The Lazarette Gazette

NEWS FROM
The University of Texas at Austin
MARINE SCIENCE INSTITUTE
Port Aransas, Texas 78373-1267
(512-749-6760 — fax 512-749-6777)
(internet: thompson@utmsi.zo.utexas.edu)

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Students

Steve Opsahl will soon join the growing ranks of graduates of the Department of Marine Science. Steve: *Student life in Port Aransas was great for me. UTMSI is an excellent place to do quality research and have a little fun at the same time. Some of my best memories include Wilson parties, pig roasts, spring migration, Shorty's porch, every fishing trip, crawfish boils, road trips to Mexico, the duck blind, fishing tourneys, and many more. Of course, none of this would have been possible without all the great people around to show me the ropes. My advice to people just arriving is to put on some old tennis shoes, go outside, and take a good look around. There is more out there than you realize. I can certainly say that I got more than I bargained for (including a set of in-laws).*

Abstract

SOURCES, TRANSFORMATIONS AND FATES OF VASCULAR PLANT-DERIVED ORGANIC MATTER IN MARINE ENVIRONMENTS

Stephen Paul Opsahl, Ph. D.
Supervisor: Ronald Benner

Compositional changes which occur during decomposition of vascular plant tissues have important implications for understanding the biogeochemical cycling of organic matter in aquatic environments. Long-term changes in the chemical and isotopic composition of six different vascular plant tissues were investigated in litter-bag decomposition experiments which lasted up to four years. Analysis of the major structural polymers and a residual uncharacterized fraction during decomposition revealed the following general stability series from most to least stable: uncharacterized material > lignin ≥ bulk tissue > carbohydrates > cutin. The relative increase in uncharacterized material was substantial in herbaceous tissues and resulted from decreases in initially large, recognizable carbohydrate and cutin fractions. The persistence of lignin through advanced stages of decomposition supported the general application of lignin as a biomarker. However, molecular-level analysis of unique lignin-derived oxidation products showed that the use of lignin as a biomarker can be complicated by the presence of relatively labile ester-bound phenols. To overcome this problem, a new parameter was introduced, Λ_6 which excluded ester-bound phenols and enhanced lignin biomarker potential. Although initially more abundant than lignin, carbohydrates were relatively labile and were largely depleted in highly decomposed tissues. Analysis of neutral sugars indicated that cellulose was the most labile structural carbohydrate. In herbaceous tissues, both glucose and xylose were initially abundant and decomposed more rapidly than other neutral sugars, leading to increased yields of minor sugars, and a general trend towards compositional uniformity of neutral sugars in highly decomposed material. Photooxidation was examined as a potentially important mechanism for selective removal of specific chemical components. Detritus exposed to direct sunlight contained much higher carbohydrate yields, similar levels of cutin acids, and a complete absence of lignin. Changes in stable carbon isotope compositions ($\delta^{13}C$) of tissues during decomposition reflected changes in chemical composition. Shifts in $\delta^{13}C$ of up to 2‰ were observed in tissues that became enriched in lignin. Exogenous nitrogen comprised 25-69% of the nitrogen in highly decomposed detritus. Shifts in $\delta^{15}N$ signatures caused by immobilization of exogenous nitrogen correlated with periods of extensive microbial activity.

Seminars

- Mr. Jeff Gossett, Arctic Submarine Laboratory, San Diego, *Recent accomplishments on the Arctic Submarine Cruise,* Wednesday, September 13.

- Dr. Gilbert Rowe, Texas A & M University, Department of Oceanography, College Station, *Variations in oxygen concentrations in the Mississippi River plume: data and a one-dimensional simulation*, Monday, September 25.

- Dr. Robert E. Hodson, University of Georgia, Department of Marine Science, *Prokaryotic in situ PCR: a visual, molecular approach to characterizing marine bacterial populations,* October 3, 2:00 p.m. in the Auditorium.

Irish Pennants

COASTAL BEND MONITORING AND RESEARCH WORKSHOP — The MSI and the Corpus Christi Bay National Estuary Program sponsored a monitoring and research workshop at the MSI Visitors Center 11 September. More than 50 research scientists, state and federal agency staff and students attended the day-long workshop to discuss current projects monitoring fish, birds, sea turtles, marine mammals, benthic organisms, seagrass, plankton, water circulation, water quality and sediment quality in South Texas bays and estuaries. An item of primary concern was the specific requirements needed to collect measurements for each of the components without being unduly large, time-consuming and duplicative. In the afternoon, the diverse group of scientists were divided into three groups to address questions concerning:

(1) what are the specific objectives of each program?
(2) what are the current relevant efforts?
(3) what is missing from current efforts?
(4) what are the limitations of current/future efforts?
(5) what should be our monitoring priorities?

