

Intrapopulation variation in habitat use by two abundant coastal fish species

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Supplement. Provides additional information on (1) the individual fishes sampled (Table S1), (2) the proportion of diverse habitat types in the seven creek zones (Fig. S1), and (3) the Bootstrap Monte Carlo procedure (Text S1)

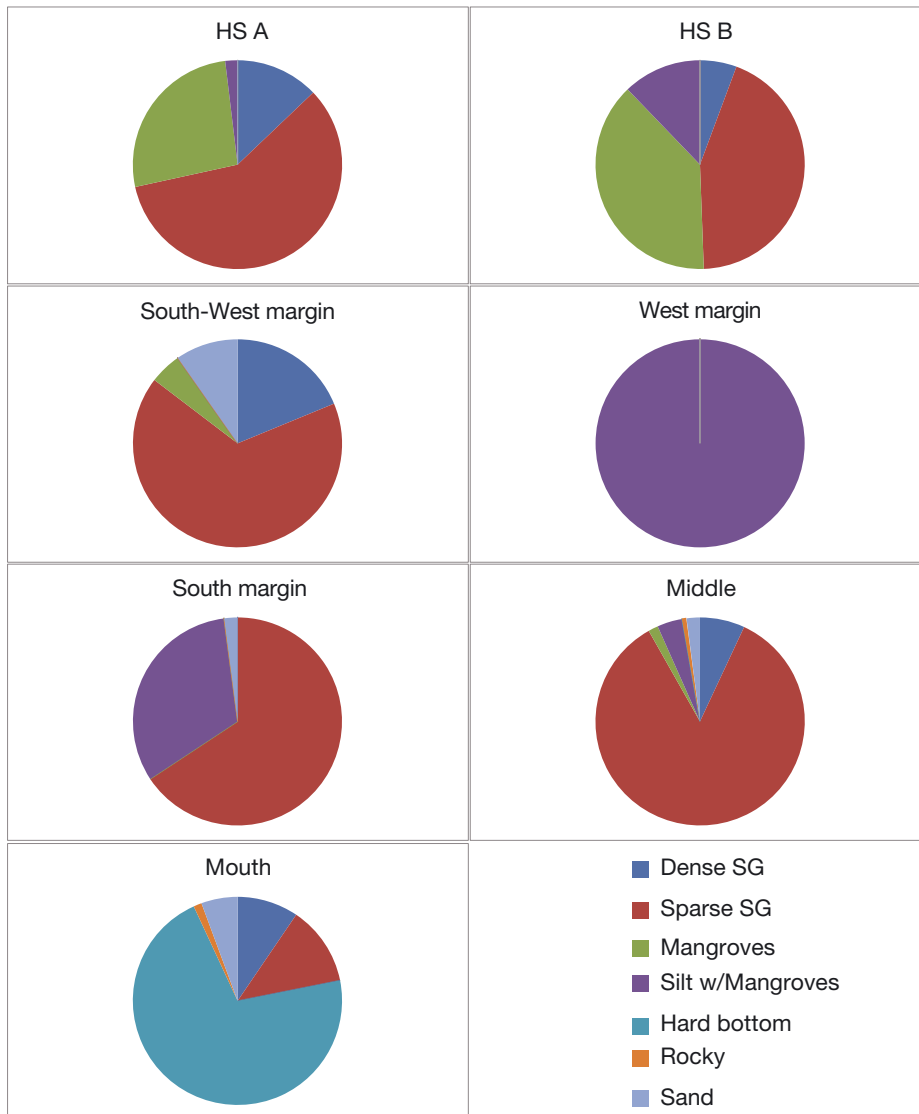
Table S1. Characteristics of 20 gray snapper (GS) and 20 schoolmaster snapper (SM) implanted with acoustic tags in April 2009. Individuals that were tagged at the southwest margin (SW mar) were not included in the analysis since these individuals had <10 observation points (see text for details). Number of detections from mobile receiver (MR) and stationary receiver (SR) and number of total distance moved per tidal cycle (D) are included (see text for details)

