

THE UNIVERSITY OF TEXAS
MARINE SCIENCE INSTITUTE
PORT ARANSAS MARINE LABORATORY
PORT ARANSAS, TEXAS

NATURAL HISTORY SPECIMEN COLLECTIONS

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The University of Texas Marine Science Institute, Port Aransas Marine Laboratory, Natural History Collection of Marine Organisms was initiated in the mid-1940's. Since that time specimens have been added from studies in the Gulf of Mexico, associated estuaries, and marine-influenced terrestrial habitats, with emphasis on the Texas and Mexico coasts. These studies were the baseline surveys for this area and have resulted in the collection of valuable marine organisms. The collection now holds approximately 5,000 catalogued specimens including all forms of biota, vertebrates, invertebrates, algae and flowering plants.

The collection includes the marine fish and invertebrate specimens of the Texas Parks & Wildlife Department, incorporated into the UTMSI-PAML collection in 1976. This state collection, numbering 3,000, is composed primarily of Texas Gulf coast species of fish and invertebrates, representing baseline surveys conducted by the state fisheries biologists. With this collection are card catalogues by specimen number and phylogenetic order.

Other collections incorporated are those from R/V Oregon cruises (U.S. Fish & Wildlife Service, Bureau of Commercial Fisheries, exploratory fishing vessel), H. H. Hildebrand's faunal surveys of the brown and pink shrimp grounds, Whitten et al.'s faunal survey of Texas coast jetties, J. W. Hedgpeth's specimens collected during numerous faunal surveys, tide trap studies, and vegetation and algal surveys. Noteworthy studies from which specimens have been added to the collection are listed in Table 1.

The museum collection is housed in an air-conditioned building in a room specifically designed for this collection. The present facility contains 924 square feet with 1089 square feet of shelf space, which can be trebled to accommodate BLM collections. There are at present 32 1' x 12' shelves, totaling 384 square feet; 194 18" x 12-1/2" shelves, totaling 303 square feet; and 120 11-1/2" x 42" shelves, totaling 402.5 square feet.

The collection is a working museum open to the scientific community; specimens are available on loan to members of this community. Specimens may be used by visiting researchers, graduate level students, professors, and classes. Attached is an invoice form, "Invoice of Specimens" - a standard form used for loan of collection items.

The Port Aransas Marine Laboratory is committed to the continuing curation of specimens and will continue to provide the supplies necessary to maintain the natural history specimen collections. The University of Texas Marine Science Institute, Port Aransas Marine Laboratory is willing to incorporate the Bureau of Land Management collection into its collection. Funding is requested from BLM to obtain and incorporate all archived BLM specimens from the S.T.O.C.S. survey into the collection.

TABLE 1.