A report summarizing the workshop results and combined with abstracts of the individual participants will be published by the National Estuary Program. A follow-up workshop tentatively scheduled for next summer will prepare a comprehensive monitoring plan for the local bays that will improve the integration and cooperation between organizations that have regularly scheduled sampling programs.

—Terry Whitledge

Trip Reports & Travel

Travel ending between September 8 and September 29

✈*Lee Fuiman,* September 6—29, Oban, Scotland and Bergen, Norway, to conduct research on larval fish swimming, in collaboration with Dr. Robert S. Batty at the Dunstaffnage Marine Laboratory (Scotland); present seminar and confer with Dr. Arid Folkvord at the University of Bergen (Norway).

✈*Joan Holt,* September 10—12, College Station, Texas, to participate in the Texas Chapter of American Fisheries Society Annual Meeting.

✈*Joan Holt,* September 15—18, Louisville, Kentucky, to participate in Seventh Annual Marine Aquarium Conference of North America and present paper, *Research on tropical marine ornamental fish and shrimp: spawning and growout.*

✈*Ken Dunton, James Kaldy, Sharon Herzka, Kun-Seop Lee,* September 18—21, Port Isabel, Texas, to participate in research in lower Laguna Madre.

✈*Terry Whitledge,* September 19—20, Baton Rouge, Louisiana, to attend NECOP (Nutrient Enhanced Costal Ocean Productivity) technical advisory committee meeting.

✈*Ron Benner,* September 24—27, Savannah, Georgia, to attend Ocean Margins meeting.

Marine Education Services

Ocean Week — Next week Port Aransas ISD celebrates its 8th *OCEAN WEEK*. Project *OCEAN WEEK* was piloted in Port Aransas in 1988 with support from NSF. In *OCEAN WEEK*, as in the current *MARE* Project, each grade level studies a different marine habitat. The entire school becomes the ocean during an *OCEAN WEEK* celebration, with classrooms decorated as the habitat studied and classes taking field trips and host guest speakers. Students from Andrea Cantu's 7th grade science class will join an MES-led field trip to the local jetties with follow-up labs in the pier laboratory. On Monday, two classes of 1st graders will visit the jetty and participate in activities in the pier lab. On Tuesday, Bill Slingerland's High School Marine Science Class will take the 3rd grade to the marsh and the Kinder kids will study a variety of crabs provided by MES. On Wednesday, Rick Tinnin will escort the 2nd graders to the Padre Island National Seashore for a beach study and scavenger hunt. The Kinder students will study urchins and seastars furnished by MES. On Thursday, Rick will visit with the Kinder class for a lesson on fish and some fish-printing. Thursday night is an open house and everyone is invited to visit the "Ocean" in the students' classrooms. Friday culminates with a beach party for all of the elementary students and a marsh trip for Ms. Cantu's science classes.

On Saturday, MES hosts 25 3rd grade teachers from Austin and Corpus who are participating in the NSF-sponsored Marine Activities Resources and Education (MARE) program. They are one of the six grade level groups who are participating in habitat specific workshops. This gives the teachers one more chance to visit their habitat, collect representative samples to take back to their classes, make videos and take pictures to share with students. These weekend workshops will continue through November. —*Rick Tinnin*

Personnel

James Cameron has resigned.

MSI Employees Proud Parents of —

P.A.I.S.D. — FIRST SIX WEEKS HONOR ROLLS

- OLSEN ELEMENTARY A HONOR ROLL
  - fourth grade: Jennifer Seguin
  - fifth grade: Lauren Kalke
- OLSEN ELEMENTARY A/B HONOR ROLL
  - fourth grade: Jack Montagna, James Cantu
- BRUNDRETT MIDDLE SCHOOL A HONOR ROLL
  - sixth grade: Nicole Buskey, Karli Dunton, Tomi Jackson, Alex Seguin, Stephanie Tinnin
  - seventh grade: Rachel Pearson
  - eighth grade: Nathan Dunton
- BRUNDRETT MIDDLE SCHOOL A/B HONOR ROLL
  - sixth grade: Brince Abel, Tess Montagna
  - seventh grade: Sean Cantu, Sarah Seguin
  - eighth grade: Chris Kalke, Kate Montagna, Patricia Tinnin
- HIGH SCHOOL A/B HONOR ROLL
  - ninth grade: Matt Pearson

