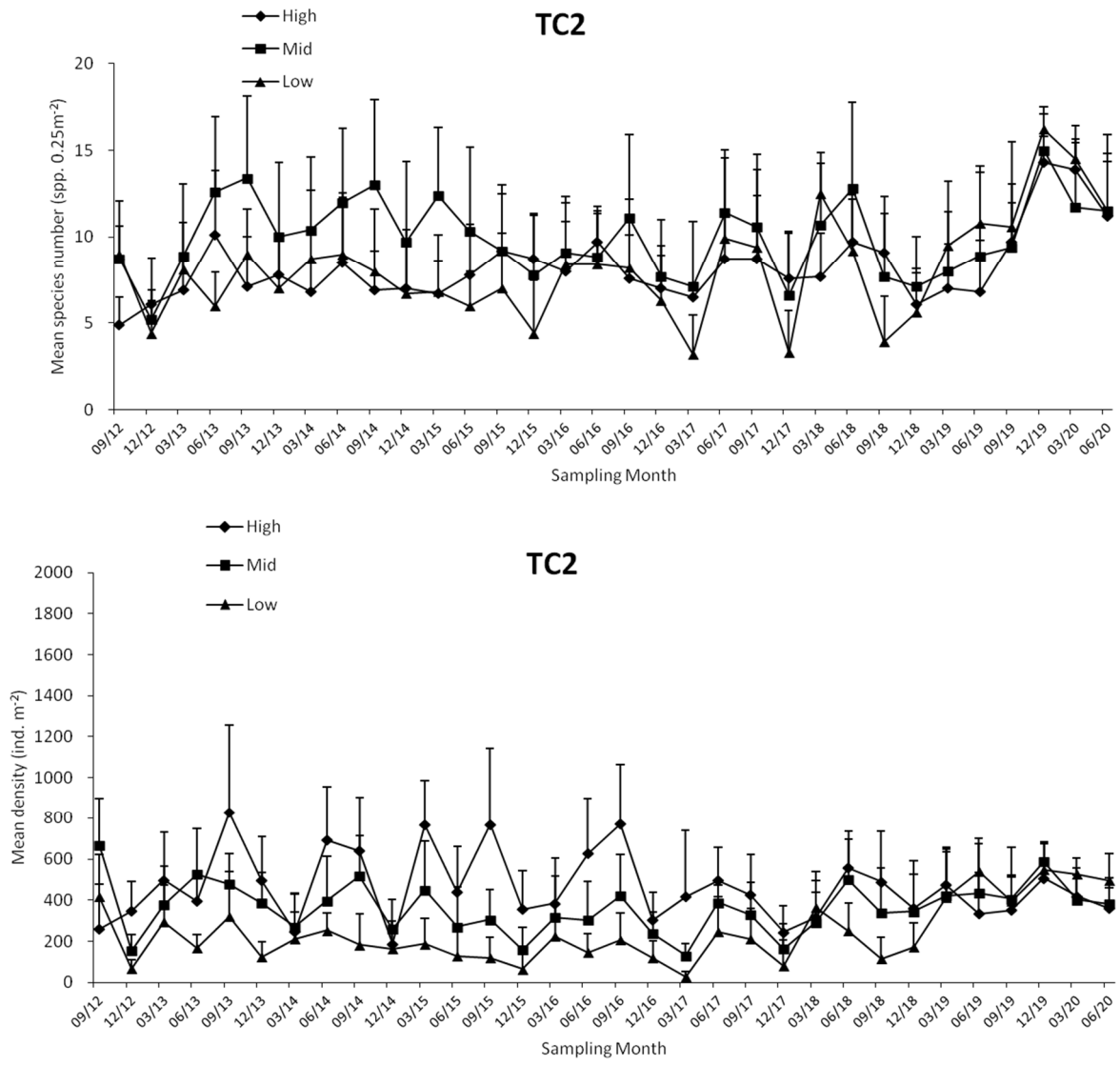


**Figure 3.14** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone TC1

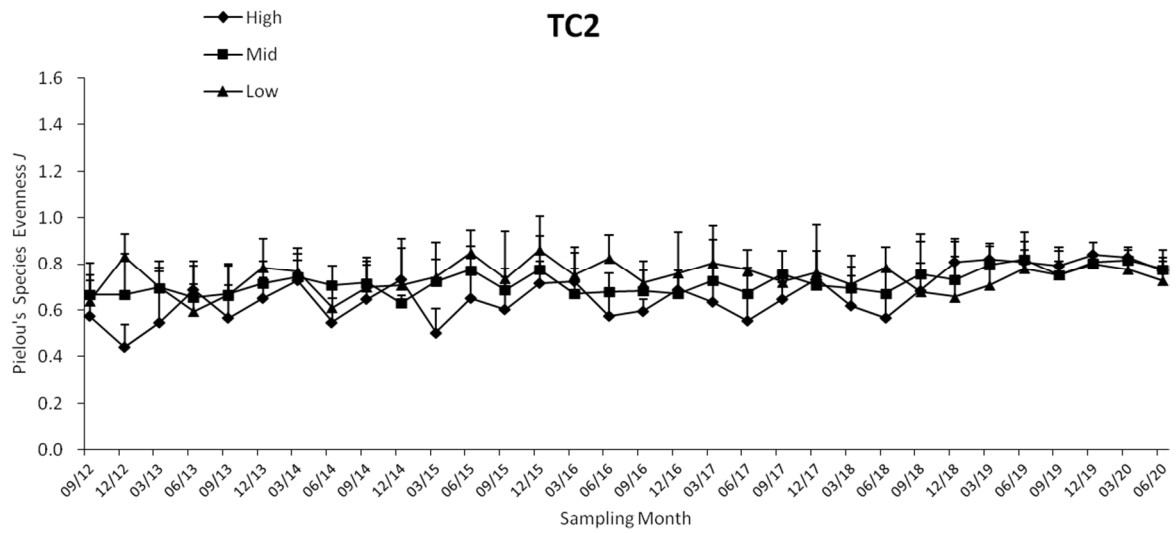
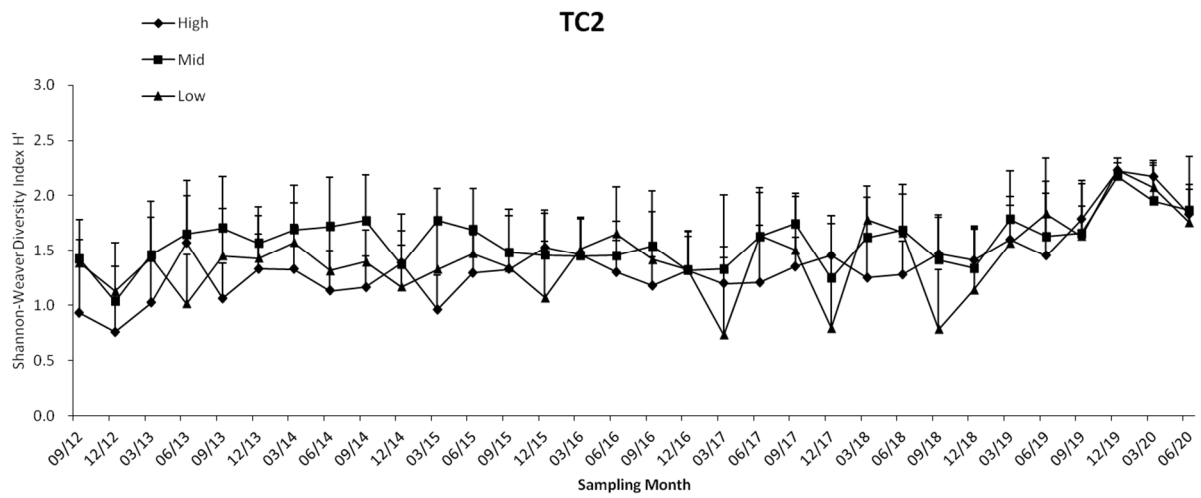


