

ADDENDUM TO "METHODS USED TO IDENTIFY PELAGIC JUVENILE ROCKFISH
(GENUS SEBASTES) OCCURRING ALONG THE COAST OF CENTRAL CALIFORNIA"

Identification of the Black Dorsal Spot Group

K. Sakuma (Tiburon Laboratory, pers. comm.) has recently examined the morphometric data and pigmentation of the black dorsal spot group of pelagic juvenile rockfish (widow, S. entomelas; yellowtail, S. flavidus; black, S. melanops; and blue rockfish, S. mystinus) to improve identification. These results indicate that blue and widow rockfish are easily identified, but identification between black and yellowtail rockfish is difficult because of overlap of the two species' meristics. Large (>35 mm) black and yellowtail rockfish are correctly identified with a high degree of confidence, because black rockfish have a slight greenish tinge and more uniform coloration. Both black and yellowtail rockfish typically have 8 anal fin rays (Table 1 and 2), rather than black rockfish having 9 and yellowtail rockfish having 8 anal rays as reported by Moreland and Reilly in this volume. Weakly developed preocular spines are found on all four species of juvenile rockfish (Table 3), rather than on just blue and widow rockfish. It appears that head spine development continues through the pelagic juvenile stage at least until settlement. Finally, widow rockfish is the only species of the four that does not develop a distinct dorsal spot, and black and yellowtail rockfish have melanophores at the articulation of the anal fin (Table 4).

Table 1. Meristic counts for the black dorsal spot group
(numbers represent number of individuals)

Species	Dorsal Rays					Anal Rays			Pectoral Rays		
	14	15	16	17	18	7	8	9	17	18	19
<u>S. entomelas</u>	22	207	6			8	227		5	228	2
<u>S. flavidus</u>	83	120	1			24	180		30	174	
<u>S. melanops</u>	14	27	4			5	39	1		1	44
<u>S. mystinus</u>		1	19	1	1			22	1	21	

Table 2. Meristic counts for the black dorsal spot group
(numbers represent percentages)

Species	Dorsal Rays					Anal Rays			Pectoral Rays		
	14	15	16	17	18	7	8	9	17	18	19
<u>S. entomelas</u>	9	88	3			3	97		2	97	1
<u>S. flavidus</u>	40	59	1			12	88		15	85	
<u>S. melanops</u>	31	60	9			11	87	2		2	98
<u>S. mystinus</u>		5	86	5	4			100	5	95	

Table 3. Occurrence of preocular spines in the black dorsal spot group (1=weakly developed, 2=strongly developed, small individuals were \leq 35 mm SL, large individuals were $>$ 35 mm SL).

Species	size	Number of individuals		Percentage	
		1	2	1	2
<u>S. entomelas</u>	small	87	9	91	9
	large		139		100
<u>S. flavidus</u>	small	73		100	
	large	131		100	
<u>S. melanops</u>	small	17		100	
	large	28		100	
<u>S. mystinus</u>	small	4	2	67	33
	large		16		100

Table 4. Occurrence of anal fin ray articulation pigment in the black dorsal spot group (0=absent, 1=present on 3 or less rays, 2=present on 4 or more rays, small individuals were \leq 35 mm SL, large individuals were $>$ 35 mm SL)

Species	size	Number of individuals			Percentage		
		0	1	2	0	1	2
<u>S. entomelas</u>	small	96			100		
	large	128	1	10	92	1	7
<u>S. flavidus</u>	small			73			100
	large			131			100
<u>S. melanops</u>	small			17			100
	large			28			100
<u>S. mystinus</u>	small	4	2		67	33	
	large			16			100

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Edited by

Thomas E. Laidig
and
Peter B. Adams

National Marine Fisheries Service, NOAA
Southwest Fisheries Science Center
Tiburon Laboratory
3150 Paradise Drive
Tiburon, CA 94920

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