Adventures of Barnacle Bill

Whatever we do in this lifetime is recorded somewhere in someone's memory. Or better yet, there is someone to tell the story for all to hear. I, *Barnacle Bill*, not only tell stories, I make stories. Everywhere I go and everything I do has potential of becoming an adventure. Something is going to happen. A while back someone discarded an old sailboard, which looked to be in bad bad shape. *Barnacle* took it home. Replacing a few missing parts (rudder, tiller, centerboard, mast and sail) I put this treasure back into almost perfect condition. Sailing it is like giving mouth to mouth to a dying fish. It can be done, but it takes lots of practice. I specialize in sailing after the sun sinks really low. Everything looks better in the darkness of night. Wyatt Harris, after reading some of my adventures of the past, asked *did all this stuff really happen?* You bet. One evening Wyatt's lovely wife was looking out over the dimly moon lit cove. A sailing craft came screaming out of the darkness passing them in a flash. She asked, *who was that fool sailing without a light?* Without thinking, Wyatt answered, *probably Barnacle Bill*. I can't believe he had made such a rash judgement without any thought at all. I've been stopped two times by the Coast Guard. Once for excessive speed and once for no tail-lights. Who ever heard of such nonsense? When they asked where I was coming from—would you believe I said *Galveston*. *COYOTE* (that's my boat) has been kind of sad lately. She has about an acre of brightwork. For you landlubbers, brightwork is like grass. You mow yours weekly. I varnish mine yearly. More like all year. Enjoy the air conditioning during this hot spell. *That's my job. That's what I do.* Until next time, did I ever tell you about the... *—Bill Piepmeier*

Fiscal Office Facts...and foo-fa-raw

Gasoline credit cards — Please be sure the gallons and price per gallon for fuel are indicated on the credit slip. This is important so we can get the road tax credit. Also be sure to indicate if it is for a boat rather than a vehicle.

Attaboys

■ *We wanted to say thank you for a wonderful weekend. We enjoyed the activities, learned many things, and became excited about teaching with the M.A.R.E. units. Please also express our appreciation to the ladies in the cafeteria. The food was delicious and they were always so helpful and cheerful.*
(To Rick Tinnin and Pat Lamas from the Davis Elementary Second Grade Team)

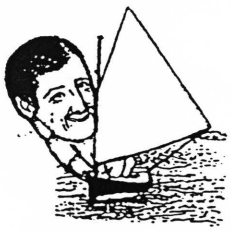
■ *On behalf of the National Research Council, I want to express to you our deep appreciation for your service as a member of the Marine Board Committee on Shipborne Wastes of the Commission on Engineering and Technical Systems and your participation in all phases of its work. The members of the Commission, the Board, and I are aware of the personal effort required in the accomplishment of your tasks associated with the Board's activities. Please accept our thanks for the time and specialized knowledge you have contributed to the National Research Council and for a job well done. Enclosed for your records is a copy of the report* Clean Ships, Clean Ports, Clean Oceans. *With the publication of this report, the work of your committee is completed, and the committee is hereby disbanded.*
(To Tony Amos from Bruce Alberts, Chairman, National Research Council)

Egabrag Wocs

HOUND DOG IN NEW ORLEANS — *(I guess this is the second of a series on MSI dogs in New Orleans. Bob Jones e-mailed the following after reading last issue's Barnacle Bill story of JoJo relieving himself in a New Orleans shop)* Suddenly we found ourselves headed back to Texas for a new job with UTMSI (Program Manager, BLM/OCS). Stopped in New Orleans as did Barnacle. We checked into a highrise Holiday Inn near the French Quarter. They wouldn't allow old Hound Dog in the room, but had a kennel one level below the basement garage. No problem, right? We dropped our friend off in the kennel. There were no other animals there. He just looked out of his cell with that floppy-lipped smile hounds have and wagged his tail. Gee, we thought, he likes his room in the Holiday Inn. Sally, Robert, Jeff and I were in the elevator passing about the 10th floor, when suddenly up the elevator shaft, and throughout the hotel, came this gradually rising Hooooooooooooooooo!!! Old Hound Dog had never uttered such a prodigiously long howl in his short career of treeing raccoons. As we left the elevator heading down the hall for our room, folks were opening their doors and peering out. One gent asked, "What on earth is that God awful noise?" "Beats me," I said as we swept past and disappeared into our room. Went on for hours.

Ah, but he was a character. Hound Dog used to walk to school with the kids and sleep in the back of one of the classrooms until time to go home. Everybody in Port A knew him. I remember one day when a deputy constable stopped his patrol car in front of our house on Avenue A. I thought, "now what?". The deputy leaned over and opened the passenger side door and his prisoner jumped down to the ground and trotted up to our door. I heard the deputy say as he drove off, "Have a nice day Hound Dog old buddy." Yes, only in early Port A could a dog get a ride home from a hard day around town. I can still see his genes in some of the boonie dogs on the island. *Those were the days.* —*Robert S. Jones*