**Figure 3.14(Cont'd)** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone TC1

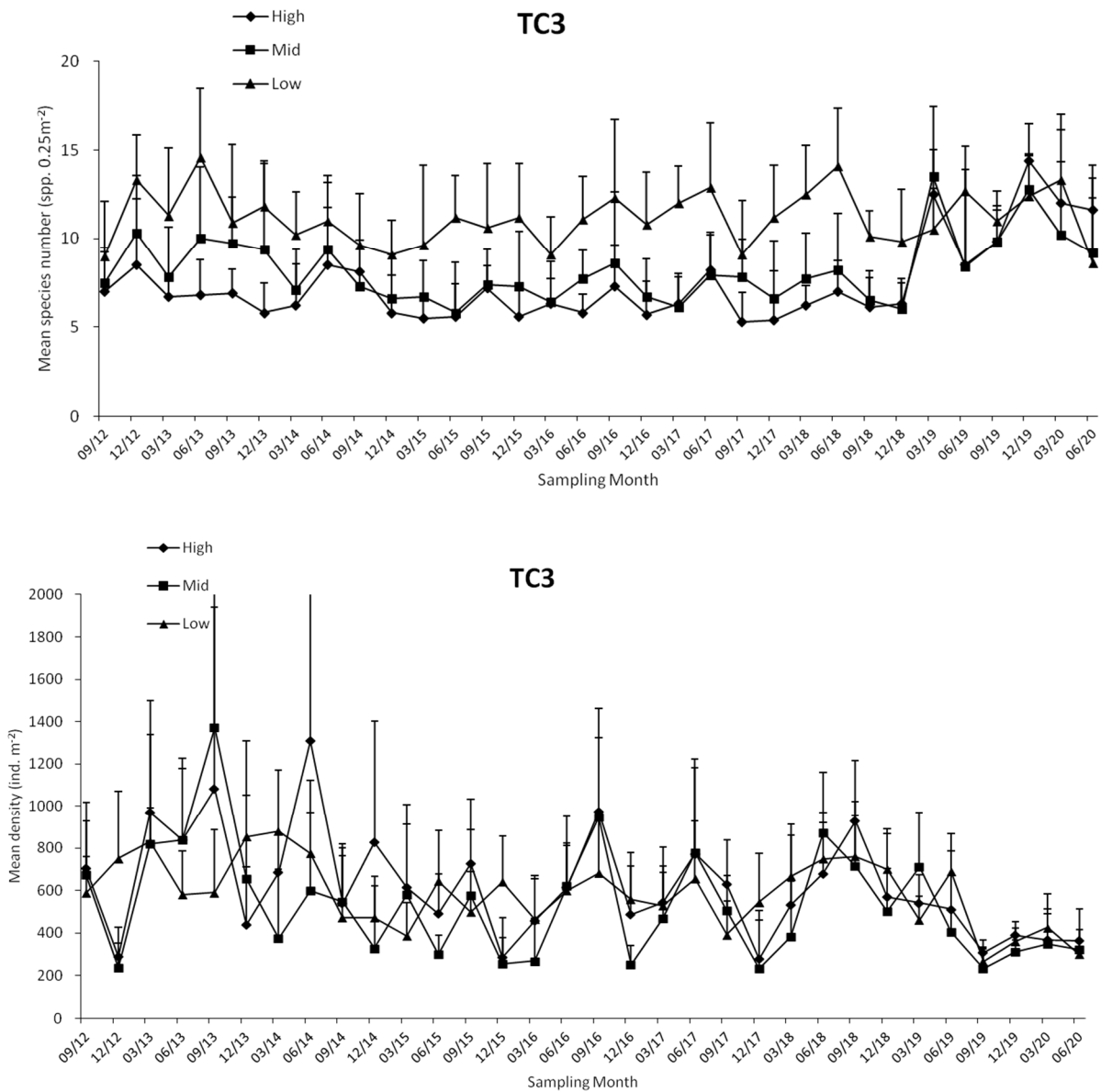




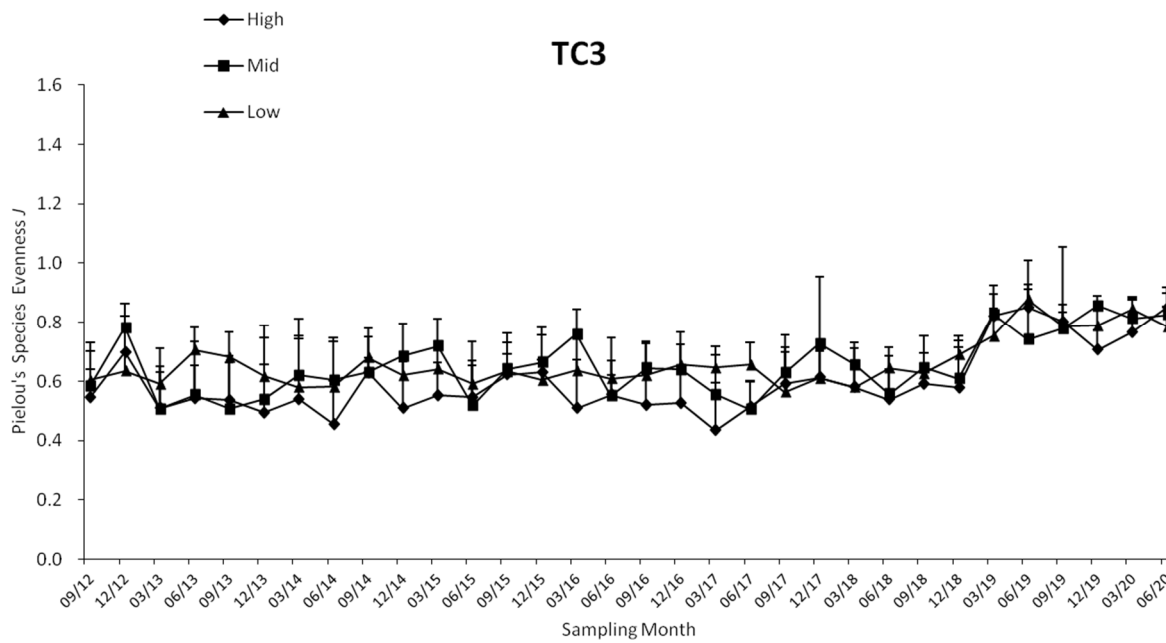
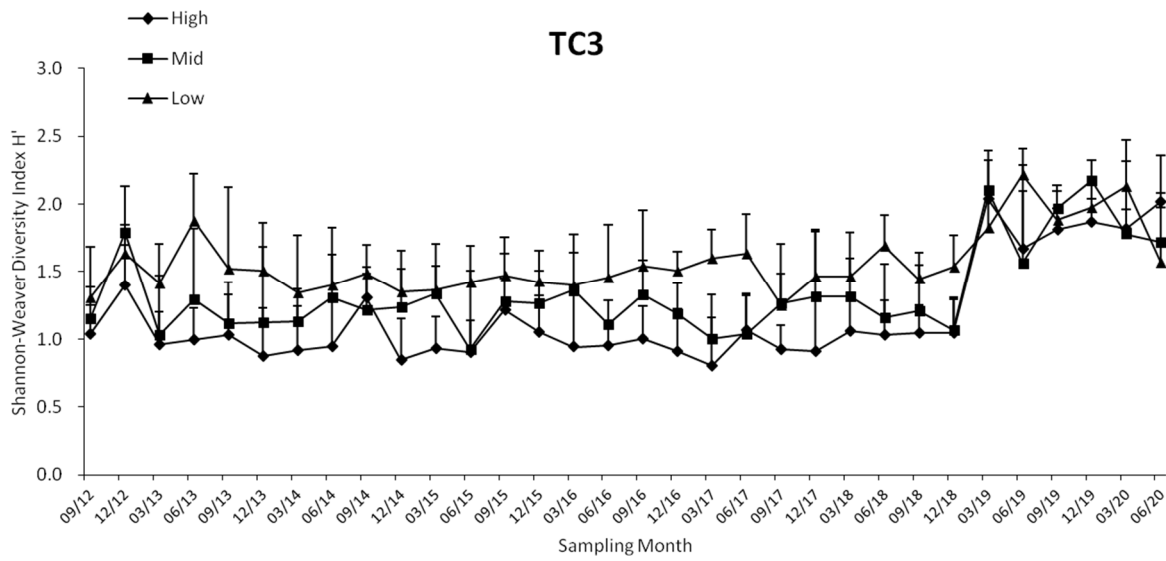
**Figure 3.15** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone TC2



