

A survey of Reef Fishes along the south-east and southern coasts of the Baja California Peninsular.

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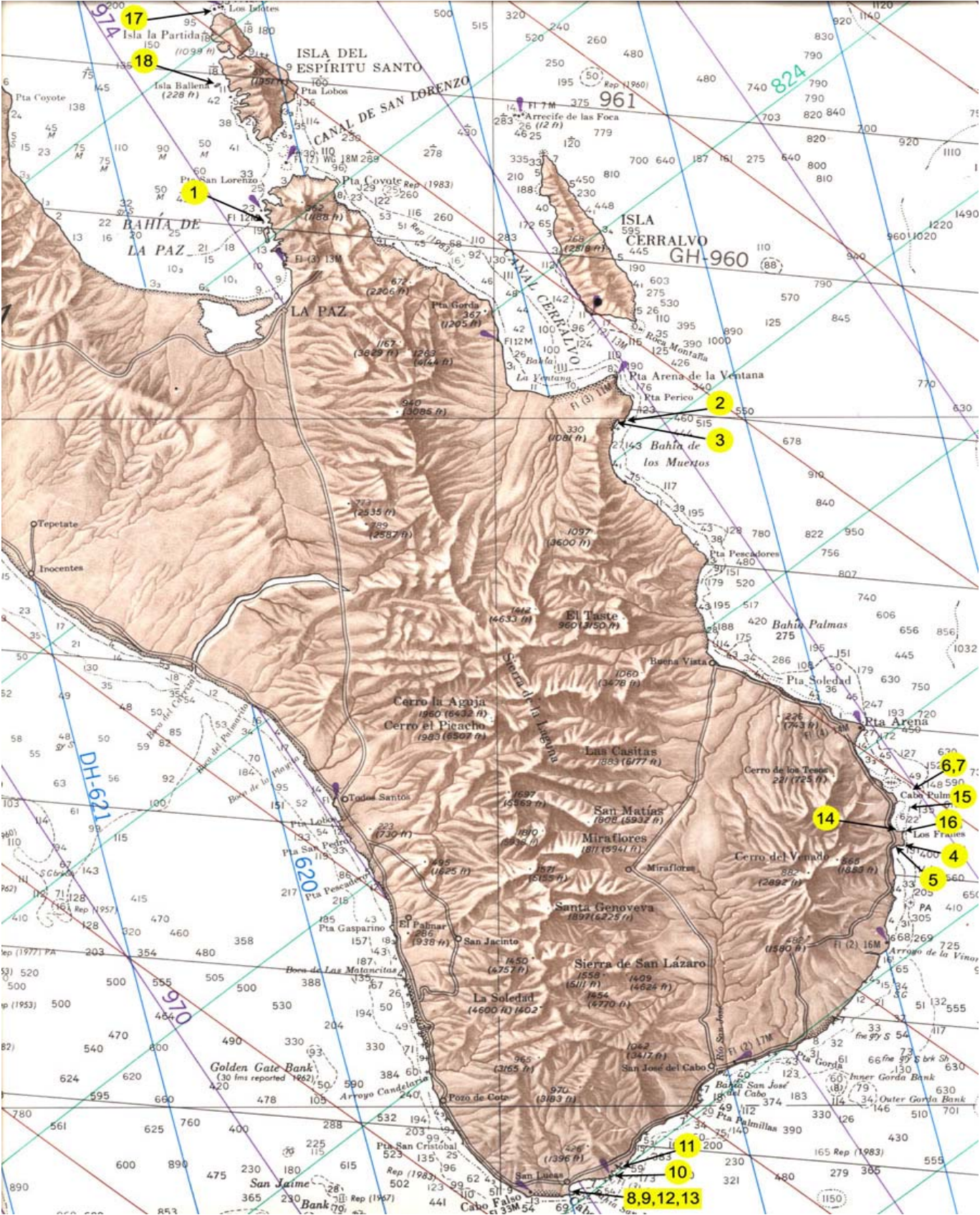
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18