Cruise Reports & Boat Operations



ETTA cruise to Port Isabel — The *ETTA* spent most of last week in the lower Laguna Madre on research related to the biology and ecology of the turtle grass *Thalassia testudinium*. Joining the *ETTA* on this delightful cruise were Ken Dunton, Jim Kaldy, Sharon Herzka and Kun-Seop Lee. The *ETTA* performed flawlessly to and from Port Isabel. The total running time was about seven hours and fuel consumption ranged from 21 to 23 gallons per hour. The crew felt that the newly built (*Peterbilt-like*) generator cover resulted in the improved fuel consumption and speed. We thank both Noe (for the ideas) and Mark (for implementing them) in their efforts to make this most recent *ETTA* trip like the perfect ones of times past (we even avoided the first norther of the season). —*Ken Dunton*

Cruise #95-651 for the Geochemistry and Environmental Research Group of Texas A & M University, College Station, got underway at 0100, September 22, 1995 with Ian McDonald as Chief Scientist. The cruise called for a rendezvous with an airplane overflight. Strong winds (with gusts of 51 mph) and high seas restricted progress and it was impossible to reach the designated point in time. The *R/V LONGHORN* returned to port late on the 22nd. *R/V LONGHORN* departed again, leaving at midnight, Saturday the 23rd. Reasonable weather prevailed and a successful rendezvous was made at the next overflight. As of 1500 on September 28, *R/V LONGHORN* was returning to Port Aransas.

Publications

New listings since June 1995

Ambler, J.W., S.A. Broadwater, E.J. Buskey and J.O. Peterson. 1995. Mating behavior in swarms of *Diothona oculata*. *Journal of Marine and Freshwater Behavior and Physiology* (in press).

Amon, R.M.W. and R. Benner. 1995. Bacterial utilization of different size classes of dissolved organic matter. *Limnology and Oceanography* (in press).

Benner, R., S. Opsahl, G. Chin-Leo and J.E. Richey. 1995. Bacterial carbon metabolism in the Amazon River system. *Limnology and Oceanography* (in press).

Dunton, K.H. and P.K. Dayton. 1995. The biology of high latitude kelp. *Proceedings of the Symposium on the Ecology of Fjords and Coastal Waters*. Amsterdam: Elsevier Press (in press).

Hennes, K.P., A.M. Chan and C.A. Suttle. 1995. Fluorescently labelled virus probes show that natural virus populations can control the structure of marine microbial communities. *Applied Environmental Microbiology* 61:(in press).

Kaldy, J.E., K.H. Dunton and A.B. Czerny. 1995. Variation in macroalgal species composition and abundance on a rock jetty in the northwest Gulf of Mexico. *Botanica Marina* (in press).

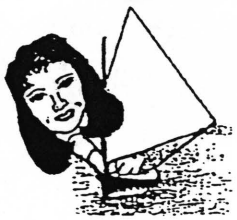
Montagna, P.A. 1995. Rates of meiofaunal microbivory: a review. *Vie et Milieu* 45:1-10.

Montagna, P.A., J.E. Bauer, D. Hardin, and R.B. Spies. 1995. Meiofaunal and microbial trophic interactions in a natural submarine hydrocarbon seep. *Vie et Milieu* 45:17-26.

Montagna, P.A., G.F. Blanchard and A. Dinet. 1995. Effect of production and biomass of intertidal microphytobenthos on meiofaunal grazing rates. *Journal of Experimental Marine Biology and Ecology* 185:149-165.

Opsahl, S. And R. Benner, Early diagenesis of vascular plant tissues: lignin and cutin decomposition and biogeochemical implications. *Geochimica et Cosmochimica Acta* (in press).

— compiled by Patty Webb



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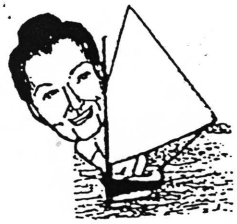


The library acknowledges the gifts of books, journals and reports from Dr. Hinton D. Hoese. Dick Hoese was a student here many years ago and is co-author of *Fishes of the Gulf of Mexico with emphasis on Texas and Louisiana*. Dr. Hoese's interest in this collection is very much appreciated.

—Ruth Grundy

NEW BOOKS

Mary Anderson Abell Endowment

The bio-physics of marine larval dispersal. Sammarco & Heron (eds). 1994.
Dynamics and exchanges in estuaries and the coastal zone. David Prandle (ed). 1992.
Introduction to the general principles of aquaculture. Ackefors, Huner, & Konikoff. 1994.
Molecular genetics in fisheries. Carvalho & Pitcher (eds). 1995.
Nearshore and estuarine cohesive sediment transport. A.J. Mehta. 1993.
Tropical mangrove ecosystems. Robertson & Alongi (eds). 1992.

Marine Science Advisory Council Special Funds

Formation and evolution of multiple tidal inlets. Aubrey & Giese (eds). 1993.
Poleward flows along eastern ocean boundaries. S.J. Neshyba *et al.* 1989
Residual currents and long-term transport. R.T. Cheng (ed). 1990.
Seasonal and interannual variability of the western Mediterranean Sea. Paul E. La Violette (ed). 1994.

