STAR 2000: DAVID STARR JORDAN WEEKLY REPORT
21 September 2000
Lisa T. Ballance

SCIENCE SUMMARY: 14 - 20 September

The David Starr Jordan has been in the heart of core area eastern tropical Pacific this week, headed southwest and due offshore from the central Mexican coast for the first few days, now returning from our farthest offshore waypoint some 1000 nm distant from the coast. We've been in the countercurrent for much of the week, with a strong set to the east carrying us against, then with our track. Weather has been full of crazy ups and downs: a tropical depression downgraded to a low which passed directly over us in the early morning, waking all with its confused seas; lovely seas with low wind and scattered cumulus clouds the next day; two days with winds gusting up to 40 knots, torrential rains, and short-period seas coming straight at us and necessitating slower speeds to avoid slamming the ship and her contents (weather so bad the dipnetters canceled their station -- what is the world coming to?!); then settling into 15-20 knots of wind with largely overcast skies. The ITCZ was well-developed on our southward pass through a few days ago; we are headed towards it once again and will report on its health in the next weekly.

With much poor weather, our report this week lists scarce sightings and samples (including two zero-sighting days, no biopsy samples collected, and only a single turtle). But amidst this dearth of cetaceans, there are still notes of interest out here. We have essentially made a broad loop around Clipperton Island, passing 60 nm distant at our closest approach, and its avifaunal signature has been evident. On that closest pass day we recorded adult Masked Boobies in the morning heading northwest on their outbound journey for a meal, and in the afternoon heading southeast, back toward the island and, presumably, their waiting mates incubating eggs. One afternoon a bloom of what we believe were hydrozoans colored the water in long brown streaks and gave us a false sighting ("some brown animals just under the water!"). Another morning we had a close look at a manta ray swimming down the port side of the ship. As light faded from the day one evening, a school of 100 flying squid flushed in front of the bow in perfect synchrony. And on the night of 18 September, huge numbers of myctophids appeared at the surface during the dipnet station ("The biggest myctophid night this year..." RLP). Tiny orange eyes reflected the light in the small circle cast around the dipnet station, the eyes hopping as their owners tried to escape the relentless Sthenoteuthis squid which prey upon them heavily. The myctophids that we captured that night all were scale-less when we lay them upon the sorting table. Their escape strategy is to drop their scales, leaving unprotected skin beneath; the scales reflect the light in a silvery trail while the fish slips away in the darkness (a strategy that does not work well against dipnetters). Left are the photophores in species-specific patterns on their bodies.

A big event was our arrival at waypoint #5, because 5N 110W is also the site of a TAO oceanographic buoy, which we reached an hour before daylight on 20 September. We did our AM CTD cast near the buoy, visually inspected it for overall condition, then sampled it for top predators. Our sample size came to 42: 27 mahi, 8 wahoo, 7 yellowfin tuna.

(Video highlight: the chief steward dancing with the 5 ft. mahi he had just brought on board; upon a closer look it became apparent that the hook was not only in the fish's mouth, but in the zipper of Alan's shorts which, with the pressure of the dance, were unzipping by the second.)

SIGHTINGS AND EFFORT SUMMARY FOR MARINE MAMMALS: 14 - 20 September

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

091400 0650 N15:25.62 W104:11.83 86.3 nmi 4.3
1851 N14:33.02 W105:29.81

091500 0701 N13:48.63 W106:32.61 97.4 nmi 3.2
1843 N12:48.79 W107:57.34

091600 0707 N12:02.53 W109:05.32 10.7 nmi 4.8
0937 N11:49.60 W109:24.39

091700 1042 N09:54.64 W110:55.06 1.9 nmi 5.0
1056 N09:53.13 W110:56.21

091800 0725 N08:10.35 W112:15.69 111.9 nmi 4.3
1911 N06:40.78 W113:24.70

091900 0726 N05:56.19 W112:42.39 107.1 nmi 4.8
1908 N05:18.72 W111:00.96

092000 0911 N05:01.12 W109:59.59 81.3 nmi 4.9
1844 N05:27.09 W108:42.38

CODE	SPECIES	TOT#
002	Stenella attenuata (offshore)	4
018	Tursiops truncatus	1
049	ziphiid whale	1
077	unid. dolphin	5
101	Stenella longirostris (southwestern)	1
TOTAL		12

COMMON DOLPHINS 0
SPOTTED/SPINNER 5
BLUE/HUMPBACK WH. 0
OTHER DELPHINIDS 6
OTHER CETACEANS 1

AERIAL PHOTOGRAMMETRY SUMMARY: 14 - 20 September

Schools photographed /Calibration Schools
0 / 0
(Helo grounded all week due to weather.)

BIOPSY SUMMARY: 14 - 20 September

Species	This Week	Total
Balaenoptera edeni	0	2
Balaenoptera musculus	0	10
Berardius bairdii	0	2
Delphinus capensis	0	3
Delphinus delphis	0	4
Feresa attenuata	0	6
Globicephala macrorhynchus	0	13
Lagenorhynchus obliquidens	0	4
Orcinus orca	0	5
Stenella attenuata	0	45
Stenella attenuata graffmani	0	4
Stenella attenuata subsp.	0	54
Stenella coeruleoalba	0	2
Stenella longirostris orientalis	0	41
Steno bredanensis	0	4
Tursiops truncatus	0	32
Total	0	231

35 mm PHOTO SUMMARY: 14 - 20 September

No. Schools/Individuals
Cetaceans 0
Waterspouts 1

TURTLE CAPTURES: 14 - 20 September

Species	This Week	Total
Loggerhead (Caretta caretta)	0	9
Olive Ridley (Lepidochelys olivacea)	1	78
Green (Chelonia mydas)	0	6
Total	1	93

(This one turtle of the week was captured near the TAO buoy: a sub-adult male olive ridley who had recently fed on pyrosomes, amphipods, and medusae.)