ISLA DEL
ESPÍRITU SANTO

CANAL DE SAN LORENZO

ISLA
CERRALVO

GH-960

BAHIA DE
LA PAZ

LA PAZ

DH-621

620

970

Golden Gate Bank

San Jaime Bank

14

6,7

15

16

4

5

11

8,9,12,13

DIVE SITES TABLE

Dive Site #	Location	Depth (ft)	Habitat	Date
1	La Paz - Pichilingue	0-25	Pocillopora reef + rocks and rocky shoreline	Oct-31-2004
2	Punta Perico	0-60	rocky shoreline edge - cliff and big boulders	Nov-01-2004
3	Punta Perico	0-60	rocky shoreline edge - cliff and big boulders	Nov-01-2004
4	Cabo Pulmo -Los Frailes	0-70	boulder shoreline	Nov-02-2004
5	Cabo Pulmo - Los Frailes	0-70	boulder shoreline	Nov-02-2004
6	Cabo Pulmo - El Bajo	35-60	low rocky reef + sand	Nov-03-2004
7	Cabo Pulmo - Los Morros	35-70	low rocky reef + sand	Nov-03-2004
8	Cabo San Lucas - Pelican's Rock	0-145	rock face + sand	Nov-04-2004
9	Cabo San Lucas - La Punta	0-110	rock face + sand	Nov-04-2004
10	Cabo San Lucas - Santa Maria	0-55	rock face + sand - bay + headland	Nov-05-2004
11	Cabo San Lucas - El Chileno	0-70	boulder edges of rocky spit 300m offshore	Nov-05-2004
12	Cabo San Lucas - El Dedo de Neptuno	0-145	rock face + sand	Nov-06-2004
13	Cabo San Lucas - Pared Norte (Pelican's Rock)	0-110	rock face + sand	Nov-06-2004
14	Cabo Pulmo - Los Arbolitos (night dive by Alonso)	0-20	rock face + sand	Nov-06-2004
15	Cabo Pulmo - El Cantil	20-55	low rocky reef + sand	Nov-07-2004
16	Cabo Pulmo - Las Casitas	0-50	rock face, big boulders + sand	Nov-07-2004
17	La Paz - Los Islotes	0-120	rocky cliff and slope	Nov-08-2004
18	La Paz - La Ballena	0-65	rocky cliff, + big boulders, sand and rubble slope	Nov-08-2004

DIVE CENSUSES TABLE page 2/2

Family	Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Occurrence		
Labrisomidae	Labrisomus multiporosus			R										R						11.1		
	Labrisomus striatus			R																	5.6	
	Labrisomus xanti				UC	UC			UC		R		UC	NUC	UC		UC				44.4	
	Malacoctenus hubbsi				UC	UC			C	C			C	C		NUC	NUC	NUC			50.0	
	Malacoctenus margaritae					UC											R				11.1	
	Malacoctenus tetranemus				UC	UC				R								R			22.2	
	Malacoctenus zaca					UC													R		11.1	
	Malacoctenus zonifer				UC	UC															11.1	
	Paraclinus altivelis												C								5.6	
	Starksia spinipenis			R	UC																11.1	
Chaenopsidae	Acanthemblemaria balanorum								C	C	C	C	C	C							33.3	
	Acanthemblemaria crockeri	C			NUC				UC			UC	C	C		C	C				44.4	
	Acanthemblemaria macrospilus			NUC	NUC	C	C		C	C	A	A	C	C		C	C	UC			72.2	
	Chaenopsis coheni	R		R																	11.1	
	Cirriemblemaria lucasana	R																			5.6	
	Coralliozetus angelicus		R	R	C				R		R			NUC						UC	38.9	
	Coralliozetus micropes	NUC		R		R											R	R			27.8	
	Ekemblemaria myersi														R							5.6
	Protoblemaria bicirris	NUC							R	R												16.7
	Hypsoblennius brevipinnis									UC												5.6
Blenniidae	Hypsoblennius gentilis			R																	5.6	
	Ophioblennius steindachneri	C	C	C	C	C	C	C	C	A	A	A	A			A	A	A	A		94.4	
	Plagiotremus azaleus		C	C	C	C	C	C	C	A	A	A	A			A	A	C	C		88.9	
Gobiidae	Coryphopterus urosphilus	C	C	C	C	C	C	C	C		UC	C	C			C	C	C	C		88.9	
	Elacatinus digueti					R					R										11.1	
	Elacatinus limbaughi			NUC	NUC			R		R	UC	UC	UC	UC			NUC	NUC		UC	61.1	
	Elacatinus punctulatus		C	C	C	C	R	R	A	A	UC	C	C	C		C	C	C	A		88.9	
	Gobiosoma chiquita	R																			5.6	
	Lythrypnus dalli	R	R						C					C			UC		R		33.3	
	Lythrypnus pulchellus																		R		5.6	
	Ptereleotris carinata												R									5.6
Ephippidae	Chaetodipterus zonatus				R																5.6	
Zanclidae	Zanclus cornutus			NUC	NUC	C	C	R	R	C	C	NUC	NUC	C	C		NUC	NUC		R	83.3	
Acanthuridae	Acanthurus nigricans			NUC		C	C	R					NUC			UC	UC				38.9	
	Acanthurus triostegus			NUC	NUC		UC			UC		NUC	NUC	NUC	NUC		NUC	NUC			55.6	
	Acanthurus xanthopterus			C	NUC		C	C	C	C	C	C	C	C		C	C				72.2	
	Prionurus laticlavus (see notes below)						R	R	UC	UC	UC	UC	NUC	NUC		UC	UC	R			61.1	
	Prionurus punctatus	NUC	C	C	A	A	C	C	A	A	A	A	A	A		A	A	C	C		94.4	
Sphyraenidae	Sphyraena ensis																		C (school)		5.6	
	Sphyraena lucasana				R																5.6	
Scombridae	Euthynnus lineatus									UC	UC					UC	UC	UC			27.8	
	Katsuwonus pelamis																R				5.6	
	Scomberomorus sierra										R					R	R				16.7	
Balistidae	Balistes polylepis	NUC					R	R	R	R	R	R				UC	UC		C		55.6	
	Pseudobalistes naufragium				R		NUC	NUC	R			R	R			NUC	NUC	R			50.0	
	Sufflamen verres		C	C	C	C	C	C	C	C	C	C	C	C		C	C	C	C		88.9	
Monacanthidae	Aluterus scriptus					UC				C	UC	R	R	UC	UC		R	R			50.0	
	Cantherhines dumerilii			UC																	5.6	
Ostraciidae	Ostracion meleagris meleagris		R	R	UC		R		UC	UC	R	R	UC	R				R			61.1	
Tetraodontidae	Arothron meleagris		C	C	C	C	C	C	C	C	C	C	C	C		C	C	C			83.3	
	Arothron hispidus																				5.6	
	Canthigaster punctatissima	C	C	C	C	C	C	C	C	C	A	A	A	A		A	A	A	A		100.0	
	Sphoeroides annulatus		R	R																	11.1	
Diodontidae	Diodon holocanthus	NUC	C	C	NUC	NUC	A	A	C	C	C	C	C	C		C	C	C	C	C	100.0	
	Diodon hystrix	R	R		UC	UC	R	R	UC	C			NUC	NUC		NUC	NUC	NUC	UC	UC	83.3	
	Chilomycterus reticulatus																				5.6	