General Libraries Automatic Book Purchase Plan

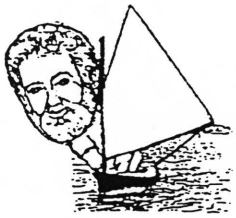
Among whales. Roger Payne. 1995.
An assessment of Atlantic bluefin tuna. National Research Council. 1994.
Behavioural ecology of fishes. Huntingford & Torricelli (ed). 1993.
Biological assessment and criteria, tools for water resource planning and decision making. Davis & Simon (eds). 1995.
Broodstock management and egg and larval quality. Bromage & Roberts (eds). 1995.
Coastal marine ecology. Underwood & Chapman. 1995.
Coastal problems. Viles & Spencer. 1995.
Design of fishways and other fish facilities. 2nd ed. C.H. Clay. 1995.
Encyclopedia of fishes. J.R. Paxton & W.N. Eschmeyer. 1995.
Eutrophic shallow estuaries and lagoons. Arthur J. McComb. 1995.
Hake fisheries, ecology and markets. Albeit & Pitcher (eds). 1995.
Bottom soils, sediment, and pond aquaculture. Claude E. Boyd. 1995.
Microfauna marina. Vol.9 Peter Ax (ed). 1994.
Mid-oceanic ridges, mountains below sea level. Adolphe Nicholas. 1995.
Ocean planet. Judith Gradwohl (ed). 1995.
Ocean acoustic tomography. Munk, Worchester & Wunsch. 1995.
Priorities for coastal ecosystem science. National Research Council. 1994.
Statistics for the environment 2, water related issues. Barnett & Turkman (eds). 1994.
Use of aquatic invertebrates as tools for monitoring of environmental hazards. Werner E.G. Muller (ed). 1994.

Gifts/Exchange

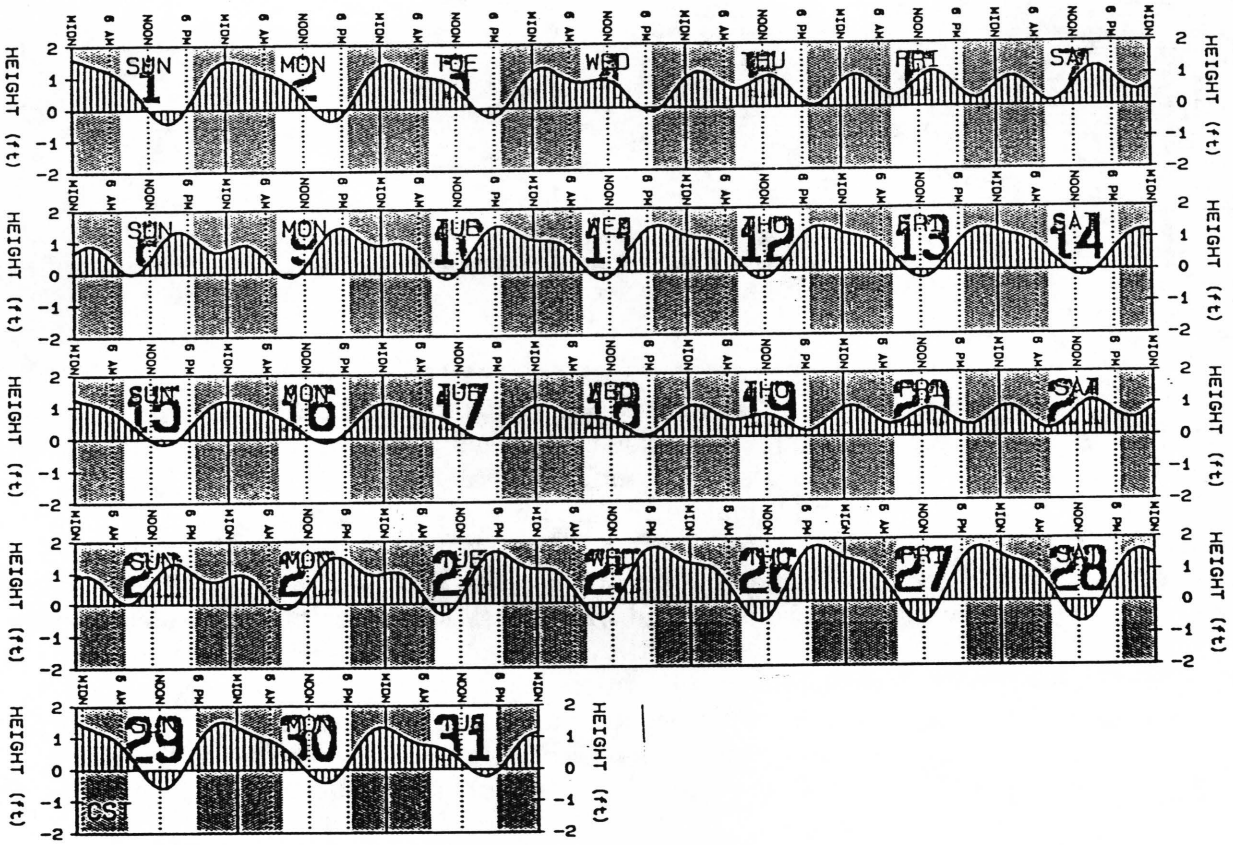
Aquatic communities, swamps and tall-herb ferns. J.S. Rodwell (ed). 1991.
Bridges to the world of water. Phyllis J. Perry. 1995.
Transkei coastal fisheries resources. J.P. Fielding *et al.* 1994.
Ion channels and genetic diseases. Dawson & Frizzell (eds). 1995.
Lower organisms and their role in the food web. European Marine Biology Symposium 15th : 1980 : Kiel.
Distribution and activity of microorganisms in the sea. 4th European Marine Microbiology Symposium. 1990.
Nitrogen, phosphorus, plankton and oxygen deficiency in the German Bight and in Kiel Bay. Sebastian A. Gerlach (ed). 1990.
Baltic sea environment, history - eutrophication - recruitment - ecotoxicology. 10th Symposium of the Baltic Marine Biologists. 1987.

