The following supplement accompanies the article

Influence of habitat condition and competition on foraging behaviour of parrotfishes

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Supplement. Fig. S1–S2: Plots of raw data used in analyses. Table S1: Influence of coral lifeform on inter-foray distance. Table S2: Models for short-term foraging range. Table S3: Influence of coral lifeform on shape of foraging range. Methods for estimating flight initiation distance

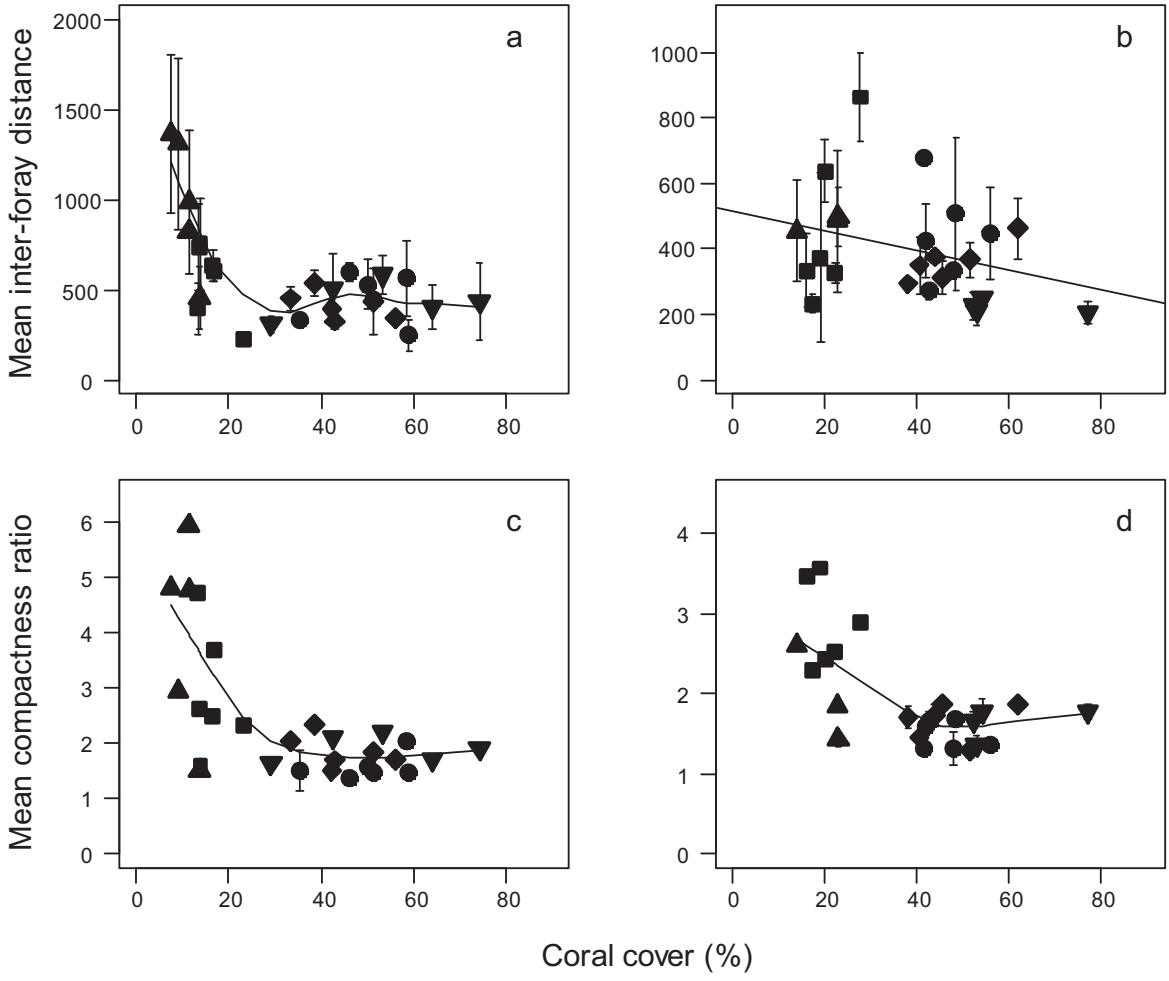

Fig. S1. *Scarus niger* and *S. frenatus*. Raw data used to produce generalised additive models. Relationship between coral cover (%) and inter-foray distance for (a) *S. niger* and (b) *S. frenatus*, and between coral cover and shape of foraging range (compactness ratio) for (c) *S. niger* and (d) *S. frenatus*. Solid curves represent linear and nonlinear relationships used in generalised additive mixed models and generalised linear mixed models. Error bars represent ±1 SE. Reef locations are distinguished as follows: ■ John Brewer; ◆, Rib; ▲, Trunk; ▼ Wheeler; ● Davies. Note different scales on the *y*-axes