**Figure 3.15(Cont'd)** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone TC2

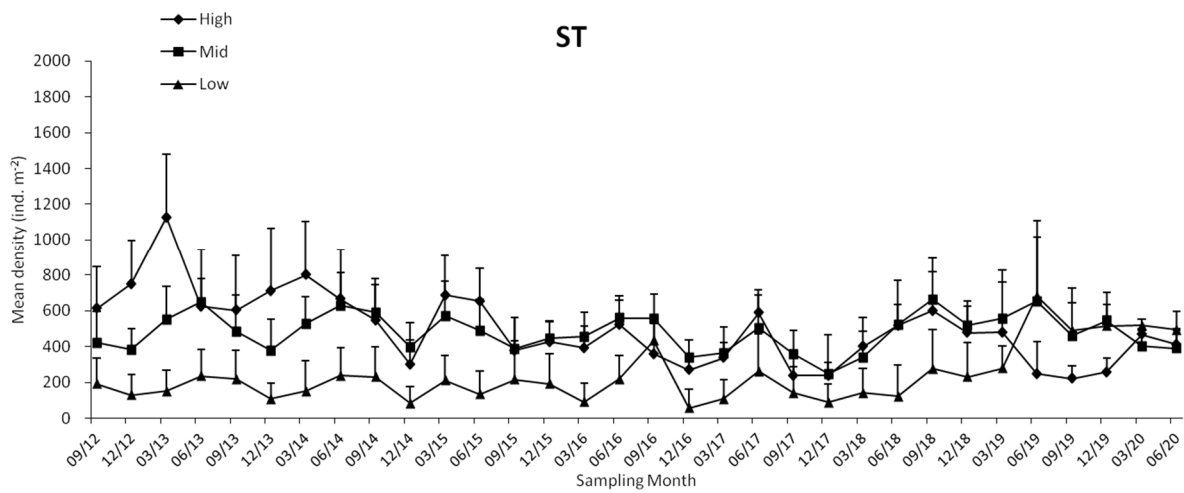
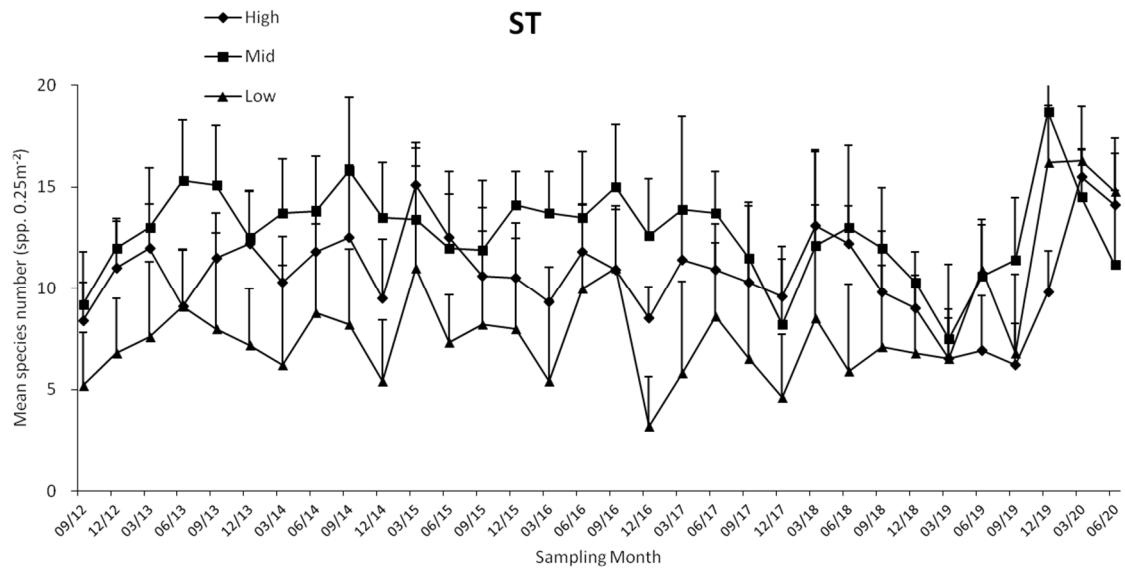


**Figure 3.16** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone TC3

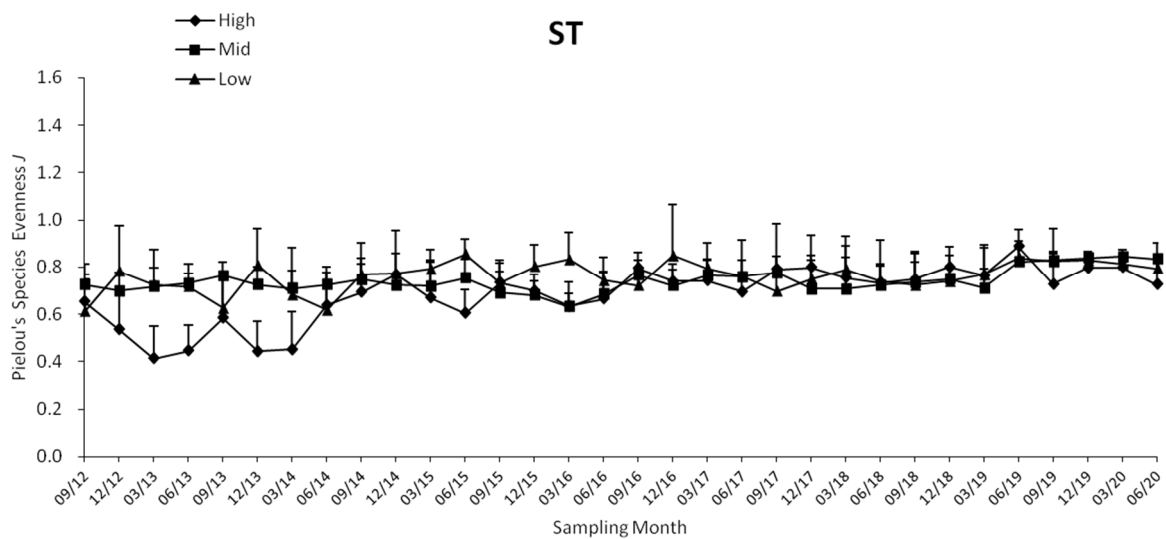
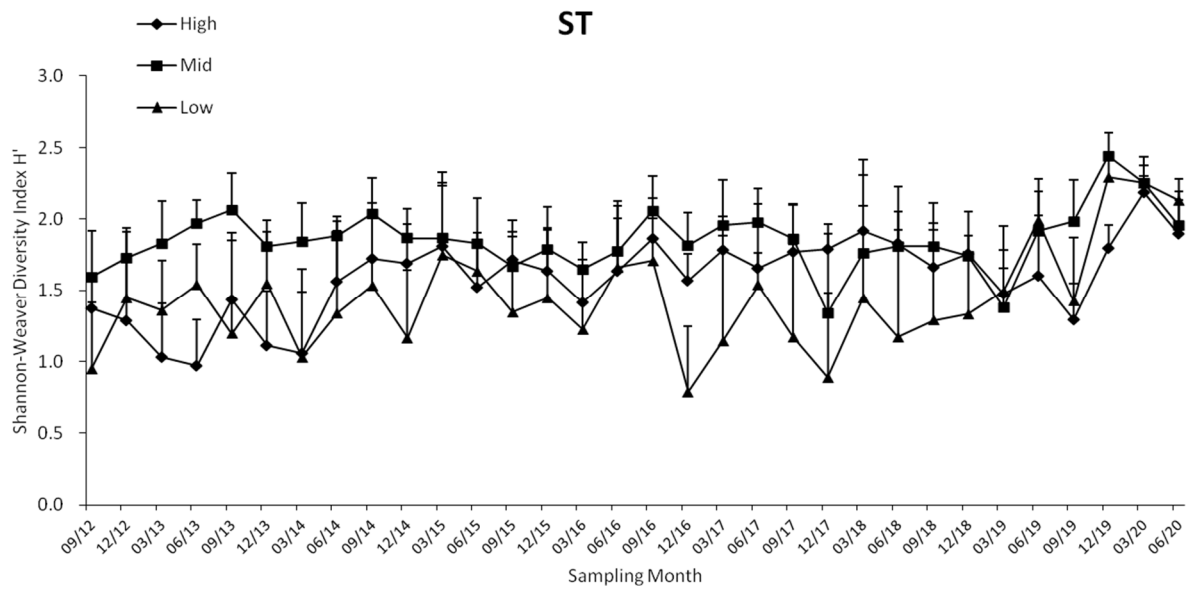