Biological features of the Baltic. 5th Symposium of the Baltic Marine Biologists. 1978.
Pescados y mariscos del las aguas Mexicanas. Catalogo - recetario. 1985.
Ecological characterization of the southern Quintana Roo Coral Reef System. John W. Tunnell, Jr *et al.* 1993.
Identification of larval fishes of the Great Lakes basin. Nancy A. Auer (ed). 1982.

Tony's Tidings...



Tide Predictions for October *(For tidal heights at the tide tower, South Jetty, the Aransas Pass. Heights are in feet above or below mean sea level. The shaded area is nighttime. Remember, this is tidal height, not tidal current. Slack water is when the wiggly line crosses the MSL line, not at peaks and valleys, where the tidal current will be a full flood or ebb.)*



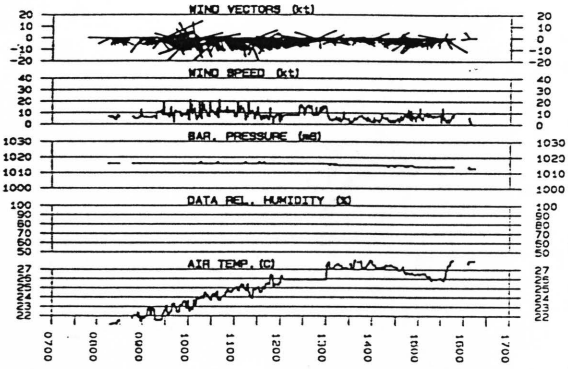
The R/V (Research Vehicle) GATOR made its eighth survey of San Jose Island last Sunday (we do the surveys at an 8-day interval, rather than weekly to avoid interference with other regular field work) on a beautiful, cool, sunny day, the first day of Fall. The GATOR looks somewhat like the Apollo Lunar Rover when we take it to San Jose these days because of the equipment added, particularly the weather system, which has an anemometer, temperature and humidity sensors on a pole extending above the sunshade canopy.. On the "dash board" we mount a GPS and a laptop computer, secured there using

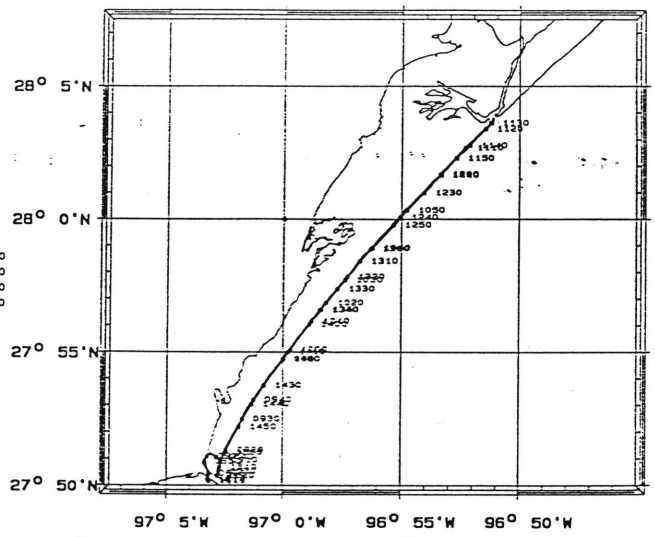
a space-age super velcro called "Mushroom Lok". This stuff works well to secure computers on research vessels in the Antarctic (and even on the LONGHORN), but is occasionally jarred loose by the somewhat rough ride of the GATOR! At one time I looked with horror as the GPS bounced off the dash and disappeared from sight under the vehicle, held on only by the curly battery cord. It did not stop functioning although the cord is now stretched beyond its intended limit.