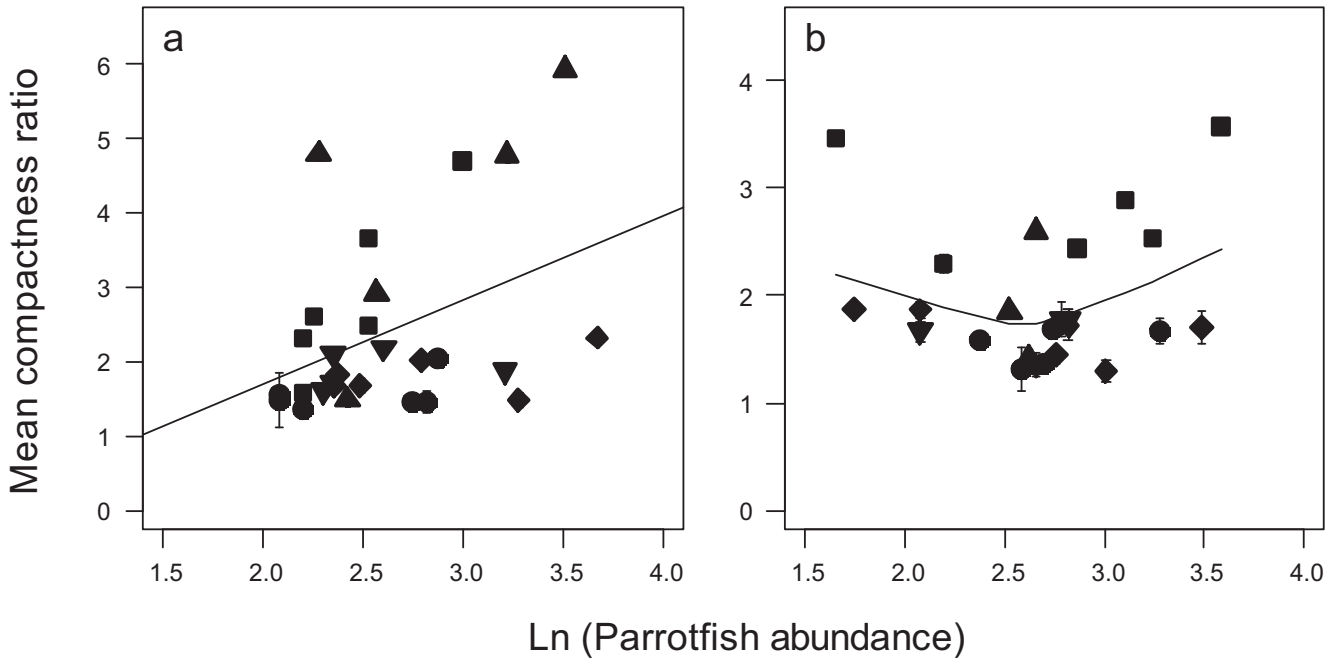

Fig. S2. *Scarus niger* and *S. frenatus*. Raw data used to produce generalised additive models. Relationship between ln(parrotfish abundance) and shape of foraging range (compactness ratio) for (a) *S. niger* and (b) *S. frenatus*. Solid curves represent linear and nonlinear relationships used in generalised additive mixed models and generalised linear mixed models. Error bars represent ±1 SE. Reef locations are distinguished as follows: ■ John Brewer; ◆, Rib; ▲, Trunk; ▼ Wheeler; ● Davies. Note different scales on the *y*-axes

Table S1. *Scarus niger* and *S. frenatus*. Lifeforms of coral driving coral cover as a predictor of inter-foray distance in optimal generalised additive mixed models and generalised linear mixed models. Significant predictors are in **bold**; alpha values were corrected for multiple comparisons ($\alpha = 0.002$)

Model *Scarus niger*	Adj. R^2
Branching & submassive coral cover	0.72
Massive & encrusting coral cover	0.12
Plate coral cover	0.07
Scarus frenatus	
Branching & submassive coral cover	0.07
Plate coral cover	0.03
Massive & encrusting coral cover	0.02

Table S2. *Scarus niger* and *S. frenatus*. Optimal models for predicting area of short-term foraging range. Models presented are those with lowest values of the Akaike Information Criterion corrected for small sample sizes (AICc) from generalised linear mixed models that evaluate the influence of reef, exposure, structural complexity, coral cover, epilithic algal matrix (EAM) cover, parrotfish abundance and large piscivore abundance. No predictors were significant ($\alpha = 0.01$). ΔAICc: change in AICc with respect to the top ranked model, *w*AICc: AICc weights

Model *Scarus niger*	AICc	ΔAICc	*w*AICc	Adj. R^2
ln(Parrotfish abundance)	741.13	0.00	0.67	0.17
ln(Parrotfish abundance), structural complexity	743.09	1.96	0.25	0.17
ln(Parrotfish abundance), structural complexity, exposure	745.92	4.78	0.06	0.15
Scarus frenatus				
ln(Parrotfish abundance)	648.69	0.00	0.72	0.03
ln(Parrotfish abundance), exposure	651.02	2.33	0.22	0.05
ln(Parrotfish abundance), exposure, structural complexity	653.94	5.25	0.05	0.15

Table S3. *Scarus niger* and *S. frenatus*. Lifeforms of coral driving coral cover as a predictor of shape of foraging range in optimal generalised additive mixed models and generalised linear mixed models. Significant predictors are in **bold**; alpha values were corrected for multiple comparisons ($\alpha = 0.002$)

Model *Scarus niger*	Adj. R^2
Branching & submassive coral cover, ln(Parrotfish abundance)	0.61
Massive & encrusting coral cover, ln(Parrotfish abundance)	0.45
Plate coral cover, ln(Parrotfish abundance)	0.36
Scarus frenatus	
Branching & submassive coral cover	0.48
Massive & encrusting coral cover	0.07
Plate coral cover	0.04

Estimation of flight initiation distance (FID)

FID was measured for at least 3 individuals of both target species prior to starting foraging range measurements. To estimate FID, individual fish that were feeding or moving slowly across the reef were approached along the bottom at a slow speed, perpendicular to their direction of travel. At the moment the fish fled from the diver (flight was defined an increase in speed or change in direction), a marker was dropped in line with the diver's head, and a second marker dropped at the location of the fish at the moment of flight (following Januchowski-Hartley et al. 2011). The distance between these 2 markers was measured.

Januchowski-Hartley FA, Graham NAJ, Feary DA, Morove T, Cinner JE (2011) Fear of fishers: Human predation explains behavioral changes in coral reef fishes. PLoS ONE 6:e22761