Benthic Crustacea on coral reefs: a quantitative survey

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Supplement. Additional tables and figures providing further detail on the abundance, biomass, productivity and community assemblages of Crustacea in the 5 coral reef microhabitats investigated in the present study

Table S1. (a) Mean (and 95% CI) microhabitat cover, and mean (and SE) overall crustacean abundance, biomass and productivity in 5 major microhabitats investigated. (b) Mean (and SE) abundance of individual crustacean and other taxa in the 5 microhabitats. AFDW: ash-free dry weight; EAM: epilithic algal matrix

(a)

Microhabitat	Microhabitat cover (m^2)	Abundance (ind. 100 cm^{-2})	Biomass (µg 100 cm^{-2})	Productivity (g AFDW 100 cm^{-2} yr^{-1})
Dead coral	0.0589 (0.0115)	7838 (662)	750319 (130756)	0.165 (0.043)
Coral rubble	0.339 (0.0594)	6797 (448)	218783 (33608)	0.62 (0.015)
Sand	0.0322 (0.0124)	2667 (267)	22022 (7726)	0.021 (0.012)
EAM	0.273 (0.0607)	1964 (255)	4978 (633)	0.003 (0.0007)
Fine-branching coral	0.101 (0.022)	6 (1)	236458 (34434)	0.66 (0.014)

(b)

Taxon	Dead coral	Coral rubble	Sand	EAM	Fine-branching coral
Crustaceans					
Harpacticoida	6487 (621)	5799 (450)	2543 (263)	1854 (246)	4 (1)
Amphipoda	364 (68)	149 (15)	9 (4)	4 (1)	0 (0)
Tanaidacea	80 (364)	40 (149)	14 (9)	3 (4)	1 (0)
Isopoda	213 (30)	158 (24)	0 (0)	2 (1)	0 (0)
Ostracoda	479 (53)	472 (52)	106 (27)	84 (24)	0 (0)
Cumacea	20 (5)	39 (6)	1 (1)	1 (0)	0 (0)
Cyclopoida	59 (10)	95 (15)	0 (0)	17 (3)	0 (0)
Decapoda	14 (3)	8 (2)	1 (0)	1 (0)	2 (0)
Other					
Gastropoda	53 (7)	63 (8)	113 (39)	7 (1)	0 (0)
Chaetognatha	13 (5)	48 (8)	0 (0)	1 (1)	0 (0)
Ophiuroida	2 (1)	2 (1)	0 (0)	0 (0)	0 (0)
Pycnogonida	2 (1)	1 (1)	0 (0)	0 (0)	0 (0)
Chironomida	27 (6)	15 (3)	0 (0)	1 (1)	0 (0)
Echinoida	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Polychaeta	428 (73)	351 (22)	251 (34)	42 (8)	0 (0)