#	ID	Species	SL (mm)	Tagging date	Caught at	MR	SR	D
1	57223	GS	161	4/22/2009	HS B	12	49	10
2	57224	GS	184	4/22/2009	HS B	8	56	4
3	57225	GS	126	4/23/2009	HS B	15	26	15
4	57228	GS	147	4/28/2009	HS B	0	7	0
5	57229	GS	143	4/23/2009	HS B	11	53	10
6	57230	GS	111	4/23/2009	HS B	11	46	14
7	57237	GS	185	4/26/2009	SW mar	1	0	1
8	57238	GS	134	4/23/2009	HS B	26	36	30
9	57241	GS	150	4/23/2009	HS B	4	14	9
10	57242	GS	139	4/28/2009	SW mar	3	4	0
11	57245	GS	158	4/22/2009	HS A	19	45	23
12	57249	GS	153	4/28/2009	SW mar	1	0	0
13	57250	GS	276	4/28/2009	SW mar	7	0	0
14	58468	GS	162	4/22/2009	HS A	25	42	28
15	58470	GS	187	4/21/2009	HS A	5	91	4
16	58471	GS	194	4/21/2009	HS A	2	62	1
17	58472	GS	166	4/21/2009	HS A	0	18	0
18	58473	GS	118	4/20/2009	HS A	0	0	0
19	58474	GS	212	4/20/2009	HS A	22	26	28
20	58475	GS	264	4/20/2009	HS A	3	80	10

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#	ID	Species	SL (mm)	Tagging date	Caught at	MR	SR	D
1	57221	SM	162	4/23/2009	HS B	12	48	11
2	57222	SM	160	4/23/2009	HS B	7	48	9
3	57226	SM	131	4/22/2009	HS A	4	102	17
4	57227	SM	126	4/22/2009	HS A	4	110	7
5	57231	SM	140	4/23/2009	HS B	2	53	0
6	57232	SM	110	4/26/2009	HS B	0	0	0
7	57233	SM	129	4/23/2009	HS B	2	52	0
8	57234	SM	141	4/23/2009	HS B	10	11	10
9	57235	SM	139	4/28/2009	HS B	22	0	0
10	57236	SM	158	4/28/2009	HS B	2	15	3
11	57239	SM	134	4/23/2009	HS B	30	9	31
12	57240	SM	128	4/23/2009	HS B	0	0	0
13	57243	SM	136	4/28/2009	HS B	2	0	0
14	57244	SM	120	4/26/2009	SW mar	2	2	0
15	57246	SM	146	4/22/2009	HS A	5	29	1
16	57247	SM	140	4/22/2009	HS A	9	64	23
17	57248	SM	166	4/22/2009	HS A	3	27	9
18	58466	SM	147	4/22/2009	HS A	8	100	9
19	58467	SM	180	4/22/2009	HS A	2	32	5
20	58469	SM	272	4/22/2009	HS B	8	161	46

Fig. S1. Proportions of habitat types in each zone. HS: home site; SG: seagrass



Text S1. Additional information on the Bootstrap Monte Carlo procedure

We used a program called IndSpec1 (Bolnick et al. 2002) which performs a nonparametric Bootstrap Monte Carlo simulation. After calculating the measure of specialization, WIC/TNW, the program runs bootstrap resamplings to estimate the probability of the observed WIC/TNW. Once the desired number of resampled populations is entered, the program constructs a population with a number of individuals that equal the actual sample from the study population, and assigns each individual a 'diet' sample size (D_i) equal to the number of prey items (in our case, number of 'detections' in each zone; this is actually the number of tidal cycles for each zone, since only the presence of 1 fish tidal cycle⁻¹ was taken into account) that was actually observed for that individual. The program then generates random numbers that assigns D_i 'diet' items to individual i . Each item assigned has probability q_j of falling into resource category j (in our case, zone j), where q_j is the observed population 'diet' (in our case, zone) proportion. Hence, the resampled population yields a null model corresponding to a population composed of generalists that sample randomly from the population's zone use, and have detection numbers in zones equal to those of the observed data set. The program measures WIC/TNW on each resampled population, and reports the proportion of the resampled populations that had WIC/TNW values that were less than the observed WIC/TNW. This corresponds to a nonparametric p-value for the observed WIC/TNW value (D. Bolnick, Instruction Manual for IndSpec 4.0,

<https://webspace.utexas.edu/dib73/TheBolnickLab/Programs/Programs.html>).