**Figure 3.16(Cont'd)** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone TC3



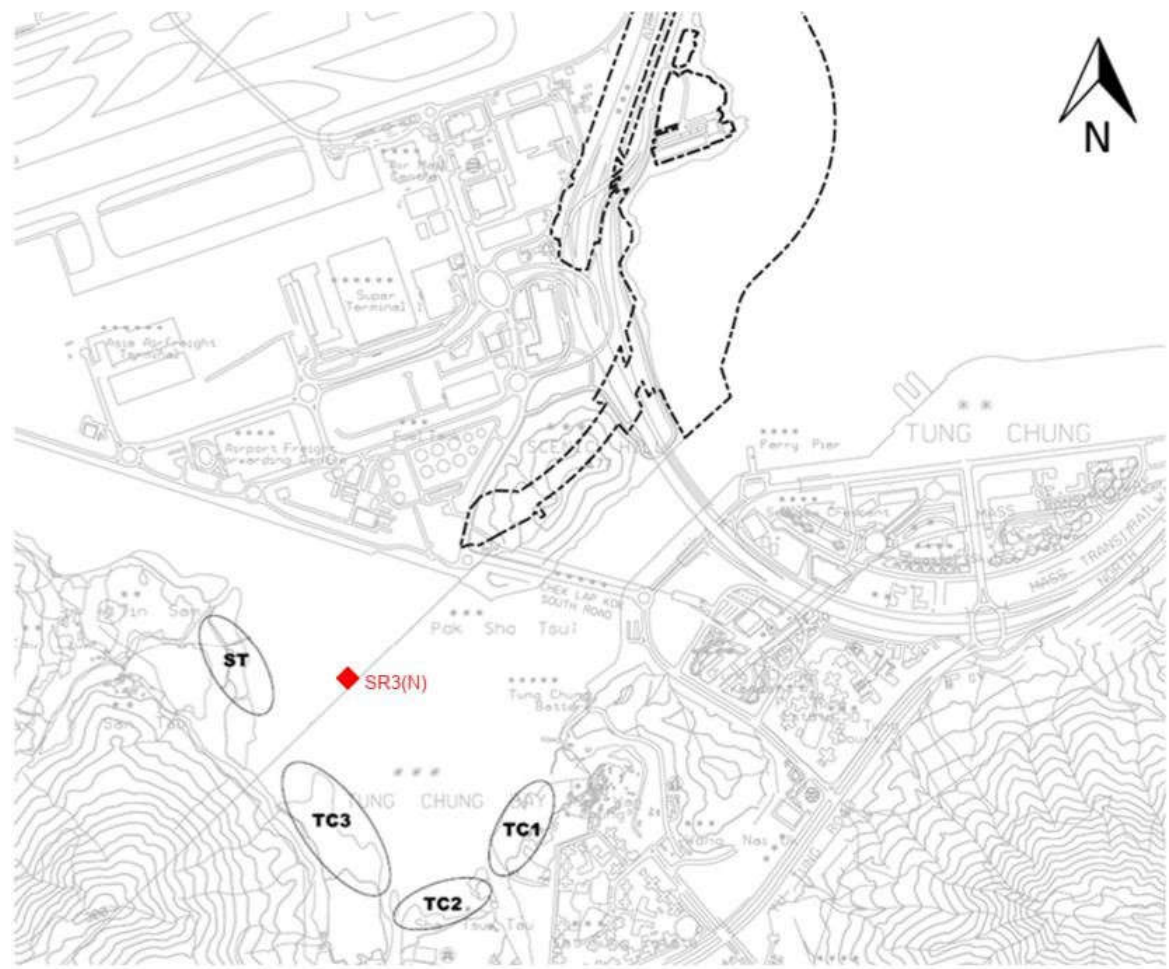


**Figure 3.17** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone S



**Figure 3.17(Cont'd)** Temporal changes of mean number of species, mean density, Shannon-Weaver Diversity Index ( $H'$ ) and Pielou's Species Evenness ( $J$ ) (mean + SD) at every tidal level in sampling zone ST

**Annex I** Location of sampling zones (map from ATKINS China Ltd.)



II Record of horseshoe crab survey in every sampling zone.

No.	Sub.	GPS coordinate	Record of prosomal width (mm)	
		<u>Sampling site TC1</u> (Search hour = 2 hrs)	<i>Carcinoscorpius rotundicauda</i>	<i>Tachypleus tridentatus</i>
		No record		
		<b>No. of ind.</b>	<b>0</b>	<b>0</b>
		<u>Sampling site TC2</u> (Search hour = 2 hrs)	<i>Carcinoscorpius rotundicauda</i>	<i>Tachypleus tridentatus</i>
		No record		
		<b>No. of ind.</b>	<b>0</b>	<b>0</b>

Ind. #: number of Individuals (individuals in a group are shown at the same row)

Underlined: size of mating pair or large individual (excluded from data analysis)

Sub.: Substratum type; G = Gravel and Boulders, M = Soft mud, S = Sand



**Annex II (Cont'd) Record of horseshoe crab survey in every sampling zone.**

No.	Sub.	GPS coordinate		Record of prosomal width (mm)								
<u>Sampling site TC3 (Search hour = 3 hrs)</u>				<i>Carcinoscorpius rotundicauda</i>						<i>Tachypleus tridentatus</i>		
No record												
<b>No. of ind.</b>				<b>0</b>						<b>0</b>		
<u>Sampling site ST (Search hour = 3 hrs)</u>				<i>Carcinoscorpius rotundicauda</i>						<i>Tachypleus tridentatus</i>		
1	S	22°17'020"N	113°55'029"E	51.87	34.81					51.26	55.34	55.46
2	S	22°17'020"N	113°55'030"E	42.17	32.43					45.81	49.79	28.53 39.01
3	S	22°17'020"N	113°55'031"E	45.31						42.15		
4	M	22°17'020"N	113°55'032"E	33.55	27.74	31.40				34.05	42.68	51.45
5	S	22°17'020"N	113°55'033"E	29.93	32.05	41.59				47.14	35.51	
6	M	22°17'018"N	113°55'033"E	28.95	53.27							
7	S	22°17'018"N	113°55'031"E	43.76	38.06							
8	S	22°17'018"N	113°55'032"E	47.80	30.24	39.95				31.68	31.67	
9	S	22°17'017"N	113°55'033"E	33.81	32.17	47.15				43.88		
10	S	22°17'017"N	113°55'032"E	34.42	47.80	42.42	41.41	47.16	44.97	39.66	45.40	
11	S	22°17'016"N	113°55'032"E	52.97	33.78	43.49				51.98	51.15	37.63 29.65
12	S	22°17'016"N	113°55'031"E	35.96	27.34					43.57	41.56	40.76
<b>No. of ind.</b>				<b>32</b>						<b>25</b>		

Ind. #: number of Individuals (individuals in a group are shown at the same row)

Underlined: size of mating pair or large individual (excluded from data analysis)

Sub.: Substratum type; G = Gravel and Boulders, M = Soft mud, S = Sand

**Annex III Record of seagrass beds survey in every sampling zone**

Estimated area (m <sup>2</sup> )	Estimated coverage (%)		GPS coordinate	Remark	
<b>TC1&amp; TC2 (search hour = 2 hrs)</b>					
No record					
<b>TC3 <i>Halophila ovalis</i> (search hour = 3 hrs)</b>					
12	50	horizontal line	22°17'006"N 22°17'006"N	113°55'036"E 113°55'036"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 1.5m above C.D.
6	50	horizontal line	22°17'006"N 22°17'006"N	113°55'036"E 113°55'036"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 1.5m above C.D.
6.25	60-70	horizontal line	22°17'003"N 22°17'003"N	113°55'035"E 113°55'035"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0m above C.D.
6	60-70	horizontal line	22°17'003"N 22°17'003"N	113°55'038"E 113°55'038"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
42.25	90-100	horizontal line	22°17'002"N 22°17'002"N	113°55'038"E 113°55'038"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
20	90-100	horizontal line	22°17'001"N 22°17'001"N	113°55'038"E 113°55'038"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.

