

STAR 2000: DAVID STARR JORDAN WEEKLY REPORT

28 September 2000

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SCIENCE SUMMARY: 21 - 27 September

We've been steaming essentially in one long line this week, from 1000 nm offshore to the coast of Guatemala, where we just turned south yesterday to survey shelf waters from here to Costa Rica. First thing in the week, we had a problem with the port reduction gear box, essentially rendering the port engine useless. Quick calculations of the distance we had left to go and the speed we were likely to be able to make indicated that we may have to cut most of our remaining track line and head straight for Costa Rica with all science operations suspended, but by noon our Chief Engineer had rigged a device which now gives us a couple of knots from the port engine and enough speed to continue our science largely uninterrupted while losing just 200 nm of track line. (Replacement parts will await us in Costa Rica.)

Even as we steam along at 8 knots it has been an eventful week. We crossed a mild ITCZ, then were greeted with spectacular weather for two days - not a whitecap to be seen with scattered clouds dotting the sky. On the first of these two days it seemed like all the world's Juan Fernandez Petrels were here, the wind so low we passed hundreds and hundreds of them sitting on the water in groups. The next day birds were largely gone. But mammals were abundant on both days, twenty sightings on one, and twenty-seven the next. These included plenty of mixed spotted and eastern spinner schools, plus striped dolphins, pilot whales, Kogia and several Mesoplodon sightings. The mammal observers handled the overload with aplomb, especially considering our tight time schedule with our reduced speed. After a long weather-grounded period, the helicopter team was up in the air twice each day for calibration schools, length photos of all kinds of species including a low pass on a group of Mesoplodon species A, and a successful radar altimeter test. Despite his long hours of sitting in places other than the helicopter, Dave Gardner was his usual exceptional pilot-self. The small boat team worked hard on these days as well; it trailed the ship for most of the light hours both days, bringing back some 19 turtles, including lots of cute juveniles and one that fit in the palm of a hand (and it fit into many palms that day). On the afternoon of the second day, our J2 RHIB came back exhausted, with the port aft pontoon deflated and sad-looking, but not to fear, our second RHIB, J1, has replaced it and is now working just as hard. Ron Dotson, our oceanographic expert, has found a new niche; he volunteered his way into the small boat early on and has stayed ever since, catching turtles, stepping in as communications person, and, in a new dimension to our work out there collecting jellyfish to use as voucher specimens for sea turtle diet samples we have collected. Although he's declared he'll return to CalCOFI cruises, we're not sure we'll give him back.

Other notable events: Kerry Kopitsky, our turtle master's degree candidate, who is usually on the back deck processing turtles that are brought to the ship, captured her first one alone. Now she wants to spend all her time in the small boat, processing turtles as she goes. The seabird news of the leg - maybe even of the trip - a ship-following White-

Chinned Petrel on 22 Sept (for non-seabirders, this species is typically sighted fairly far south in the southern hemisphere and we are unaware of any sightings in the northern hemisphere at all.) Two marlin and numerous mahi continue to find their way on board (Allen catches a couple every day). A smooth crossing offshore of the Gulf of Tehuantepec, even as we braced for 10 foot seas and 30 knot winds. And a spectacular early morning lighting show, brilliant flashes and thick bolts erupting into splintered fingers that cross half the sky, every 5 seconds for hours.

SIGHTINGS AND EFFORT SUMMARY FOR MARINE MAMMALS: 21 - 27 September

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

092100 0738 N05:57.23 W107:18.97 62.5 nmi 4.0
1846 N06:43.24 W106:15.38

092200 0704 N07:31.03 W105:18.25 68.8 nmi 3.2
1832 N08:26.60 W104:18.32

092300 0700 N09:16.51 W103:14.74 63.7 nmi 2.2
1819 N10:09.98 W102:10.38

092400 0641 N11:07.00 W101:02.19 77.2 nmi 1.7
1825 N11:52.33 W099:30.33

092500 0725 N12:14.76 W098:01.13 44.1 nmi 3.0
1820 N12:29.52 W096:44.67

092600 0752 N12:52.23 W095:13.69 71.3 nmi 2.8
1845 N13:15.24 W093:48.63

092700 0716 N13:27.89 W092:32.52 66.9 nmi 3.8
1826 N13:28.03 W091:00.61

CODE	SPECIES	TOT#
002	<i>Stenella attenuata</i> (offshore)	18
003	<i>Stenella longirostris</i> (unid. subsp.)	2
010	<i>Stenella longirostris orientalis</i>	12
013	<i>Stenella coeruleoalba</i>	4
018	<i>Tursiops truncatus</i>	18
021	<i>Grampus griseus</i>	2
036	<i>Globicephala macrorhynchus</i>	4
048	<i>Kogia sima</i>	3

049	ziphiid whale	9
051	Mesoplodon sp.	1
061	Ziphius cavirostris	1
072	Balaenoptera edeni	1
077	unid. dolphin	30
078	unid. small whale	4
079	unid. large whale	1
083	Mesoplodon sp. A	1
096	unid. cetacean	2
099	Balaenoptera borealis/edeni	1
TOTAL		114

COMMON DOLPHINS 0
 SPOTTED/SPINNER 32
 BLUE/HUMPBACK WH. 0
 OTHER DELPHINIDS 58
 OTHER CETACEANS 24

AERIAL PHOTOGRAMMETRY SUMMARY: 21 - 27 September

Species	Schools photographed	Calibration Schools
Steno bredanensis	2	--
Stenella coeruleoalba	5	3
Stenella attenuata	1	1
S. attenuata and S. longirostris orientalis	2	1
Mesoplodon species A	1 (5-6 individuals)	--
Feresa attenuata	1	--

8 flight hours

BIOPSY SUMMARY: 21 - 27 September

Species	This Week	Total
<i>Balaenoptera edeni</i>	0	2
<i>Balaenoptera musculus</i>	0	10
<i>Berardius bairdii</i>	0	2
<i>Delphinus capensis</i>	0	3
<i>Delphinus delphis</i>	0	4
<i>Feresa attenuata</i>	0	6
<i>Globicephala macrorhynchus</i>	11	24
<i>Lagenorhynchus obliquidens</i>	0	4
<i>Orcinus orca</i>	0	5
<i>Stenella attenuata</i>	9	54
<i>Stenella attenuata graffmani</i>	0	4
<i>Stenella attenuata</i> subsp.	0	54
<i>Stenella coeruleoalba</i>	0	2
<i>S. longirostris orientalis</i>	3	44
<i>Steno bredanensis</i>	0	4
<i>Tursiops truncatus</i>	12	32
Total	35	266

35 mm PHOTO SUMMARY: 21 - 27 September

Species / No. Schools/Individuals

Stenella attenuata (offshore) / 1 school

TURTLE CAPTURES: 21 - 27 September

Species	This Week	Total
<i>Caretta caretta</i>	0	9
<i>Lepidochelys olivacea</i>	36	114
<i>Chelonia mydas</i>	0	6
Total	36	129