Modeling Spatio-Temporal Variations in the Habitat Utilization of Swordtip Squid (*Uroteuthis Edulis*) in the East China Sea and Southern Yellow Sea

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Table S1 The number of survey stations with *Uroteuthis edulis* present (P) and absent (A) for each year ($Total_y$) and each season ($Total_s$).

Year	$Total_y$	Spring		Summer		Autumn		Winter	
		P	A	P	A	P	A	P	A
2016	556	42	113	63	107	41	100	21	69
2017	540	52	104	74	70	33	107	23	77
2018	520	26	99	66	95	45	97	33	59
$Total_s$		423		436		475		282	

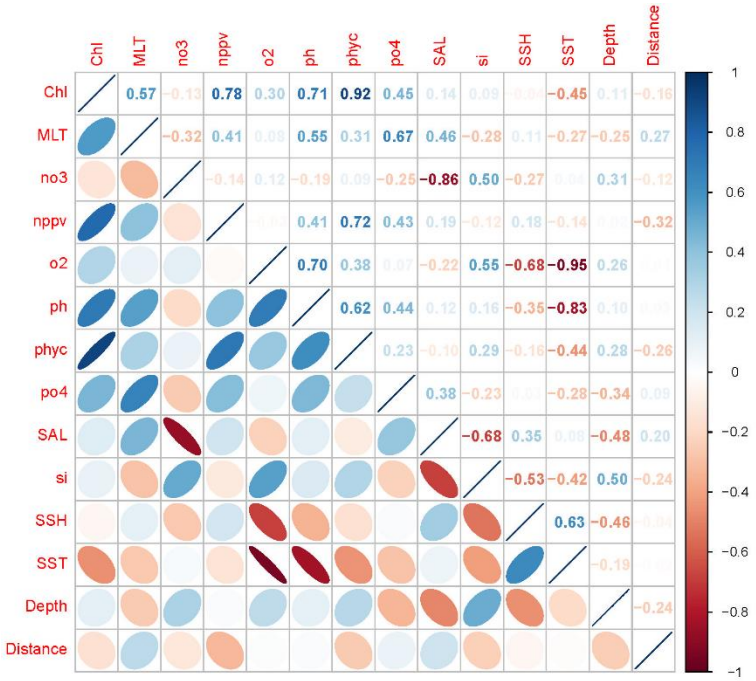


Figure S1 Pearson correlation coefficient among the fourteen environmental variables.

Table S2 Collinearity of the fourteen variables based on a calculation of the Variance Inflation Factor (VIF).

Environmental variable	**Code**	**Units**	**VIF**
Chlorophyll-a concentration	Chl	mg/m^3	27.22
Mixed layer thickness	MLT	m	4.20
Nitrate	no3	$mmol/m^3$	6.51
Total Primary Production of Phytoplankton	nppv	$mmol \times m^{-3}/d$	4.12
Oxygen concentration	O_2	$mmol/m^3$	32.97
pH	pH		8.30
Total Phytoplankton	phyc	$mmol/m^3$	21.22
Phosphate	po4	$mmol/m^3$	2.84
Sea surface salinity	SSS	psu	8.77
Dissolved Silicate	si	$mmol/m^3$	3.55
Sea surface height	SSH	m	3.01
Sea surface temperature	SST	℃	43.46
Depth	Depth	m	2.02
Distance to the coast	Distance	$\times 10^3$ km	1.54