**Annex III (Cont'd) Record of seagrass beds survey in every sampling zone**

Estimated area (m <sup>2</sup> )	Estimated coverage (%)		GPS coordinate	Remark	Estimated area (m <sup>2</sup> )
<b>ST <i>Halophila ovalis</i> (search hour = 3 hrs)</b>					
2	90	horizontal line	22°17'017"N	113°55'031"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
			22°17'017"N	113°55'031"E	
27	90	horizontal line	22°17'014"N	113°55'030"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
			22°17'014"N	113°55'030"E	
1050	90	horizontal line	22°17'013"N	113°55'029"E	A horizontal strand of seagrass bed nearby the seaward side of mangrove area at tidal level 2.0 m above C.D.
			22°17'014"N	113°55'029"E	

**Annex IV. Taxonomic resolution of every recorded species of intertidal soft shore community survey**

<b>Kingdom</b>	<b>Phylum</b>	<b>Class</b>	<b>Order</b>	<b>Family</b>	<b>Species</b>
Animalia	Annelida	Polycheata	Phyllodocida	Nereididae	<i>Nereididae</i> spp.
Animalia	Annelida	Polycheata	Phyllodocida	Nereidae	<i>Perinereis</i> sp.
Animalia	Annelida	Polycheata	Sabellida	Sabellidae	<i>Sabellidae imbricatus</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Grapsidae	<i>Gaetice depressus</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Grapsidae	<i>Metopograpsus latifrons</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Grapsidae	<i>Metopograpsus quadridentatus</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Paguridae	<i>Pagurus dubius</i>
Animalia	Arthropoda	Malacostraca	Decapoda	Varuniae	<i>Hemigrapsus penicillatus</i>
Animalia	Arthropoda	Maxillopoda	Sessilia	Balanidae	<i>Balanus amphitrite</i>
Animalia	Cnidaria	Anthozoa	Actiniaria	Diadumenidae	<i>Diadumene lineata</i>
Animalia	Mollusca	Bivalvia	Arcoida	Arcidae	<i>Barbatia virescens</i>
Animalia	Mollusca	Bivalvia	Mytioida	Mytilidae	<i>Brachidontes variabilis</i>
Animalia	Mollusca	Bivalvia	Mytioida	Mytilidae	<i>Xenostrobus atratus</i>
Animalia	Mollusca	Bivalvia	Ostreoida	Ostreidae	<i>Saccostrea cucullata</i>
Animalia	Mollusca	Bivalvia	Pterioida	Pteriidae	<i>Isognomon isognomum</i>
Animalia	Mollusca	Bivalvia	Venerida	Glauconomidae	<i>Glaucome chinensis</i>
Animalia	Mollusca	Bivalvia	Venerida	Veneridae	<i>Anomalocardia squamosa</i>
Animalia	Mollusca	Bivalvia	Venerida	Veneridae	<i>Marcia japonica</i>
Animalia	Mollusca	Bivalvia	Venerida	Veneridae	<i>Ruditapes philippinarum</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Nacellidae	<i>Cellana toreuma</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Trochidae	<i>Monodonta labio</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Turbinidae	<i>Lunella coronata</i>
Animalia	Mollusca	Gastropoda	Archaeogastropoda	Turbinidae	<i>Lunella granulata</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Batillariidae	<i>Batillaria multiformis</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Batillariidae	<i>Batillaria zonalis</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Potamididae	<i>Pirenella asiatica</i>
Animalia	Mollusca	Gastropoda	Caenogastropoda	Potamididae	<i>Pirenella incisa</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Clithon faba</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Clithon oualaniensis</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Clithon retropictus</i>



<b>Kingdom</b>	<b>Phylum</b>	<b>Class</b>	<b>Order</b>	<b>Family</b>	<b>Species</b>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita lineata</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita polita</i>
Animalia	Mollusca	Gastropoda	Cycloneritimorpha	Neritidae	<i>Nerita squamulata</i>
Animalia	Mollusca	Gastropoda	Littorinimorpha	Littorinidae	<i>Littoraria articulata</i>
Animalia	Mollusca	Gastropoda	Neogastropoda	Muricidae	<i>Thais clavigera</i>
Animalia	Mollusca	Gastropoda	Neotaenioglossa	Cerithiidae	<i>Clypeomorus moniliferum</i>
Animalia	Mollusca	Gastropoda	Neotaenioglossa	Littorinidae	<i>Nodilittorina radiata</i>
Animalia	Mollusca	Gastropoda	Patellogastropoda	Lottiidae	<i>Lottia dorsuosa</i>
Animalia	Mollusca	Gastropoda	Patellogastropoda	Lottiidae	<i>Lottia luchuana</i>
Animalia	Mollusca	Gastropoda	Patellogastropoda	Lottiidae	<i>Nipponacmea concinna</i>
Animalia	Mollusca	Gastropoda	Trochida	Tegulidae	<i>Chlorostoma argyrostomum</i>
Animalia	Mollusca	Gastropoda		Lottiidae	<i>Patelloida pygmaea</i>
Animalia	Mollusca	Polyplacophora	Chitonida	Ischnochitonidae	<i>Lepidozona</i> spp.
Animalia	Nemertea				<i>Nemertea</i> spp.
Animalia	Platyhelminthes				<i>Platyhelminthes</i> sp.
Animalia	Sipuncula	Sipunculidae	Golfingiida	Sipunculidae	<i>Siphonosoma</i> sp.
Animalia	Sipuncula	Sipunculidae	Golfingiida	Sipunculidae	<i>Sipunculus nudus</i>

**Annex V. List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020	Sampling Zone TC1	High tidal level (2.0 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>			4		11		8		12						8						43
Bi	<i>Barbatia virescens</i>	2								10		16		4				5		5		42
Bi	<i>Brachidontes variabilis</i>	2						13						2				4		2		23
Bi	<i>Glaucanome chinensis</i>			5		2				5						3		2				17
Bi	<i>Marcia japonica</i>	2		1		1												2				6
Bi	<i>Saccostrea cucullata</i>	24		25		35		26		28		48		36		35		52		48		357
Bi	<i>Xenostrobus atratus</i>									17								3				20
C	<i>Gaetice depressus</i>	2				2		2				4		1		2						13
C	<i>Hemigrapsus penicillatus</i>					3		1		4		2		1								11
C	<i>Metopograpsus latifrons</i>			8		2		1		2		1				1						15
C	<i>Metopograpsus quadridentatus</i>							1		8						2						11
C	<i>Pagurus dubius</i>					2				4						2		1		4		13
G	<i>Batillaria multiformis</i>											15				17		15		12		59
G	<i>Batillaria zonalis</i>											2				4		5				11
G	<i>Cellana toreuma</i>			4		12		12						3								31
G	<i>Chlorostoma argyrostomum</i>															1				2		3
G	<i>Clithon faba</i>																			4		4
G	<i>Littoraria articulata</i>																	2				2
G	<i>Lottia dorsuosa</i>			8										2		2				1		13

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC1	High tidal level (2.0 m above C.D.)																				Sub-total
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Lunella coronata</i>	6		8		3		14		5		5		5		2		6		5		59
G	<i>Lunella granulata</i>													1		5					8	14
G	<i>Monodonta labio</i>	10		24		60		5		2		24		22		22		15		15		199
G	<i>Nipponacmea concinna</i>			6		3		2						2								13
G	<i>Nodilittorina radiata</i>											10				10					2	22
G	<i>Patelloida pygmaea</i>	2		5				2				1		1		3					1	15
G	<i>Pirenella asiatica</i>											2										2
Ne	<i>Nemertea spp.</i>		1					2			1				1		1	2	1			9
P	<i>Sabellidae imbricatus</i>	2																			2	4
Po	<i>Lepidozonaspp.</i>	4		4		6								2								16
Sp	<i>Siphonosoma spp.</i>													1		1				2		4
Sp	<i>Sipunculus nudus</i>															1						1
																					<b>Total</b>	<b>1052</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC1	Mid tidal level (1.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Bi	<i>Barbatia virescens</i>	38				8		4				12		3		12		2				79
Bi	<i>Brachidontes variabilis</i>											7		4		7		3				21
Bi	<i>Glauconome chinensis</i>			6		8		14												2		30
Bi	<i>Ruditapes philippinarum</i>	1		1																1		3
Bi	<i>Saccostrea cucullata</i>	40		19		42		32		24		38		25		38		28		35		321
Bi	<i>Xenostrobus atratus</i>	3										12				9						24
C	<i>Gaetice depressus</i>	4		4		2		1		1								2		1		15
C	<i>Hemigrapsus penicillatus</i>	1						1				1										3
C	<i>Metopograpsus latifrons</i>	2		4				2				1								4		13
C	<i>Metopograpsus quadridentatus</i>	1												1		5						7
C	<i>Pagurus dubius</i>	1		2				1				1				2		1				8
G	<i>Batillaria multiformis</i>					16								17				5		10		48
G	<i>Batillaria zonalis</i>													3								3
G	<i>Chlorostoma argyrostomum</i>	1														1		1				3
G	<i>Clithon faba</i>			2				2		2		2		2		5		2		5		22
G	<i>Clithon retropictus</i>							2		3						1		4		4		14
G	<i>Lottia dorsuosa</i>							1				3				2						6
G	<i>Lunella coronata</i>							4				2		5		8						19
G	<i>Lunella granulata</i>	4		10		22		12						6		4		2				60

