

## Effects of fisheries closure size, age, and history of compliance on coral reef fish communities in the western Indian Ocean

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Supplement: Effects of coral cover and rugosity, and geographical position, on fish variables

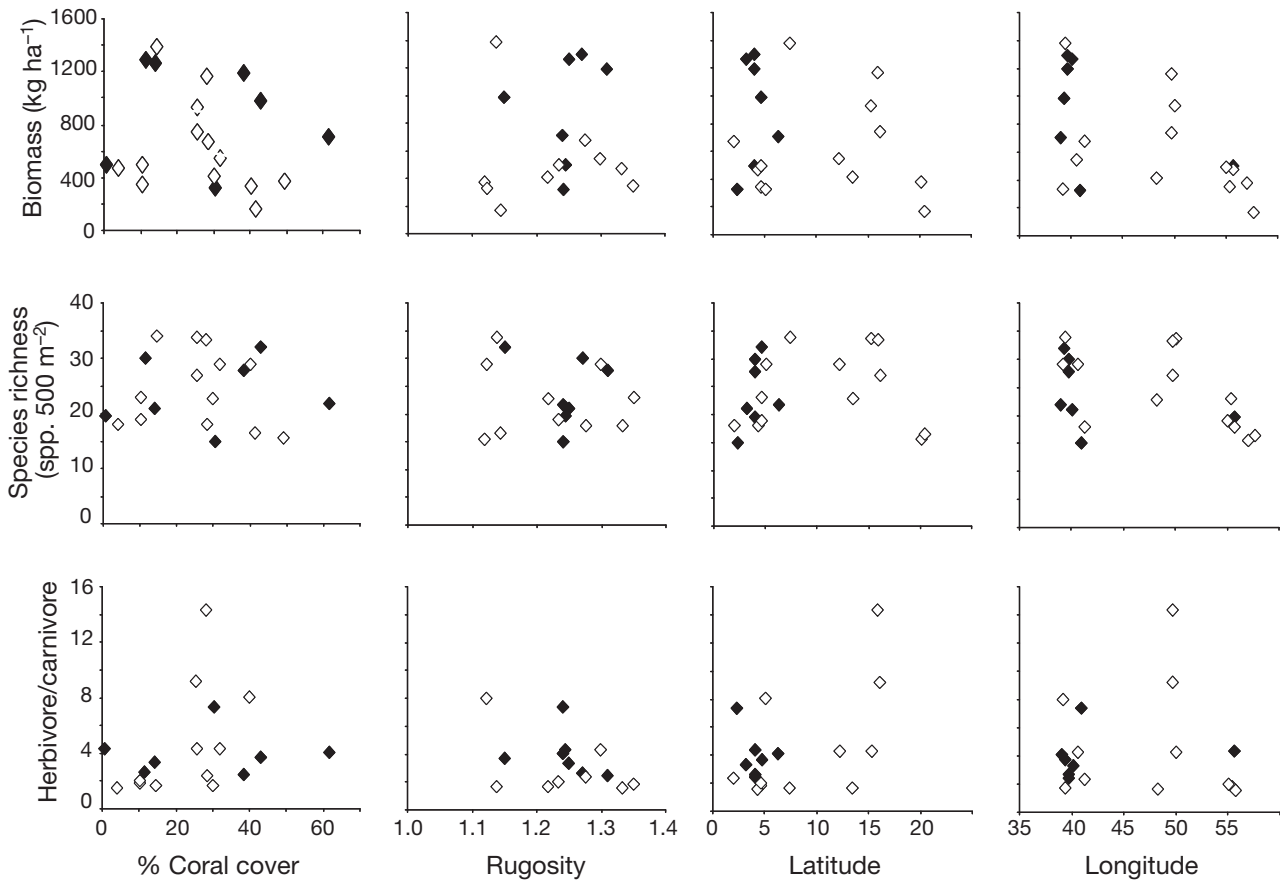


Fig. S1. Relationships between increasing coral cover, reef rugosity, latitude and longitude, and reef fish biomass, numbers of species, and ratio of herbivore to carnivore biomass in the western Indian Ocean. Filled symbols: sites with strong compliance; open symbols: sites with variable compliance. See Table 1 in main article for compliance definitions

