

## Trophic plasticity in an obligate corallivorous butterflyfish

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The abundance of competitors for food resources differed between the two regions, with several species of obligate and facultative corallivores present within Tioman that were not present within Singapore. However, the average abundance of all potential competitors of *C. octofasciatus* within Tioman were all a magnitude lower in abundance than *C. octofasciatus* populations, and therefore were not likely to impact differences in prey preference or prey use between regions. *NB.* Within Singapore only one other species of butterflyfish (*Chelmon rostratus*) was identified in surveys undertaken by the primary author. This species primarily feeds on turfing algae, and does not utilise coral genera as a food source (pers obs).

Table S1. Average abundance per transect (+/- SE) of *C. octofasciatus*, compared with both obligate corallivores (most likely to compete for food resources with *C. octofasciatus*) and facultative corallivores (low likelihood of competing with *C. octofasciatus* for resources) within Tioman.

Functional coral feeding	Species	Average abundance (+/- SE)
	<i>Chaetodon octofasciatus</i>	2.6 +/- 0.3
Obligate corallivores	<i>Chaetodon baronessa</i>	0.3 +/- 0.1
	<i>Chaetodon plebeius</i>	0.1 +/- 0.1
	<i>Chaetodon trifasciatus</i>	0.1 +/- 0.1
Facultative corallivores	<i>Chaetodon adiergastos</i>	0.1 +/- 0.1
	<i>Chaetodon lineolatus</i>	0.2 +/- 0.1
	<i>Chaetodon oxycephalus</i>	0.3 +/- 0.3
	<i>Chaetodon speculum</i>	0.1 +/- 0.1
	<i>Heniochus varius</i>	0.2 +/- 0.2

Table S2. Comparisons among benthic assemblages between Singapore and Tioman, pooled for each location. Average percent cover ( $\pm$  SE), and individual and cumulative contribution ( $\delta\%$ ) of benthic categories to dissimilarity between Singapore and Tioman (from SIMPER) are given. Average dissimilarity = 38.48. Percent cover of benthos that contributed  $> 5\%$  to dissimilarity listed.

Benthic categories	% cover ( $\pm$ SE)		Contribution $\delta$ (%)	Cumulative $\delta$ (%)
	Singapore	Tioman		
Macroalgae	5.50 ( $\pm$ 0.79)	-	14.04	14.04
Rock	7.24 ( $\pm$ 0.83)	14.86 ( $\pm$ 1.87)	14.01	28.05
Rubble	11.37 ( $\pm$ 1.14)	10.73 ( $\pm$ 1.41)	9.93	37.98
Sand	3.80 ( $\pm$ 0.43)	0.70 ( $\pm$ 0.17)	8.14	46.11
Hard coral	25.02 ( $\pm$ 1.74)	26.11 ( $\pm$ 1.67)	7.68	53.79
Pavement	-	1.97 ( $\pm$ 0.50)	6.18	59.98
Turf algae	1.24 ( $\pm$ 0.24)	0.05 ( $\pm$ 0.03)	6.05	66.03
Sponge	2.15 ( $\pm$ 0.30)	0.42 ( $\pm$ 0.08)	5.72	71.75
Dead coral	1.83 ( $\pm$ 0.51)	0.92 ( $\pm$ 0.19)	5.41	77.15
Soft coral	0.37 ( $\pm$ 0.11)	1.83 ( $\pm$ 0.26)	5.33	82.48

Table S3. Comparisons among coral assemblages between Singapore and Tioman, pooled for each location. Mean percent cover ( $\pm$  SE), and individual and cumulative contribution ( $\delta\%$ ) to dissimilarity between Singapore and Tioman (from SIMPER) are given. Average dissimilarity = 64.17. Percent cover of coral genera that contributed  $> 3\%$  to dissimilarity listed.