Not observed at Cabo Pulmo during our survey but photos of these species taken there are displayed in the Cabo Pulmo dive shop

Not observed at Cabo Pulmo during the present survey but recorded there by Carlos Viesca of CIBNOR

Triaenodon obesus: Although previously thought to be restricted to the southern half of the Tropical Eastern Pacific (TEP) it has become evident that this demersal reef shark is more widely spread in the TEP and extends to the northern edge of the tropical part of that region. We photographed it at Cabo San Lucas, and other observers have recorded it at Isla Isabela and near Puerto Vallarta, and at Cabo Pulmo

Apogon guadalupensis: The record at Cabo Pulmo is the first for this species inside the Gulf of California. Another individual was closely observed by several of us and photographed by JE at Cabo San Lucas before the sighting at Cabo Pulmo; hence we are confident of the identification of the Cabo Pulmo fish.

Holacanthus clarionensis: We observed both juveniles and small adults of this species at a number of sites. Small aggregations of adults have been reported at Cabo Pulmo

Stegastes acapulcoensis: This species was found in aggregations of scores of adults in boulder habitat at 2-5m at two sites. Elsewhere it was uncommon

Stegastes flavilatus: This species was commonly observed at almost all the sites we sampled. It is thus more widely distributed than S. acapulcoensis, the other member of this genus that is widely distributed along the continental shore of the TEP

Stegastes leucorus: This species is not uncommon, but individuals were found singly. This pattern of distribution contrasts to that of S. acapulcoensis, which is uncommon but occurred in colonies.

Thalassoma virens: This species probably has a self sustaining resident population on the southern Baja peninsular. We observed it regularly in its preferred habitat - shallow, surge, rocky headlands; sightings included individuals of a variety of sizes and both color phases, and DRR saw spawning between a TP and one of several IPs at site 11. As this species lives in a habitat not usually sampled, is not particularly common and could easily be mistaken for T. grammaticum by observers not familiar with it, T. virens may be more widespread around southern Baja than previously thought and may have been present there for quite some time.

Prionurus laticlavus: This species (and not P. punctatus) occurs in the southern half of the tropical eastern Pacific (TEP). P. punctatus is restricted to the northern half of the TEP. We found that P. laticlavus made up between ~1-5% of the Prionurus population at many of our sites where both were present. We observed both "normal" P. laticlavus, without the small spots, and individuals with all degrees of intergradation between P. laticlavus and P. punctatus; from those with small spots around the face and operculum, to fish with spots on the head and various parts of the body. Hence it appears that the two species are hybridizing in this area.