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020	Sampling Zone TC1	Mid tidal level (1.5 m above C.D.)																				Sub-total
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Monodonta labio</i>	15		24		35		45		7		15		17		22		15		35		230
G	<i>Nerita squamulata</i>							1		3				4				4		6		18
G	<i>Nipponacmea concinna</i>	3		5		2		5		5		2		2								24
G	<i>Nodilittorina radiata</i>			4		12		10				6		4				8				44
G	<i>Patelloida pygmaea</i>	4																				4
P	<i>Nereididae spp.</i>									2										4		6
Po	<i>Lepidozона spp.</i>	1		12		2		2		2												19
Sp	<i>Sipunculus nudus</i>													1								1
																					<b>Total</b>	<b>1045</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan



**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC1	Low tidal level (0.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Bi	<i>Barbatia virescens</i>	2						3		2						7		5		14		33
Bi	<i>Brachidontes variabilis</i>															5				5		10
Bi	<i>Glauconome chinensis</i>	3		4		4		10		6				4		4				3		38
Bi	<i>Saccostrea cucullata</i>	26		36		18		24		30		22		21		30		25		35		267
Bi	<i>Xenostrobus atratus</i>			5										8		14		8		4		39
C	<i>Gaetice depressus</i>	2		2										2						1		7
C	<i>Metopograpsus latifrons</i>									1				1								2
G	<i>Batillaria multiformis</i>													18		7						25
G	<i>Chlorostoma argyrostomum</i>																	2				2
G	<i>Clithon retropictus</i>							2		1					3							6
G	<i>Lottia dorsuosa</i>													2								2
G	<i>Lottia luchuana</i>									4										3		7
G	<i>Lunella coronata</i>	2		10				7				4		5		1		9				38
G	<i>Lunella granulata</i>	7		4		7				9		9		4								40
G	<i>Monodonta labio</i>	28		22		50		30		54		30		10		22		30		22		298
G	<i>Nerita lineata</i>													1								1
G	<i>Nerita polita</i>					1				1		5								5		12
G	<i>Nerita squamulata</i>	2				2				2				1				4		2		13
G	<i>Nipponacmea concinna</i>					8		10		10						4		5		4		41

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020	Sampling Zone TC1	Low tidal level (0.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Nodilittorina radiata</i>			5		10		15		6		10		17		15		10		5		93
G	<i>Patelloida pygmaea</i>					4		2		5		4		2		2				2		21
P	<i>Nereididae spp.</i>											2		1				2		1		6
P	<i>Perinereis sp/</i>													1								1
P	<i>Sabellidae imbricatus</i>																1					1
Po	<i>Lepidozonia spp.</i>							7				1		1								9
Sp	<i>Siphonosoma sp.</i>													1			2		1			4
Sp	<i>Sipunculus nudus</i>	2		1								2								1		6
																					<b>Total</b>	<b>1022</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020		Sampling Zone TC2																				High tidal level (2.0 m above C.D.)	
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total	
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C		
Ba	<i>Balanus amphitrite</i>												2								2	4	
Bi	<i>Barbatia virescens</i>							4				8				14					5	31	
Bi	<i>Brachidontes variabilis</i>							2				4				6					2	14	
Bi	<i>Glauconome chinensis</i>															2						2	
Bi	<i>Saccostrea cucullata</i>	24		10		34		27				20				38		12		22	187		
Bi	<i>Xenostrobus atratus</i>							5				10				2					4	21	
C	<i>Gaetice depressus</i>											3		2				1				6	
C	<i>Metopograpsus latifrons</i>					1		3		1				1							4	10	
C	<i>Metopograpsus quadridentatus</i>			2						2												4	
C	<i>Pagurus dubius</i>													1							1	2	
C	<i>Parasesarma bidens</i>															1						1	
G	<i>Batillaria multiformis</i>	13		35		35		15		30		27		22		10		20		10	217		
G	<i>Batillaria zonalis</i>			10		15		8		8		10		6		2		6				65	
G	<i>Clithon retropictus</i>					2																2	
G	<i>Littoraria articulata</i>							1	3			1				2		3		1		11	
G	<i>Lottia dorsuosa</i>															1						1	
G	<i>Lunella coronata</i>							3				10				5					13	31	
G	<i>Lunella granulata</i>							6				4				12					5	27	

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020		Sampling Zone TC2		High tidal level (2.0 m above C.D.)																			
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total	
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C		
G	<i>Monodonta labio</i>	22						25				28				22		20				117	
G	<i>Nerita lineata</i>					5										2					16	23	
G	<i>Nerita squamulata</i>					10		3				4										17	
G	<i>Nipponacmea concinna</i>	2		1																		3	
G	<i>Nodilittorina radiata</i>	3														5		2			5	15	
G	<i>Patelloida pygmaea</i>			2		2						8				13					2	27	
G	<i>Pirenella asiatica</i>			6		5		5						4				4				24	
G	<i>Pirenella incisa</i>					5		2						7		8						22	
G	<i>Thais clavigera</i>															1					1	2	
Ne	<i>Nemertea sp.</i>					1														1	1	3	
Po	<i>Lepidozona sp.</i>													2								2	
Sp	<i>Siphonosoma spp.</i>			2				2								1					2	7	
Sp	<i>Sipunculus nudus</i>															1						1	
																					<b>Total</b>	<b>899</b>	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020		Sampling Zone TC2																				Mid tidal level (1.5 m above C.D.)	
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total	
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C		
Ba	<i>Balanus amphitrite</i>							2						2				1				5	
Bi	<i>Barbatia virescens</i>	5						4				2		4				5				20	
Bi	<i>Brachidontes variabilis</i>	4						4						5				2		2		17	
Bi	<i>Glauconome chinensis</i>	2						1				2										5	
Bi	<i>Saccostrea cucullata</i>	40			8			32		14		32		33				42		35		236	
Bi	<i>Xenostrobus atratus</i>	14								3		9		8				16		11		61	
C	<i>Gaetice depressus</i>	3																				3	
C	<i>Metopograpsus latifrons</i>			1																		1	
C	<i>Metopograpsus quadridentatus</i>													1								1	
C	<i>Pagurus dubius</i>																	2				2	
G	<i>Batillaria multiformis</i>	25		8		12		4		5				4		12		10		5		85	
G	<i>Batillaria zonalis</i>	8		26		40		15		30		20		25		32				15		211	
G	<i>Clithon faba</i>			3																		3	
G	<i>Clithon retropictus</i>													2				2		1		5	
G	<i>Littoraria articulata</i>													2				2				4	
G	<i>Lottia dorsuosa</i>			1										1				1				3	
G	<i>Lunella coronata</i>	2								2		2										6	
G	<i>Lunella granulata</i>	4								10		4										18	
G	<i>Monodonta labio</i>	16		15		7		25		23				15		10		22		10		143	



