STAR 2000: DAVID STARR JORDAN WEEKLY REPORT
26 October 2000
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SCIENCE SUMMARY: 19 - 25 October

The end of Leg 4 found us battling horrendous winds on our final run into the coast - north and directly across the Gulf of Tehuantepec. This famed-for-high-winds-and-heavy-seas place was true to its reputation - we had 25 knots and 10 foot seas as we crossed - prohibiting mammal effort, although birders and oceanographers continued to work. Luck was with us however, for as we steamed north, we passed into the wind shadow of the mountains to the west of the Gulf; by sunset we were in Beaufort 3 conditions and at the evening dipnet station, seas were calm with only left-over lumps from the wind.

The next morning we had reached the coast northwest of the Gulf and turned to steam east, through shelf waters, right up next to land in what can only be described as spectacular weather. Most interesting, water here with land in sight was the bluest encountered during this entire leg, with the air feeling dry and almost crisp compared to the previous three weeks of heat and humidity. The fine weather meant a big day for all; the small boat was out from sunup to sundown and processed over 20 turtles; the helo flew three times, coming down only for food and fuel; we recorded 15 mammal sightings including many spotted dolphin schools, a number of common dolphin schools, and killer whales (with photographs and biopsies collected from the entire group); and the fishermen on the aft deck secured 6 mahi (and lost another 4). On that day, as we made our second and final pass through a group of bow-riding spotted dolphins for biopsy samples, an unusually tight group of adults passed down the port side of the ship. In their midst was a tiny animal being supported by the rostrum and head of one of the adults. The small boat behind the ship got a closer look: this was a neonate with dorsal fin and flukes still folded, umbilicus still dangling from its belly, and half a dozen tiny, curly hairs on its rostrum. (For the non-cetacean-specialist readers in our audience, all whales and dolphins are born with just these few hairs, which dolphins soon lose after birth but which are one indication of their terrestrial evolutionary history.)

On our way east by southeast along the coast, we had again to pass through the Gulf of Tehuantepec. This happened in a daylight's span; in the morning we again crossed out of the wind shadow provided by the mountains and into 25 knots by noon, and again back into the wind shadow of mountains to the southeast of the Gulf by sunset. Even more notable than the wind gradients were the sea surface temperature changes due to wind-induced upwelling. On this day of our crossing, we recorded a dramatic drop of over 6 degrees C in five hours (from 29.2 C to 23.3 C) as we passed from protected to windy waters, and another rise back up to 29.2 C as we moved back into protected waters again.

Our last day of the leg was spent along the coast in calm, hot weather and green water with lots of coastal spotted and bottlenose dolphins, turtles, three more helo flights, and a surprise lobster dinner to announce our arrival into Guatemala. The Jordan is now docked

at Puerto Quetzal; scientists have been traveling around the country while the officers and crew work to repair our starboard engine, which got us here but is in need of some attention. The engineering department especially deserves high praise, working from early morning hours (0300) until late in the night to assure as timely a departure as possible. At this writing, we are expecting to sail on Sunday, 29 October, at noon, with a fully functional starboard (and port!) engine bound for the deep waters of the eastern Pacific once more.

SIGHTINGS AND EFFORT SUMMARY FOR MARINE MAMMALS: 19 - 25 October

Date Start/Stop Time Lat Long Total NM Av. Beaufort

101900 1022 N13:22.01 W097:09.97 71.2 nmi 4.2
1904 N14:35.91 W097:34.28

102000 0723 N15:48.60 W097:52.80 49.2 nmi 1.5
1749 N15:36.05 W096:46.76

102100 0715 N15:43.07 W095:15.38 58.3 nmi 4.7
1851 N15:06.79 W093:49.31

102200 0708 N14:28.79 W092:33.21 55.0 nmi 1.9
1815 N13:43.44 W091:44.52

CODE	SPECIES	TOT#
002	Stenella attenuata (offshore)	2
006	Stenella attenuata graffmani	6
010	Stenella longirostris orientalis	2
015	Steno bredanensis	1
017	Delphinus delphis	3
018	Tursiops truncatus	8
037	Orcinus orca	1
049	ziphiid whale	1
077	unid. dolphin	4
083	Mesoplodon sp. A	1
090	Stenella attenuata (unid. subsp.)	7
096	unid. cetacean	1
TOTAL		37

COMMON DOLPHINS 3
SPOTTED/SPINNER 17

BLUE/HUMPBACK WH. 0
OTHER DELPHINIDS 14
OTHER CETACEANS 3

AERIAL PHOTOGRAMMETRY SUMMARY: 19 - 25 October

9.8 flight hours (not bad for two days of effort!)

Species	Schools/ Indivs. Photographed	Schools Calibrated
Stenella attenuata	6 schools	1
Steno bredanensis and Grampus griseus	1 school	
Orcinus orca	1 school	
Tursiops truncatus	3 schools	

BIOPSY SUMMARY: 19 - 25 October

Species	This Week	Total
Balaenoptera musculus	-	14
Balaenoptera edeni	-	3
Megaptera novaeangliae	-	2
Berardius bairdii	-	2
Orcinus orca	4	11
Pseudorca crassidens	-	3
Globicephala macrorhynchus	-	37
Feresa attenuata	-	6
Delphinus capensis	-	3
Delphinus delphis	-	5
Lagenorhynchus obliquidens	-	4
Stenella attenuata	8	85
Stenella attenuata graffmani	14	66
Stenella attenuata subsp.	10	64
Stenella coeruleoalba	-	5
S. longirostris orientalis	8	66
Steno bredanensis	-	5
Tursiops truncatus	4	71
Rhincodon typus (whale shark)	-	(1)

Total	48	452

35 mm PHOTO SUMMARY: 19 - 25 October

Species	No. Schools/Individuals
Stenella attenuata (offshore) and S. longirostris (eastern)	1 school
Stenella attenuata (unid.)	1 school
Stenella attenuata (coastal)	1 school
Delphinus delphis	2 schools
Orcinus orca	4 individuals

TURTLE CAPTURES: 19 - 25 October

Species	This Week	Total
Loggerhead (Caretta caretta)	-	9
Olive Ridley (Lepidochelys olivacea)	27	184
Green (Chelonia mydas)	-	6
Totals	27	199