

**STAR-LITE 2006: NOAA Ship *David Starr Jordan*
Weekly Science Report**

*Tim Gerrodette, Cruise Leader
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Science Summary: 27 August through 01 September

The second week of Leg 1 has been marked by winds and rain, hampering our mammal and seabird transect efforts. What transect effort we have been able to carry out has been in high Beaufort conditions. The weather has barely affected oceanographic sampling, however. During the latter half of the week, a tropical storm built into Hurricane Henriette, which traveled northwest along the Mexican coast. We have been 300-400 nm away, but still feeling its effects. This report covers 6 days, Monday August 27 through Saturday September 1.

Sightings and Effort Summary for Marine Mammals

Date	Start/ Stop Time	Position	Total nm	Average Beaufort	Mode
82707	1407	N15:27.66 W106:40.68	14.2	5.0	closing
	1626	N15:10.09 W106:48.41			
82807	1111	N15:40.71 W106:31.99	40.6	5.0	closing
	1904	N14:42.29 W107:10.88			
82907	0827	N14:49.23 W107:05.76	97.8	4.8	passing
	1830	N13:27.42 W106:10.53			
83007	0936	N14:49.16 W107:06.02	82.5	4.1	closing
	1906	N13:34.08 W106:15.84			
83107	1252	N13:10.63 W104:58.61	29.2	4.9	passing
	1543	N12:46.14 W104:42.28			
90107	1321	N13:34.69 W106:14.54	52.5	5.9	passing
	1908	N14:20.93 W105:43.48			

Code	Species	Number of Sightings
002	<i>Stenella attenuata</i> (offshore)	4
010	<i>Stenella longirostris orientalis</i>	1
013	<i>Stenella coeruleoalba</i>	1
015	<i>Steno bredanensis</i>	1
099	<i>Balaenoptera borealis/edeni</i>	1
177	Unid. small delphinid	8
Total		16

Bird Buzz (Michael Force and Sophie Webb)

After sorting out a few burps and hiccups in the SeeBird data acquisition program that were giving the birders a bad case of indigestion, things are now running smoothly. Bring 'em on we say! And that they did: Juan Fernandez Petrels and Wedge-tailed Shearwaters were the commonest birds seen in our 300 metre strip transect survey and in the 15 or so feeding flocks close enough to count, followed by boobies, primarily Masked Boobies. Diversity was expectedly low and being only the second week into the survey, we logged several species new for the cruise such as Christmas and Pink-footed Shearwater, Cook's and Tahiti Petrel, Arctic Tern, and Long-tailed and Parasitic Jaeger. After Tuesday, one would think the polymorphic Wedge-tailed Shearwater isn't – dark morphs are all we've seen since then, surprising considering the small study area. For those of you who like to keep track of such things, the total number of species seen this week was 17 with a daily average of eight. Our only lost landbird this week was a single Cliff Swallow. We expect sightings of disoriented migrants to increase as the season progresses. Migration is a perilous endeavor, especially for those undertaking the long journey for the first time.

Squeakly Report (Shannon Rankin, Jay Barlow, Liz Zele)

Despite early setbacks, we have managed to put together a functioning system that will allow us to compare the visual and acoustic detection of animals on the trackline during passing-mode days. Unfortunately, the weather has been uncooperative, affording the acoustics team less than two days of effort. In total, we have had 11 acoustic detections of dolphin schools, of which five were also detected by the visual observation team. Needless to say, we have an abundance of extra time to work on our backlog of data, manuscripts, and movies.

Oceanographic Operations (Candace Hall, Ryan Driscoll, Eric Lewallen)

STAR-LITE 2007 oceanography has started out with a flourish. Operation tallies at the end of this week include 13 CTDs; 28 XBTs; 26 daily surface chlorophyll samples; 6 Bongo's and Manta's apiece. Unfortunately we were unable to complete two night op stations; one lost to weather (high winds and seas courtesy of Hurricane Henrietta) and the other due to a location adjustment. CTD operations are running smoothly, thanks to the efforts of SS Lillian Stuart and the associated deck crew CTD wranglers and winchmen.

As to be expected in this area, our sea surface temperatures have ranged between 27.9 to 29.9 °C, averaging at 28.285 °C. A sea surface salinity high of 33.99 and a low of 33.17 psu has marked the limits of our survey thus far. Net tow sampling has returned a relatively diverse horde, made all the more interesting by the enthusiasm our tow samples have generated in Ryan. We have been putting a cod-end on our spare Bongo net and whipping out the microscope for plankton inspections after evening ops. Skeleton shrimps, echinoderm larvae, black dragonfish (Stomiiformes), flying fish larvae and even larval flat-fish (Pleuronectiformes) have been a few of our captives.

Dipnetting (Eric Lewallen, Jim Cotton, Juan Carlos Salinas, Ernesto Vázquez, Adam Ü)

Dipnetting efforts for the last week have been successful despite relatively high winds and considerable wave action. In total, we have collected 32 flyingfish (including two found on deck) representing three flyingfish genera (*Hirundichthys*, *Exocoetus* and *Cheilopogon*) and the closely related *Oxyporhamphus*

genus. Abundance estimates based on sightings have shown that *Exocoetus* and *Oxyporhamphus* are the most prevalent genera. Numerous other species have also been observed, and sometimes caught at various dipnetting stations. For example, medium sized squid (*Sthenoteuthis* sp.) have been present at each of the stations and successfully captured with dipnets twice. Small and large squid sightings have been intermittent. Dolphinfish (*Coryphaenidae*) and Lanternfishes (*Myctophidae*) have each been observed at three of the seven stations, and one pelagic puffer fish (*Tetraodontidae*) was captured and kept alive in the onboard aquarium. A snake mackerel (*Gempylidae*) was sighted at one of the stations as well as an olive ridley turtle (*Lepidochelys olivacea*), neither of which were netted. Any decrease in wind speed or wave action will only improve our steady success rate.