Species	% cover ( $\pm$ SE)		Contribution $\delta$ (%)	Cumulative $\delta$ (%)
	Singapore	Tioman		
<i>Acropora</i>	0.15 ( $\pm$ 0.09)	10.86 ( $\pm$ 1.62)	10.6	10.6
<i>Merulina</i>	3.09 ( $\pm$ 0.40)	0.06 ( $\pm$ 0.04)	6.43	17.03
<i>Pectinia</i>	2.22 ( $\pm$ 0.29)	-	5.82	22.85
<i>Echinopora</i>	1.76 ( $\pm$ 0.30)	-	5.2	28.05
<i>Pachyseris</i>	1.74 ( $\pm$ 0.27)	-	5.12	33.17
<i>Goniopora</i>	2.76 ( $\pm$ 0.98)	0.09 ( $\pm$ 0.07)	4.22	37.39
<i>Montipora</i>	1.93 ( $\pm$ 0.53)	2.66 ( $\pm$ 0.58)	3.9	41.3
<i>Podabacia</i>	0.70 ( $\pm$ 0.13)	0.02 ( $\pm$ 0.02)	3.23	44.53
<i>Goniastrea</i>	0.22 ( $\pm$ 0.08)	1.63 ( $\pm$ 0.27)	3.13	47.66

Table S4. Comparison of feeding by *Chaetodon octofasciatus* in Singapore and Tioman. Average bites per 3-min<sup>-1</sup> ( $\pm$ SE) and the proportion of diet encompassed by coral genus are given.

Coral genus	Singapore	% composition bites	Tioman	% composition bites
<i>Acropora</i>	0.40 $\pm$ 0.24	4.85	6.14 $\pm$ 1.16	60.42
<i>Diploastrea</i>	0.03 $\pm$ 0.03	0.38	-	
<i>Dipsasatrea</i>	0.59 $\pm$ 0.47	7.14	0.40 $\pm$ 0.20	3.98
<i>Echinopora</i>	0.48 $\pm$ 0.26	5.77	-	
<i>Favites</i>	0.11 $\pm$ 0.05	1.31	0.67 $\pm$ 0.46	6.55
<i>Galaxea</i>	0.54 $\pm$ 0.34	6.54	0.48 $\pm$ 0.30	4.68
<i>Goniastrea</i>	0.72 $\pm$ 0.46	8.71	0.52 $\pm$ 0.34	5.15
<i>Goniopora</i>	0.32 $\pm$ 0.22	3.87	0.40 $\pm$ 0.40	3.98
<i>Hydnophora</i>	0.04 $\pm$ 0.03	0.44	-	
<i>Leptastrea</i>	0.04 $\pm$ 0.03	0.49	-	
<i>Lobophyllia</i>	0.16 $\pm$ 0.11	1.96	0.07 $\pm$ 0.07	0.7
<i>Merulina</i>	0.42 $\pm$ 0.16	5.12	-	
<i>Montipora</i>	1.55 $\pm$ 0.26	18.79	0.64 $\pm$ 0.28	6.32
<i>Oxypora</i>	0.10 $\pm$ 0.06	1.25	-	
<i>Pachyseris</i>	0.91 $\pm$ 0.40	10.95	-	
<i>Pavona</i>	0.38 $\pm$ 0.26	4.58	0.40 $\pm$ 0.32	3.98
<i>Pectinia</i>	0.54 $\pm$ 0.24	6.54	-	
<i>Platygyra</i>	0.23 $\pm$ 0.23	6.43	0.14 $\pm$ 0.14	1.4
<i>Pocillopora</i>	0.13 $\pm$ 0.06	1.58	0.02 $\pm$ 0.02	0.23
<i>Porites</i>	0.05 $\pm$ 0.04	0.65	0.21 $\pm$ 0.15	2.1
<i>Psammacora</i>	0.15 $\pm$ 0.09	1.85	0.05 $\pm$ 0.05	0.46
<i>Symphyllia</i>	0.004 $\pm$ 0.004	0.05	-	
<i>Turbinaria</i>	0.06 $\pm$ 0.06	0.76	-	