R/V GATOR SAN JOSE I. UNDERWAY DATA: 09-24-1995

SCIENTIFIC ACTIVITIES THIS DAY:

OTHER INVESTIGATIONS and NOTES
Logged both outbound and return journeys
this observation
Found one turtle bone.
Probably uncovered by high tides
SUN PHENOMENA





I have included the log sheet from this trip and the GATOR's "cruise track". Recording is started as soon as the GATOR is towed across the channel and you can see our trip across the ship channel and the south end of the island. Towing GATOR across the channel is an adventure in itself. The main hazard is from the wakes of other vessels, both recreational and commercial. It is particularly unnerving if we must cross the wake other than perpendicularly. It is best not to look at the gyrations of the GATOR when this happens. Often we make gestures to the approaching boats to get them to slow down, or talk on the radio to boat captains of larger vessels. This, combined with the skill of boatman Mark McGarity, avoid all but a few "muscle-tightening" experiences. Once on the San Jose Island beach we head north to Cedar Bayou, searching for turtles (this trip we found one old turtle bone). The return journey is devoted to counting certain items of trash on the beach. Here we use another computer, with its keyboard especially designed for the task. Even so it is an arduous job and takes nearly four hours to get back to the North Jetty. Below is a list of the items counted from the last trip. Only those found on the "active" beach area are counted.

MARINE DEBRIS ON SAN JOSE ISLAND

ITEM	NUMBER	ITEM	NUMBER
HARD HATS	60	LIGHT BULBS	168
FLOATS	195	RUBBER GLOVES	229
MILK JUGS	752	GREEN BOTTLES	203
EGG CARTONS	151	CHEMICAL DRUMS	488
SHRIMP BASKETS	39	BEVERAGE CANS	301
CRATES	141	**TOTAL**	**2727**

There are many more in the coppice dunes and beyond. It was particularly sad to see the south end one week after the Big Beach Cleanup. Last Saturday, volunteers removed 153 one-gallon milk jugs from the beach (among a great many other items). This Sunday we counted 243 milk jugs in the place they had cleaned.

This was Research Assistant Andi Wickham's last GATOR trip for a while. Andi is now recovering from scheduled surgery and will be convalescing for a few weeks. Get well soon, Andi! Many thanks to Mike Horn who made the special Zeno (the weather system) holder for the GATOR. It works well, Mike, especially when using the auxiliary "Zeno Holder Persuader" aid in installation. *—Tony Amos*

R/V GATOR 1995 SAN JOSE I - SCIENCE LOG; SURVEY # 8 01-01-1988

DAILY SUMMARY

DISTANCE TRAVELLED TODAY 39.2 nm
TOTAL DISTANCE TRAVELLED 185.8 nm
GATOR SPEED (kts) ; AVERAGE= 5.3 MAXIMUM= 13.9 AT 1459 HRS. MINIMUM= 0.0 AT 1524 HRS.

AIR TEMPERATURE (C); AVERAGE= 25.3 MAXIMUM= 28.7 AT 1839 HRS. MINIMUM= 20.9 AT 1314 HRS.
BAROMETRIC PRESSURE (mb); AVERAGE= 1015.5 MAXIMUM= 1016.8 AT 1613 HRS. MINIMUM= 1013.4 AT 2107 HRS.
RELATIVE HUMIDITY (%); AVERAGE= 0.0 MAXIMUM= 0.0 AT 1314 HRS. MINIMUM= 0.0 AT 1314 HRS.

WIND SPEED (kts); AVERAGE= 7.9 MAXIMUM= 21.4 AT 1501 HRS. MINIMUM= 0.0 AT 2109 HRS.
MEAN DAILY WIND VELOCITY= 5.1 (kts) FROM 074 DEGREES TRUE

Weather Report for September 4 — 24

04 - 10 SEP 1995	MON	TUE	WED	THU	FRI	SAT	SUN	MEAN
DATE	04	05	06	07	08	09	10	
AIR TEMP ... HIGH	92.1	91.2	90,5	87.87	89.9	89.2	89.9	90.8
AIR TEMP ... LOW	81.5	82.2	76.2	81.1	77.9	76.4	79.5	79.3
SEA TEMP ... LOW	82.1	--	86.3	--	86.7	--	85.6	86.2
RAINFALL TOTAL	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