**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020		Sampling Zone TC2		Mid tidal level (1.5 m above C.D.)																				
				1		2		3		4		5		6		7		8		9		10		Sub-total
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Nerita squamulata</i>			4				2				2												8
G	<i>Nipponacmea concinna</i>			2						8		1		2										13
G	<i>Nodilittorina radiata</i>	2														4		1			2			9
G	<i>Patelloida pygmaea</i>	4		2						4		1										2		13
G	<i>Pirenella asiatica</i>			8		5								6		12					4			35
G	<i>Pirenella incisa</i>			4		5										1	10		1					21
Ne	<i>Nemertea spp.</i>							2		6				1										9
Pl	<i>Platyhelminthes</i>								1															1
Po	<i>Lepidozonia sp.</i>	2													2	1		1						6
Sp	<i>Siphonosoma sp.</i>					2						2		2										6
Sp	<i>Sipunculus nudus</i>					1																2	3	
																							<b>Total 953</b>	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete, P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC2	Low tidal level (0.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>	2		1												3		3				9
Bi	<i>Barbatia virescens</i>	4		3				10				4				5		2				28
Bi	<i>Brachidontes variabilis</i>	3		5								3										11
Bi	<i>Glauconome chinensis</i>			2						6						5		2				15
Bi	<i>Isognomon isognomum</i>	2		1																		3
Bi	<i>Saccostrea cucullata</i>	75		65		50		40		55		60		20		40		20				425
Bi	<i>Xenostrobus atratus</i>	10		15						15		15				5		3				63
C	<i>Gaetice depressus</i>													2				2				4
C	<i>Hemigrapsus penicillatus</i>			1																		1
C	<i>Metopograpsus latifrons</i>							1										1				2
C	<i>Metopograpsus quadridentatus</i>															3				2		5
C	<i>Pagurus dubius</i>							2										1				3
Cn	<i>Diadumene lineata</i>	2				2												1				5
G	<i>Batillaria multiformis</i>	4				3				4	2	2		40		5		20		30		110
G	<i>Batillaria zonalis</i>							3				5		5				12		8		33
G	<i>Clithon retropictus</i>	2				2				2												6
G	<i>Littoraria articulata</i>									2												2
G	<i>Lottia dorsuosa</i>							3										2				5
G	<i>Lunella coronata</i>					4		5		15				2		16		2		3		47

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020		Sampling Zone TC2																				Low tidal level (0.5 m above C.D.)	
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total	
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C		
G	<i>Lunella granulata</i>			2		5		6		10				3		10						36	
G	<i>Monodonta labio</i>	48		25		40		40		25		30		20		35		20				283	
G	<i>Nerita lineata</i>																			1		1	
G	<i>Nipponacmea concinna</i>			6				10		5								2				23	
G	<i>Nodilittorina radiata</i>	12		10		25		14		8		5				5		3				82	
G	<i>Patelloida pygmaea</i>					3								10								13	
G	<i>Pirenella incisa</i>					1																1	
P	<i>Sabellidae imbricatus</i>															1			1		2	4	
Pl	<i>Platyhelminthes</i>			1										4								5	
Sp	<i>Siphonosoma spp.</i>										5		2			2					1	10	
Sp	<i>Sipunculus nudus</i>	1																	1	2		4	
																					<b>Total</b>	<b>1239</b>	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC3	High tidal level (2.0 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Bi	<i>Barbatia virescens</i>					4		8		4		2				4		5		8		35
Bi	<i>Brachidontes variabilis</i>									2										2		4
Bi	<i>Glaucanome chinensis</i>											1								1		2
Bi	<i>Saccostrea cucullata</i>	7				22		50		48		26		19		35		35		40		282
Bi	<i>Xenostrobus atratus</i>					8		10				2		5				5				30
C	<i>Gaetice depressus</i>	1										1										2
C	<i>Hemigrapsus penicillatus</i>	1										1				1						3
C	<i>Metopograpsus latifrons</i>									1										3		4
C	<i>Pagurus dubius</i>			3												3		1				7
G	<i>Batillaria multiformis</i>	10		5								5		9		8				15		52
G	<i>Batillaria zonalis</i>			7		10						5		7		5		5		10		49
G	<i>Clithon faba</i>					17														4		21
G	<i>Clithon oualaniensis</i>											2						6				8
G	<i>Clithon retropictus</i>											4		2				2		1		9
G	<i>Littoraria articulata</i>											10		4				8				22
G	<i>Lottia dorsuosa</i>							2												2		4
G	<i>Lunella coronata</i>					7		7		7		5		5		15		2				48
G	<i>Lunella granulata</i>	3				4		7		10		3		5		10		4		5		51
G	<i>Monodonta labio</i>							12				15				22						49

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC3	High tidal level (2.0 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Nerita lineata</i>							8		22		5										35
G	<i>Nerita polita</i>																				2	2
G	<i>Nerita squamulata</i>												8	2				5				15
G	<i>Nipponacmea concinna</i>												1			4						5
G	<i>Nodilittorina radiata</i>							22						13		12		10				57
G	<i>Patelloida pygmaea</i>									14		7	2				2			1		26
G	<i>Pirenella asiatica</i>	7		5		5							7	7		5					5	41
G	<i>Pirenella incisa</i>			10		8										10						28
Sp	<i>Siphonosoma spp.</i>			3				7		1				2					1			14
Sp	<i>Sipunculus nudus</i>									1		5	1	2								9
																					<b>Total</b>	<b>914</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan



**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC3	Mid tidal level (1.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>			10						6		4		5								25
Bi	<i>Barbatia virescens</i>									7		6						10				23
Bi	<i>Brachidontes variabilis</i>											2						4		4		10
Bi	<i>Glaucanome chinensis</i>	4								4												8
Bi	<i>Saccostrea cucullata</i>	20		32						37		48		32				40		35		244
Bi	<i>Xenostrobus atratus</i>									8		5						5				18
C	<i>Gaetice depressus</i>			2										2				1		2		7
C	<i>Metopograpsus latifrons</i>			2														1				3
C	<i>Metopograpsus quadridentatus</i>															2		1				3
C	<i>Pagurus dubius</i>	1		8						2				1								12
G	<i>Batillaria multiformis</i>	8		16		20		15		20		13		10		17		12				131
G	<i>Batillaria zonalis</i>													12							17	29
G	<i>Clithon oualaniensis</i>											2								4		6
G	<i>Clithon retropictus</i>											2										2
G	<i>Littoraria articulata</i>											7		5				4		9		25
G	<i>Lunella coronata</i>									7		2						5				14
G	<i>Lunella granulata</i>									7		15						9				31
G	<i>Monodonta labio</i>	12		14		15		20		7		5		5		12		4		5		99
G	<i>Nerita polita</i>																	2				2

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone TC3	Mid tidal level (1.5 m above C.D.)																		Sub-total		
		1		2		3		4		5		6		7		8		9			10	
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Nipponacmea concinna</i>											2		8							8	18
G	<i>Nodilittorina radiata</i>											10		1							8	19
G	<i>Patelloida pygmaea</i>																				2	2
G	<i>Pirenella asiatica</i>	10		10		12		12		5		6		8		5						68
G	<i>Pirenella incisa</i>	4		5		5		5		5						5						29
Pl	<i>Platyhelminthes</i>																				1	1
Po	<i>Lepidozona spp.</i>													1							2	3
Sp	<i>Siphonosoma sp.</i>													1		1					1	3
																					<b>Total</b>	<b>835</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020		Sampling Zone TC3																				
		Low tidal level (0.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>											3		2				4		2		11
Bi	<i>Barbatia virescens</i>	5										2		4		5						16
Bi	<i>Brachidontes variabilis</i>	4												5								9
Bi	<i>Saccostrea cucullata</i>	42					34		36		32		47		48		40		45		324	
C	<i>Gaetice depressus</i>													1			2		4		7	
C	<i>Metopograpsus latifrons</i>	2										2				2		2			8	
C	<i>Metopograpsus quadridentatus</i>	1					2													1	4	
C	<i>Pagurus dubius</i>			4			4							2							10	
G	<i>Batillaria multiformis</i>			4		16		10		5						4		6		10	55	
G	<i>Batillaria zonalis</i>	8		10				5		12		4				5		4		8	56	
G	<i>Clithon retropictus</i>											2									2	
G	<i>Littoraria articulata</i>											2									2	
G	<i>Lunella coronata</i>													7						8	15	
G	<i>Lunella granulata</i>													5		2		10		5	22	
G	<i>Monodonta labio</i>	7										18		15		15		10		4	69	
G	<i>Nerita polita</i>							12													12	
G	<i>Nerita squamulata</i>											4						2		1	7	
G	<i>Nipponacmea concinna</i>												1		8						9	
G	<i>Nodilittorina radiata</i>	10						8							1						19	

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020 Sampling Zone TC3		Low tidal level (0.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Pirenella asiatica</i>	10		6		5		8		10						6		8				53
G	<i>Pirenella incisa</i>									8						5		5			10	28
P	<i>Nereididae spp.</i>											2										2
P	<i>Sabellidae imbricatus</i>															1						1
Pl	<i>Platyhelminthes</i>												1									1
Sp	<i>Siphonosoma sp.</i>									2				4	1	1						8
<b>Total</b>																					<b>750</b>	