Table S2. Mean (and SE) volume and mass used in the calculation of biomass estimates for individual organisms of each crustacean taxon. Estimates are derived from length, width and height of individuals of each taxon (measured in 25 µm increments) and similarity to known geometric shapes

| Taxon	Relative shape	Volume (mm^3)	Mass (µg)
Harpacticoida	Cylinder	0.00381 (0.0000883)	2.37 (0.0549)
Amphipoda	Cylinder	0.348 (0.0804)	216.29 (49.97)
Tanaidacea	Cylinder	0.0456 (0.00801)	28.36 (4.982)
Isopoda	Cuboid	0.0306 (0.00305)	19.03 (1.897)
Ostracoda	Cuboid	0.00152 (0.000139)	0.94 (0.086)
Cumacea	Cone	0.0527 (0.00882)	32.8 (5.489)
Cyclopoida	Cone	0.00127 (0.0000597)	0.79 (0.0371)
Decapoda (Rubble)	Cylinder/Cuboid	35.061 (6.759)	21807.616 (4204.088)
Decapoda (Dead coral)	Cylinder/Cuboid	75.094 (20.734)	46707.542 (12896.182)
Decapoda (Branching coral)	Cylinder/Cuboid	245.817 (33.666)	152895.397 (20939.836)
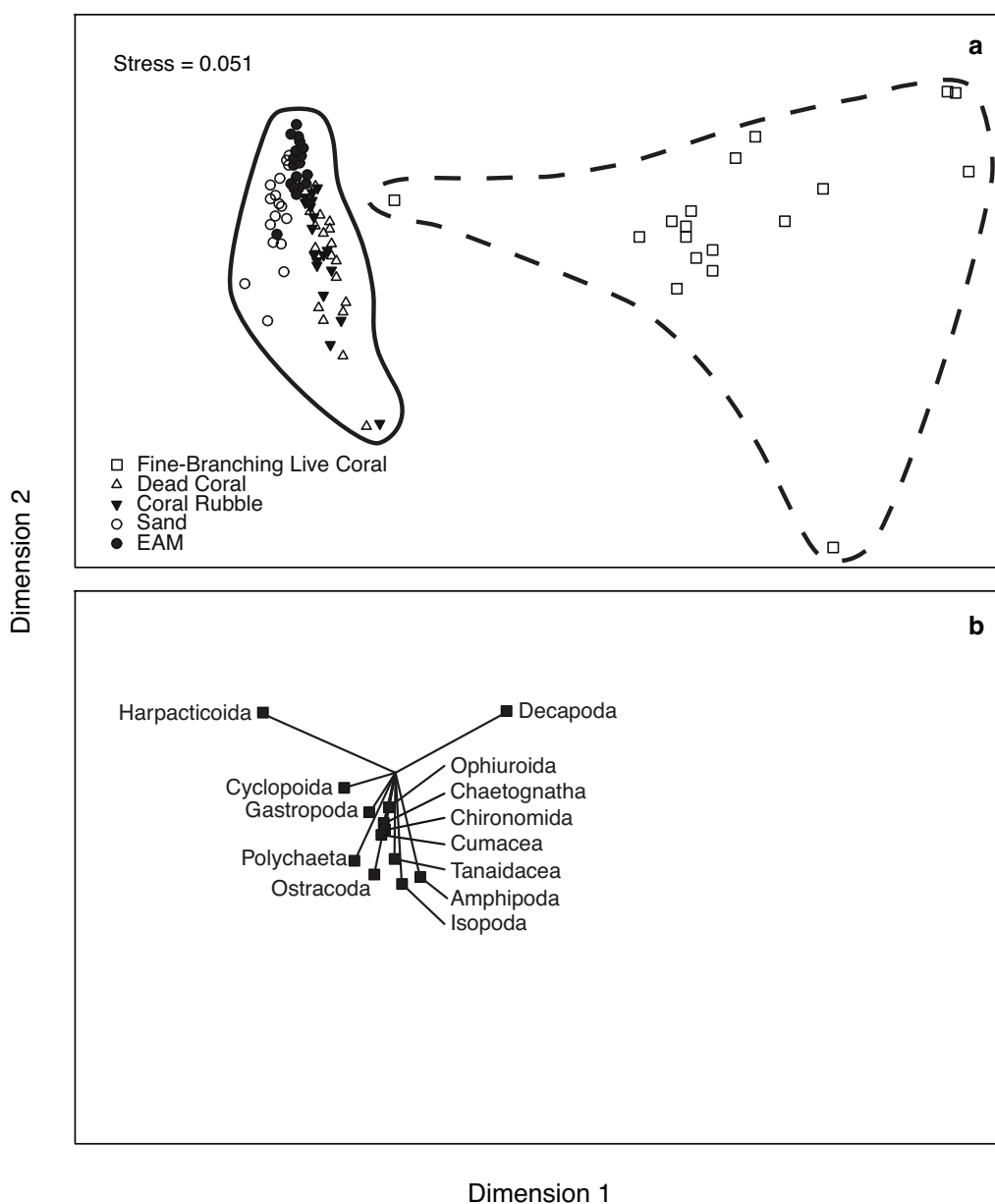
Fig. S1. Assemblage structures: all taxa within all habitats, including fine-branching live coral. (a) Non-metric multidimensional scaling of the proportional abundance of major invertebrate taxa from fine-branching live coral, dead coral, rubble, sand and epilithic algal matrix (EAM) habitats. (b) The relative contribution of each taxon to the variation in habitat groupings is represented by the vector points. Points indicate the direction of change and strength (correlation) of taxa to each habitat
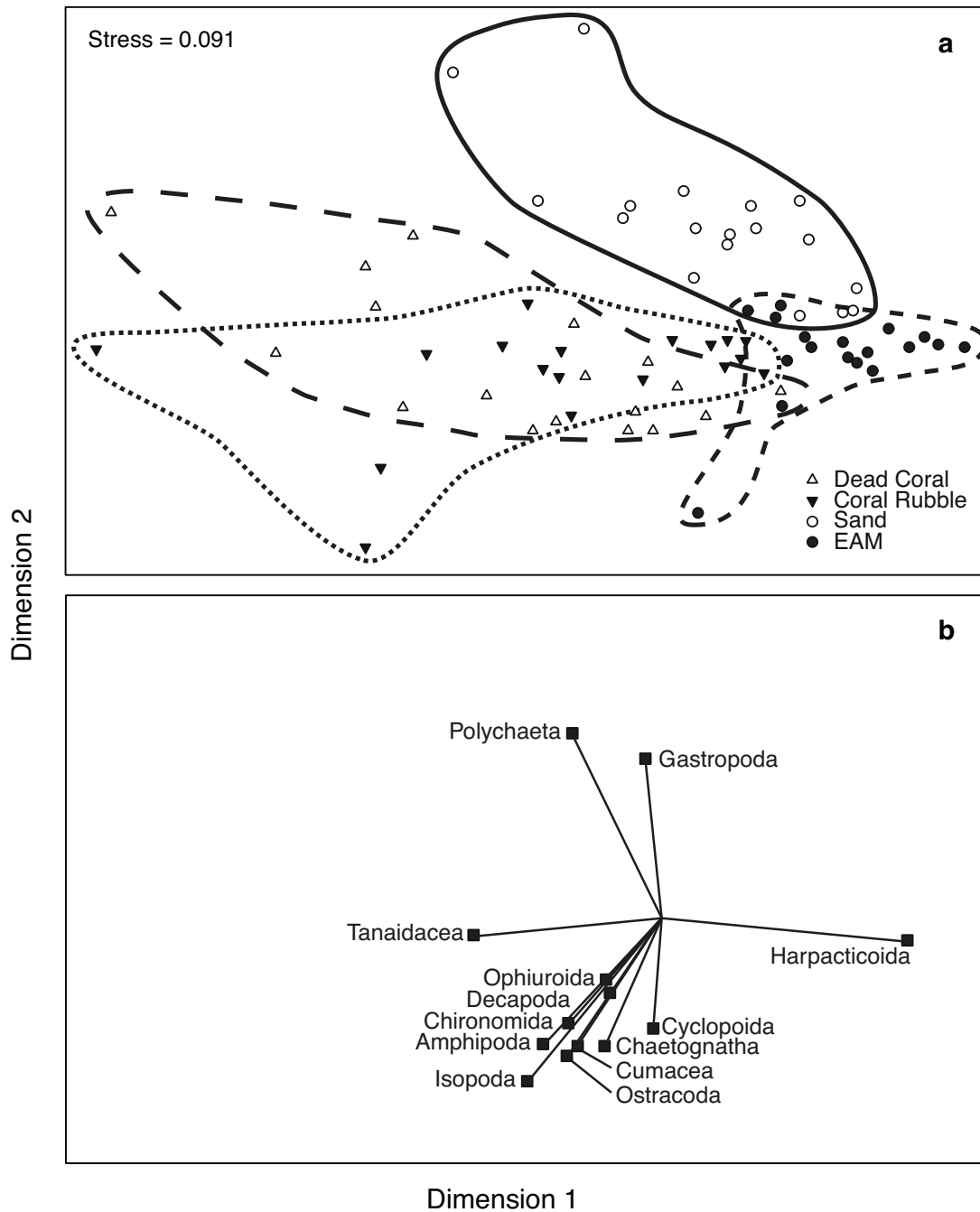
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Fig. S2. Assemblage structures: all taxa within all habitats, excluding fine-branching live coral. (a) Non-metric multidimensional scaling of the proportional abundance of major invertebrate taxa from dead coral, rubble, sand and epilithic algal matrix (EAM) habitats. (b) The relative contribution of each taxon to the variation in habitat groupings is represented by the vector points. Points indicate the direction of change and strength (correlation) of taxa to each habitat
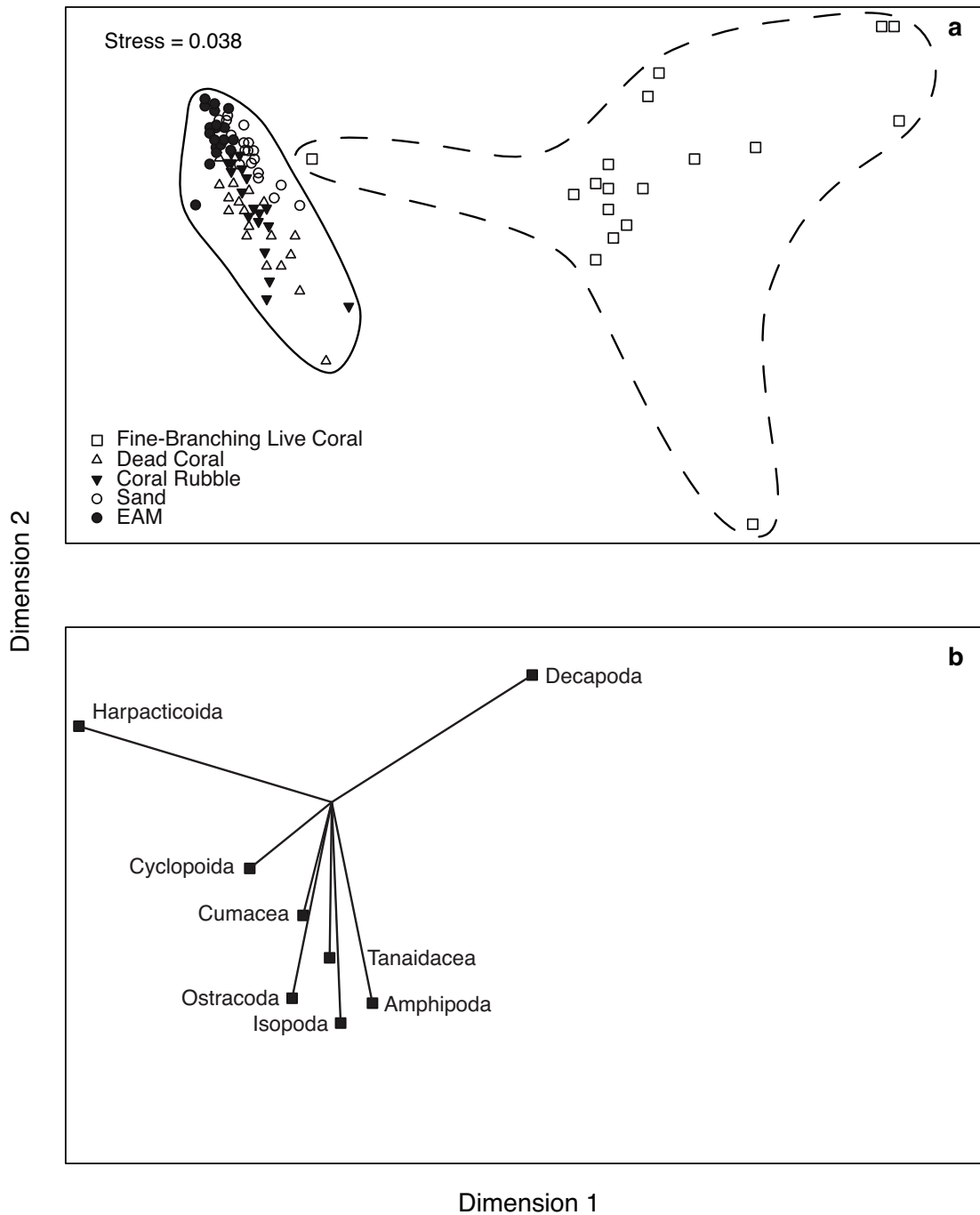
Fig. S3. Assemblage structures: all Crustacea within all habitats (including fine-branching live coral). (a) Non-metric multidimensional scaling of the proportional abundance of crustacean taxa from fine-branching live coral, dead coral, rubble, sand and epilithic algal matrix (EAM) habitats. (b) The relative contribution of each taxon to the variation in habitat groupings is represented by the vector points. Points indicate the direction of change and strength (correlation) of taxa to each habitat
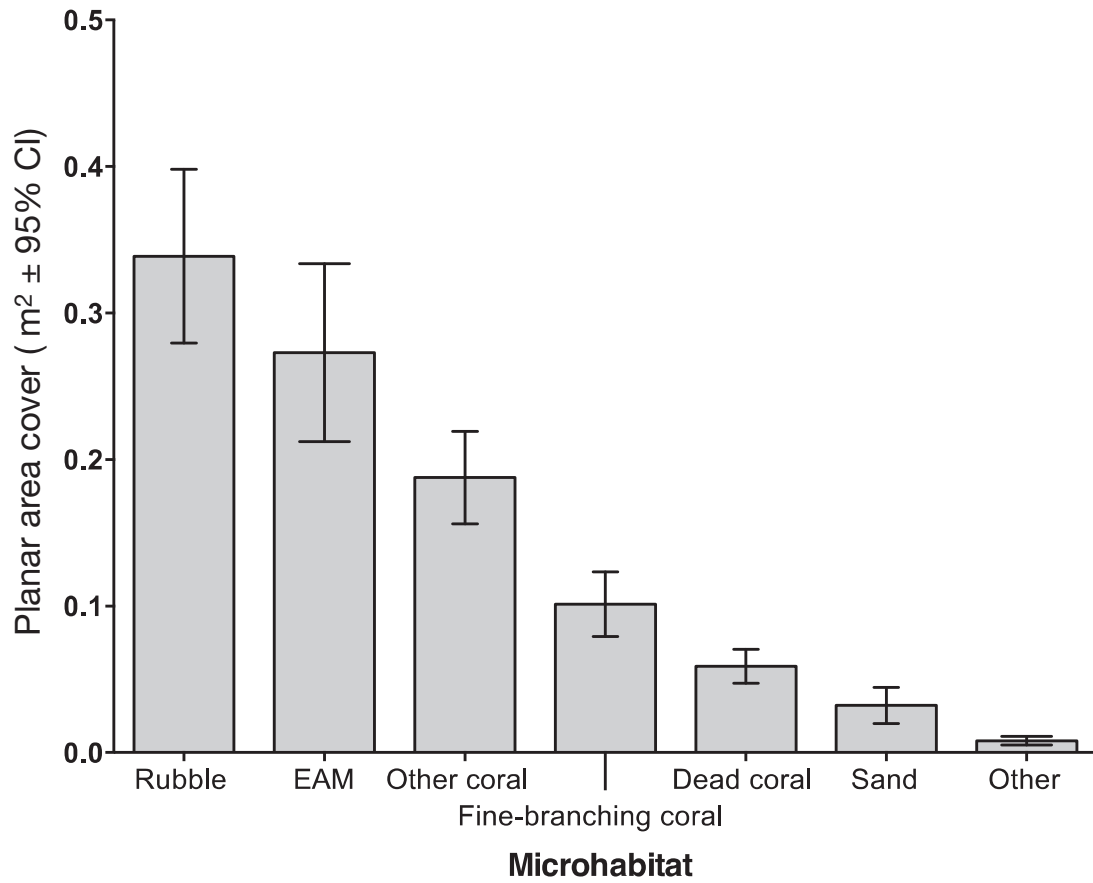
Fig. S4. Planar area ($m^2 \pm 95\%$ CI) of each microhabitat in a typical square metre of fringing coral reef at Lizard Island