Table S1. Influence of coral cover, rugosity, latitude, and longitude on fish biomass, numbers of species, and herbivore:carnivore biomass ratio. Presented are the R<sup>2</sup> measures and level of significance, where \*p < 0.10, \*\*p < 0.05 and \*\*\*p < 0.01, for linear, logarithmic (independent variable logged), power, and second-order polynomial relationships. Numbers in parentheses are Akaike information criterion (AIC) values. The most parsimonious models, based on comparison of AIC values of the statistically significant models, are highlighted

	n	Linear	Logarithmic	Power	Polynomial
<b>Fish biomass</b>					
% Coral					
All	20	0.02 (299.0)	0.01 (299.5)	0.01 (299.5)	0.01 (300.6)
Strong comp.	7	0.01 (108.3)	0.05 (108.0)	0.04 (108.0)	0.09 (109.7)
Variable comp.	13	0.08 (193.3)	0.01 (194.3)	0.01 (194.3)	0.30 (191.7)
Rugosity					
All	17	0.01 (256.4)	0.01 (256.3)	0.01 (256.4)	0.04 (257.7)
Strong comp.	7	0.05 (108.0)	0.04 (108.0)	0.06 (107.9)	0.29 (107.9)
Variable comp.	10	0.01 (149.3)	0.01 (149.3)	0.01 (139.4)	0.03 (151.2)
Latitude					
All	20	0.04 (298.7)	0.02 (299.1)	0.01 (299.2)	0.13 (298.8)
Strong comp.	7	0.01 (108.2)	0.06 (107.9)	0.04 (108.0)	0.38 (106.9)
Variable comp.	13	0.01 (194.4)	0.01 (194.4)	0.01 (194.4)	0.22 (193.3)
Longitude					
All	20	0.28 (292.8)**	0.28 (293.0)**	0.26 (293.4)**	0.32 (293.8)**
Strong comp.	7	0.23 (106.5)	0.24 (106.4)	0.26 (106.3)	0.30 (107.8)
Variable comp.	13	0.18 (191.8)	0.17 (192.0)	0.15 (192.3)	0.32 (191.3)
<b>No. fish species</b>					
% Coral					
All	20	0.01 (136.3)	0.01 (135.8)	0.01 (135.8)	0.01 (136.0)
Strong comp.	7	0.02 (50.1)	0.07 (49.8)	0.06 (49.8)	0.06 (51.8)
Variable comp.	13	0.01 (91.7)	0.01 (91.7)	0.01 (91.7)	0.40 (87.3)*
Rugosity					
All	17	0.01 (114.3)	0.02 (114.2)	0.02 (114.2)	0.04 (115.9)
Strong comp.	7	0.04 (50.0)	0.04 (50.0)	0.06 (49.8)	0.59 (46.0)
Variable comp.	10	0.02 (69.8)	0.02 (69.8)	0.02 (69.8)	0.02 (71.8)
Latitude					
All	20	0.01 (136.2)	0.06 (135.1)	0.05 (135.3)	0.48 (125.3)***
Strong comp.	7	0.16 (49.0)	0.27 (48.1)	0.23 (48.4)	0.64 (45.1)
Variable comp.	13	0.01 (91.8)	0.05 (91.2)	0.04 (91.3)	0.60 (81.9)***
Longitude					
All	20	0.19 (132.2)*	0.18 (132.5)*	0.17 (132.6)*	0.31 (130.8)**
Strong comp.	7	0.13 (49.3)	0.14 (49.2)	0.14 (49.1)	0.45 (48.1)
Variable comp.	13	0.34 (86.6)**	0.31 (87.0)**	0.29 (87.4)*	0.49 (85.1)**
<b>Ratio of herbivore:carnivore biomass</b>					
% Coral					
All	18	0.07 (98.4)	0.06 (98.6)	0.08 (98.3)	0.14 (98.9)
Strong comp.	7	0.01 (31.6)	0.01 (31.7)	0.01 (31.7)	0.01 (33.6)
Variable comp.	11	0.25 (64.3)	0.24 (64.6)	0.26 (64.3)	0.26 (66.3)
Rugosity					
All	15	0.16 (65.5)	0.16 (65.5)	0.16 (65.5)	0.16 (67.5)
Strong comp.	7	0.06 (31.2)	0.06 (31.3)	0.05 (31.3)	0.33 (30.9)
Variable comp.	8	0.23 (38.5)	0.23 (38.4)	0.29 (37.8)	0.33 (39.3)
Latitude					
All	18	0.24 (94.7)**	0.16 (96.6)	0.20 (95.6)*	0.42 (91.8)**
Strong comp.	7	0.19 (30.2)	0.33 (28.9)	0.47 (27.3)*	0.73 (24.5)*
Variable comp.	11	0.32 (63.3)*	0.25 (64.4)	0.32 (63.4)*	0.44 (63.1)*
Longitude					
All	18	0.01 (99.7)	0.01 (99.7)	0.01 (99.7)	0.01 (97.2)
Strong comp.	7	0.02 (31.5)	0.03 (31.5)	0.03 (31.5)	0.40 (30.1)
Variable comp.	11	0.01 (67.5)	0.01 (67.5)	0.01 (67.5)	0.23 (66.7)