STAR2000: DAVID STARR JORDAN Weekly Report
Robert Pitman
December 8, 2000

SCIENCE SUMMARY: 30 November-8 December 2000

An interesting week here on the DSJ. We have been blessed with remarkably benign weather for our last tack up Baja. Being far offshore though means there has been very little in the way of birds and cetaceans. After months of patrolling the tropics though we are glad to have the cool waters off Baja ushering in whole new biotic communities for us to experience as well as some unmistakable zoogeographic effects. Things are bigger in colder water: the spotted dolphins off Baja are large enough that the mammal observers have had to go in for a closer look to confirm their identifications; Risso's dolphins look like they are puffed up on steroids compared to the relatively dainty versions we encounter in the tropics. The one flyingfish species we have left, the California flyingfish, should require clearance for take-off and landing. But our major events this week have largely been terrestrial. If islands have a special place in the human psyche, they are a consuming passion for biologists. We make stops at islands on these cruises mainly to monitor seabird populations: any environmental changes that could affect dolphin populations should also affect seabirds and this will show up most clearly in the reproductive efforts of birds at colonies. These stops also break up the monotony of toiling at sea on a small boat for both crew and scientists alike. Some biological highlights of the week: Off San Benedicto in the pre-dawn hours, bottlenose dolphins chased flyingfish up next to the boat and easily managed to catch a few dozen under our lights. We also caught quickly our limit and then started throwing stunned flyingfish back out to the dolphins which accepted them without reservation (dolphins can afford sashimi for breakfast, lunch and dinner). The flyingfish were large enough that a dolphin would swim with one hanging out of its mouth for a few seconds, like a large stogey. Then the fish would suddenly disappear as the dolphins apparently suck them in. When the shore party was going ashore at San Benedicto we came upon a dense aggregation of manta rays; at least 20 individuals with wingspans up to 12 feet were feeding in an area of converging currents. We swam with them for a while as they glided effortlessly around us, a half a ton of sleek and silent black and white. Two days later Chico brought a juvenile loggerhead turtle back to the boat along with a fresh dead squid it had been scavenging on. The mantle length (tentacles not included) of the squid was over 4 feet and it weighed almost exactly 100 lbs! The muscular mantle wall of this monster was almost 2 inches thick - this was a squid who was not only big but could move. And with a beak as big as my fist, it must have been one calamitous calamari. Although our job out here is to count dolphins, the real reason most of us sign on for 4 months at sea is to see some of these amazing sights.

This is the last weekly report from the David Starr Jordan from the STAR2000 cruise and the last for this series of dolphin assessment cruises in the Eastern Tropical Pacific. Now we have to take our pile of data and specimens back to La Jolla and start our analyses of over 5000 sightings of 25 species of cetaceans; tens of thousands of seabird records of over 70 species; and several thousand marine turtle sightings. Among the specimens we

have obtained are some 2000 cetacean biopsy samples from 20 species of whales and dolphins; over 4000 flyingfish of 18 species; blood and tissue samples from over 500 sea turtles of three species; over 1200 oceanographic stations were occupied; hundreds of net tow stations completed to sample the biotic environment, and several thousand hours of acoustic recordings of cetacean vocalizations. The field work is done, now the fanny work starts - sitting at our desks and trying to make sense of this mountain of data we have accumulated. This series of cruises has been a tremendous effort and an overwhelming success, due mainly to the support of our friends and co-workers: the crew and officers of the David Starr Jordan. We would like to acknowledge captains John Herring and Scott Hill, and all of the officers of the DSJ, for their unstinting support of our project; they are true professionals. The Stewards Dept (okay, Allen and Ricky) not only provided us with excellent fare but went out their to make sure we all got fed even when our activities kept us away at meal times (try that on another boat!). The Engineering Dept kept the old girl running (and cool!). Our biggest thanks though have to go to the Deck Dept under the leadership of out Award-Winning Chief Boatswain - Chico Gomez. Not only do they cheerfully assist in any possible way, but in many cases they have been out there doing our work for us (we have turned them into Bug Hunters!). It has been a pleasure to sail with all of you.

SUMMARY OF MARINE MAMMAL EFFORT AND SIGHTINGS

Date	Time	Latitude	Longitude	Effort	Beaufort
113000	0640	N18:18.96	W111:16.86	102.9 nmi	3.8
	1739	N18:49.51	W109:44.24		
120100	1523	N19:21.90	W110:45.24	18.6 nmi	3.0
	1735	N19:41.84	W110:53.08		
120200	0650	N20:42.27	W112:11.20	94.8 nmi	3.2
	1759	N20:08.49	W113:55.74		
120300	0701	N19:21.67	W115:31.26	78.4 nmi	1.8
	1802	N18:46.80	W116:53.19		
120400	0712	N20:17.27	W117:23.36	73.2 nmi	2.0
	1738	N21:29.27	W117:34.97		
120500	0722	N23:12.58	W118:17.23	74.7 nmi	2.2
	1652	N24:22.73	W119:16.55		
120600	0731	N26:11.93	W119:05.08	76.4 nmi	2.5
	1751	N27:36.24	W118:30.39		
120800	0639	N31:07.39	W117:10.66	29.0 nmi	3.7
	1225	N31:44.25	W116:47.67		

Code	Species	Total
002	Stenella attenuata (offshore)	4
013	Stenella coeruleoalba	6
017	Delphinus delphis	7
018	Tursiops truncatus	5
021	Grampus griseus	5
037	Orcinus orca	1
070	Balaenoptera sp.	2
071	Balaenoptera acutorostrata	1
072	Balaenoptera edeni	2
076	Megaptera novaeangliae	1
077	unid. dolphin	7
078	unid. small whale	1
TOTAL		42

AERIAL PHOTOGRAMMETRY: 17.9 h in the air; photographed 1 pod killer whales; 1 pr minke whales; 2 spotted dolphin (both calibration); 4 Delphinus (1 possible calibration); 2 Grampus (1 calibration); 1 Tursiops (calibration). Also photographed the booby colony at San Benedicto Island and conducted 2 separate pipe calibration tests.

BIOPSY:

Species	This Week	Total
Balaenoptera musculus	0	17
Balaenoptera edeni	0	3
Balaenoptera acutorostrata	2	4
Megaptera novaeangliae	1	4
Berardius bairdii	0	2
Orcinus orca	6	18
Pseudorca crassidens	0	18
Globicephala macrorhynchus	0	37
Feresa attenuata	0	6
Delphinus capensis	0	3
Delphinus delphis	7	22
Lagenorhynchus obliquidens	0	4
Stenella attenuata	3	111
Stenella attenuata graffmani	0	70

Stenella attenuata subsp.	0	64
Stenella coeruleoalba	0	8
Stenella longirostris orientalis	0	79
Steno bredanensis	0	11
Tursiops truncatus	14	118
Rhincodon typus (whale shark)	0	(1)
Totals	34	566

35 mm PHOTO-ID:

Stenella attenuata - 1 school
Delphinus delphis - 2 schools
Tursiops truncatus - 1 school
Megaptera novaeangliae - 2 individuals

TURTLE CAPTURES:

Species	This Week	Total
Loggerhead (*Caretta caretta*)	3	15
Olive Ridley (*Lepidochelys olivacea*)	0	204
Green (*Chelonia mydas*)	1	8
Totals	4	223