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone ST	High tidal level (2.0 m above C.D.)																				Sub-total
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>													2						1		3
Bi	<i>Barbatia virescens</i>			5				4				5										14
Bi	<i>Brachidontes variabilis</i>											4										4
Bi	<i>Glaucanome chinensis</i>									1				2								3
Bi	<i>Saccostrea cucullata</i>	25		27				32		31		22		29		32		42		39		279
Bi	<i>Xenostrobus atratus</i>											5				8		8				21
C	<i>Metopograpsus latifrons</i>																	1		1		2
C	<i>Pagurus dubius</i>	2								5										1		8
Cn	<i>Diadumene lineata</i>			1		3						1										5
G	<i>Batillaria multiformis</i>			18		6		18		15		14		18				15		13		117
G	<i>Batillaria zonalis</i>	9				14								12		5		5		5		50
G	<i>Cellana toreuma</i>	3																				3
G	<i>Clithon faba</i>	3		4				4						5				2		2		20
G	<i>Clithon oualaniense</i>	3				4						2		5								14
G	<i>Clithon retropictus</i>	2		7		4		8		4		5						5				35
G	<i>Clypeomorus moniliferum</i>													1				1				2
G	<i>Littoraria articulata</i>	10		4				9		12		5				5		2				47
G	<i>Lottia dorsuosa</i>																	1		4		5



**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone ST	High tidal level (2.0 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Lunella coronata</i>					10		5				4				3		8				30
G	<i>Lunella granulata</i>	7				18		10		17		5		4		5		11		5		82
G	<i>Monodonta labio</i>	10				12		24		8		12		12		8		7		8		101
G	<i>Nerita polita</i>	4		6		7		5										8				30
G	<i>Nerita squamulata</i>	3		2				2				3				3						13
G	<i>Nipponacmea concinna</i>	4						12		8		2								1		27
G	<i>Nodilittorina radiata</i>	3				5				6				4		5		10		5		38
G	<i>Patelloida pygmaea</i>					4		12		4		2				2		2				26
G	<i>Pirenella asiatica</i>	3								5				4		5				2		19
G	<i>Pirenella incisa</i>	3												2		6				4		15
P	<i>Sabellidae imbricatus</i>			1														1				2
Po	<i>Lepidozonia spp.</i>															1				1		2
Sp	<i>Siphonosoma spp.</i>									2		1					1	2				6
Sp	<i>Sipunculus nudus</i>											1				2						3
																					<b>Total</b>	<b>1026</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020	Sampling Zone ST	Mid tidal level (1.5 m above C.D.)																		Sub-total		
		1		2		3		4		5		6		7		8		9			10	
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>													1								1
Bi	<i>Barbatia virescens</i>	3								8						4		3		8		26
Bi	<i>Brachidontes variabilis</i>													2		2						4
Bi	<i>Glauconome chinensis</i>			2												2						4
Bi	<i>Isognomon isognomum</i>													1						1		2
Bi	<i>Saccostrea cucullata</i>	19		18		38				42		35		48		36		32		50		318
Bi	<i>Xenostrobus atratus</i>															4		2				6
C	<i>Gaetice depressus</i>													1				1		2		4
C	<i>Metopograpsus latifrons</i>											1										1
G	<i>Batillaria multiformis</i>	6		22		8		9		10		7		6		8		6		10		92
G	<i>Batillaria zonalis</i>																	15				15
G	<i>Clithon faba</i>			7								2										9
G	<i>Clithon oualaniense</i>			3																4		7
G	<i>Clithon retropictus</i>	13		5										2		4						24
G	<i>Littoraria articulata</i>					10						5						5		15		35
G	<i>Lottia dorsuosa</i>													2								2
G	<i>Lunella coronata</i>	10						1				5		10				8				34

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020	Sampling Zone ST	Mid tidal level (1.5 m above C.D.)																				Sub-total
		1		2		3		4		5		6		7		8		9		10		
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
G	<i>Lunella granulata</i>	8										5		13				2				28
G	<i>Monodonta labio</i>	15		10		25		7		15		19		20				5		17		133
G	<i>Nerita lineata</i>													1						1		2
G	<i>Nerita polita</i>			10				5								2		4				21
G	<i>Nerita squamulata</i>	4										2			4					5		15
G	<i>Nipponacmea concinna</i>									5												5
G	<i>Nodilittorina radiata</i>			14								10		15		6						45
G	<i>Patelloida pygmaea</i>									10												10
G	<i>Pirenella asiatica</i>	20				5		7		5		8				15		5	1	5		71
G	<i>Pirenella incisa</i>	8				6		6		5		4				5				5		39
Ne	<i>Nemertea spp.</i>													1								1
P	<i>Sabellidae imbricatus</i>	1														5						6
Po	<i>Lepidozona spp.</i>											1						1				2
Sp	<i>Siphonosoma spp.</i>													1	1		2				1	5

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020	Sampling Zone ST	Mid tidal level (1.5 m above C.D.)																				
Gp	Taxon	1		2		3		4		5		6		7		8		9		10		Sub-total
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Sp	<i>Sipunculus nudus</i>	4												1		2						7
																					<b>Total</b>	<b>974</b>

Key for faunal groups (Gp):

Ba: Barnacle, Bi: Bivalve, C: Crab, Cn: Cnidarin, Eh: Echiuran, F: Fish, G: Gastropod, Hc: Hermit crab, Ne: Nemertean, Ol: Oligochaete,

P: Polychaete, Pl: Platyhelminthes, Po: Polyplacophores, S: Shrimp, Sc: Scaphopods, Sp: Sipunculan

**Annex V (Cont'd) List of recorded fauna of intertidal soft shore community survey in every sampling zone**

Jun 2020	Sampling Zone ST	Low tidal level (0.5 m above C.D.)																				
		1		2		3		4		5		6		7		8		9		10		Sub-total
Gp	Taxon	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	
Ba	<i>Balanus amphitrite</i>			5						1										8	14	
Bi	<i>Anomalocardia squamosa</i>					1								1								2
Bi	<i>Barbatia virescens</i>			14		3		5		15		7			5		16					65
Bi	<i>Brachidontes variabilis</i>	10		4		2		2				5		2		4		2		2		33
Bi	<i>Glauconome chinensis</i>									2										3		5
Bi	<i>Saccostrea cucullata</i>	36		46		22		32		48		37		32		38		34		40		365
Bi	<i>Xenostrobus atratus</i>					4									5		8			5		22
C	<i>Gaetice depressus</i>	3										1										4
C	<i>Hemigrapsus penicillatus</i>			1								1		1								3
C	<i>Metopograpsus latifrons</i>	1								2										1		4
C	<i>Metopograpsus quadridentatus</i>	1		1				2				1										5
C	<i>Pagurus dubius</i>	1		2		1				2					2		2			5		15
G	<i>Batillaria multiformis</i>	20						8		4		4								5		41
G	<i>Batillaria zonalis</i>	16						10		15				2				15				58
G	<i>Chlorostoma argyrostomum</i>					3						1			4							8
G	<i>Clithon faba</i>									2				14						8		24
G	<i>Clithon retropictus</i>					4									5							9
G	<i>Lottia dorsuosa</i>					4		2				2		2						2		12

**Annex V (Cont'd)** List of recorded fauna of intertidal soft shore community survey in every sampling zone

Jun 2020		Low tidal level (0.5 m above C.D.)																			
Sampling Zone ST																					
Gp	Taxon	1	2	3	4	5	6	7	8	9	10	Sub-total									
		Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C	Q	C
G	<i>Lunella coronata</i>	14		5				5		8						6					38
G	<i>Lunella granulata</i>	5		10				7								15					37
G	<i>Monodonta labio</i>	22		30		23		20		18		28		22		17		22		26	228
G	<i>Nerita lineata</i>																				0
G	<i>Nerita squamulata</i>	2		3		1		4		3					1						14
G	<i>Nipponacmea concinna</i>	1						3					2							4	10
G	<i>Nodilittorina radiata</i>			15		15		14		5		10		18		7		8		15	107
G	<i>Patelloida pygmaea</i>	4						2		2											8
G	<i>Pirenella asiatica</i>	15		12		1		9		5					8						50
G	<i>Pirenella incisa</i>	15				5				5		1			5						31
Ne	<i>Nemertea spp.</i>			1				1									1				3
P	<i>Sabellidae imbricatus</i>	1												2							3
Po	<i>Lepidozona spp.</i>	1						2							1						4
Sp	<i>Siphonosoma spp.</i>			1									1	2		1	1			2	8
Sp	<i>Sipunculus nudus</i>			3								3					1			1	8
<b>Total</b>																					<b>1238</b>