11 - 17 SEP 1995	MON	TUE	WED	THU	FRI	SAT	SUN	MEAN
DATE	11	12	13	14	15	16	17	
AIR TEMP ... HIGH	90.1	89.9	89.6	88.5	89.2	89.7	90.1	89.6
AIR TEMP ... LOW	80.9	82.9	74.8	75.3	82.5	83.1	83.3	80.4
SEA TEMP ... LOW	--	--	85.7	--	84.3	--	85.3	85.1
RAINFALL TOTAL	0.00	0.00	0.14	0.46	0.00	0.00	0.00	0.60

18 - 24 SEP 1995	MON	TUE	WED	THU	FRI	SAT	SUN	MEAN
DATE	18	19	20	21	22	23	24	
AIR TEMP ... HIGH	90.6	90.5	89.9	86.0	77.3	76.1	82.0	84.6
AIR TEMP ... LOW	82.4	83.4	78.2	75.2	57.2	58.8	67.4	71.8
SEA TEMP ... LOW	--	86.4	--	84.7	--	74.9	86.1	82.0
RAINFALL TOTAL	0.00	0.00	0.35	0.69	1.87	0.00	0.00	2.91

—Tony Amos

Note:Friday September 22, the air temperature dipped to 57.2 (14.1C) with the first cold front of the season. This was the first time the air temperature was below 70 degrees since May 20, and the first time it dropped below 60 (21.1C) since April 24. The sea cooled down to 74.9 (23.8C).

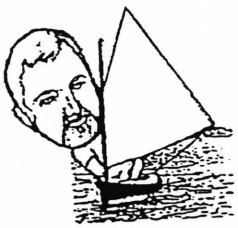
Facilities & Equipment

Cooling tower — A contract was entered early in the summer for a major repair and refurbishment of the cooling tower which serves the two main chillers at MSI. Work has been delayed awaiting cooler weather in November. The cooling tower serves the Administration Building, Laboratory Building, Dormitory, Visitor Center/Library, Cafeteria and Dorm A. During the work, which will take about one week, only "outside" air will be available for circulation from the air handlers. This week one of the two fans serving the tower decided it could not wait to be replaced. However the maintenance crew is taking measures to get by with one fan or put in a temporary replacement. We trust a heat wave will not occur in November.

Warehouse — The MSI warehouse, unofficially known as the *Sakewitz Warehouse,* has been condemned as a safety hazard and is scheduled for demolition. Specifications have already been prepared and a prebid conference is set for Friday, October 6. The work includes both asbestos and paint abatement. The old building will be completely removed and the area sodded with grass. The *Sakewitz Warehouse* began life as a Country/Western Dance Pavilion back in the pre-Celia/White Marlin Enterprises days. After The University acquired the boat basin property the old pavilion, which had been partially destroyed in Hurricane Celia, was rebuilt into a residence for the University's police officer. Later it was converted to a warehouse. A new warehouse is on the MSI list of requests, but has not, as yet, been approved.

Paving — A contract for paving has been entered with Island Construction, Inc. and work should begin very soon. One portion of the work involves the boat basin and provides for a one-way safe unloading area for school buses bringing children to voyages on the *R/V KATY.* The other portion provides a paved road and parking area for the MSI Pier.

Editor's Note



Serious stuff: We try to have each student graduating from the Department of Marine Science on the masthead of the *LazGaz,* along with some general article or comments and an abstract of their thesis or dissertation. Often the abstract will be somewhat esoteric. Nevertheless we feel the abstracts do belong in the *LazGaz. Not so serious stuff:* Having experienced my own misadventures with sailboards, I was intrigued with the idea of Barnacle screaming around the PA boat basin in the darkness in his rehabilitated throw-away sailboard, and especially intrigued that he had replaced the *missing* rudder (since sailboards don't have rudders). My own sailboard has been *drydocked* since before a back operation. While Barnacle's adventures make me want to try out a new boom—purchased but never used, remembrances of my half-century-plus carcass catapaulting through space to land in a loud splash cause me to leave the new boom in its box. *Hound Dog stuff:* Bob Jones' Hound Dog was named after my own Hound Dog of even earlier years, who never made it to New Orleans, but had some adventures in PA, such as an accidental swim in the UT boat basin, being rescued by Captain Elgie Wingfield of the *R/V LORENE* just as Hound Dog could barely paddle another stroke. Another time Hound Dog and I fought a large rattlesnake together, somehow destroying my bicycle in the process, the details being too embarrassing to relate. Thanks to Steve Opsahl, Terry Whitledge, Ken Dunton, Rick Tinnin, Tony Amos, Ruth Grundy, Lynn Amos, Linda Yates, JoAnn Page, Kathy Quade and Patty Webb for help with this issue of the *LazGaz.* —*John Thompson*