BIBLIOGRAPHY OF PERTINENT STUDIES FOR WHICH SPECIMENS HAVE BEEN CATALOGUED
INTO THE NATURAL HISTORY SPECIMEN COLLECTIONS

- Breuer, Joseph P. 1957. Ecological Survey of Baffin and Alazan Bays, Texas. *Publs. Inst. Mar. Sci. Univ. of Texas* 4(2):134-155.
- _____. 1962. An ecological survey of the Lower Laguna Madre. *Publs. Inst. Mar. Sci. Univ. of Texas* 8:151-183.
- Carlgren, Oskar and Joel W. Hedgpeth. 1952. Actinaria, Zoantharia and Ceriantharia from shallow water in the northwestern Gulf of Mexico. *Publs. Inst. Mar. Sci. Univ. of Texas* 2(2):143-163.
- Copeland, B. J. 1965. Fauna of the Aransas Pass Inlet, Texas. I. Emigration as shown by tide trap collections. *Publs. Inst. Mar. Sci. Univ. of Texas* 10:9-21.
- Edwards, Peter S. 1970. Illustrated guide to the seaweeds and sea grasses in the vicinity of Port Aransas, Texas. *Contrs. Mar. Sci.* 15:1-128.
- Gillespie, Terry S. 1976. The flowering plants of Mustang Island, Texas--An annotated checklist. *Texas J. Sci.* 27(1):131-148.
- Gunter, Gordon. 1945. Studies on marine fishes of Texas. *Publs. Inst. Mar. Sci. Univ. of Texas*, 1(1):1-190.
- _____. 1950a. Seasonal population changes and distribution as related to salinity of certain invertebrates of the Texas coast, including the commercial shrimp. *Publs. Inst. Mar. Sci. Univ. of Texas* 1(2):7-51.
- _____. 1950b. Distribution and abundances of fishes on the Aransas National Wildlife Refuge, with life history notes. *Publs. Inst. Mar. Sci. Univ. of Texas* 1(2):89-119.
- _____. 1958. Population studies of the shallow water fishes of an outer beach in south Texas. *Publs. Inst. Mar. Sci. Univ. of Texas* 5:186-193.
- Hedgpeth, Joel W. 1953. An introduction to zoogeography of the northwestern Gulf of Mexico with reference to the invertebrate fauna. *Publs. Inst. Mar. Sci. Univ. of Texas* 3(1):107-224.
- Hellier, Thomas R., Jr. 1958. The drop-net quadrat, a new population sampling device. *Publs. Inst. Mar. Sci. Univ. of Texas* 5:165-168. (part of Texas Parks and Wildlife Dept. study of the productivity of the striped mullet in the Laguna Madre of Texas)
- Hildebrand, Henry H. 1954. A study of the fauna of the brown shrimp (Penaeus aztecus Ives) grounds in the western Gulf of Mexico. *Publs. Inst. Mar. Sci. Univ. of Texas* 3(2):233-366.
- Hildebrand, Henry H. 1955. A study of the fauna of the pink shrimp (Penaeus duorarum Burkenroad) grounds in the Gulf of Campeche. *Publs. Inst. Mar. Sci. Univ. of Texas* 4(1):170-232.

- Hoese, H. D. 1958. A partially annotated checklist of the marine fishes of Texas. *Publs. Inst. Mar. Sci. Univ. of Texas* 5:312-352.
- Kornicker, Louis S., F. Bonet, Ross Cann, and Charles M. Hoskin. 1959. Alacran Reef, Campeche Bank, Mexico. *Publs. Inst. Mar. Sci. Univ. of Texas* 6:1-22.
- McFarland, William N. 1963. Seasonal changes in the number and the biomass of fishes from the surf at Mustang Island, Texas. *Publs. Inst. Mar. Sci. Univ. of Texas* 9:91-105.
- Moore, Donald R. 1958. Notes on Blanquilla Reef, the most northerly coral formation in the western Gulf of Mexico. *Publs. Inst. Mar. Sci. Univ. of Texas* 5:151-155.
- Rice, Winnie S. and Louis S. Kornicker. 1965. Mollusks from the deeper waters of the northwestern Campeche Bank, Mexico. *Publs. Inst. Mar. Sci. Univ. of Texas* 10:108-172.
- Springer, Victor G. 1958. Systematics and zoogeography of the Clinid fishes of the subtribe Labrisomini Hubbs. *Publs. Inst. Mar. Sci. Univ. of Texas* 5:417-492.
- Whitten, H. L. Hilda F. Rosene, and J. W. Hedgpeth. 1950. The invertebrate fauna of Texas coast jetties; a preliminary survey. *Publs. Inst. Mar. Sci. Univ. of Texas* 1(2):53-87. (with a systematic index by J. W. Hedgpeth).

DESCRIPTION OF MAJOR COLLECTIONS

Fish Collection

There are 2,588 catalogued specimens in the fish collection, with approximately 300 specimens waiting to be catalogued. There is a card catalogue by family and species with reference to the MSI/PAML catalogue number and reference to Texas Parks & Wildlife catalogue number, if any. Areas collected and represented in the fish collection are the Texas coast, local bay areas, offshore continental shelf; the Mexican Gulf coast, Laguna Madre in Tamaulipas, continental shelf off Tamaulipas, Blanquilla Reef, Lobos Reef, Alacran Reef, Campeche Bank, and reefs off Vera Cruz; and other Gulf coast areas, primarily Louisiana and Florida. Some of the collectors are H. H. Hildebrand, J. Hedgpeth, D. Kramer, R. H. Moore, D. Simpson, M. Burkenroad, K. Strawn, H. Compton, H. D. Hoese, and local shrimpers.

Invertebrate Collection

Approximately 1,700 specimens have been catalogued, and 300 specimens need to be entered into the collection. Some of the specimens are from the Texas Parks & Wildlife Department collections. The same locations and collectors as indicated above for the fish collections are represented in the invertebrate collection. The mollusc collection represents over 1,000 of the catalogued invertebrate collection specimens. Some of the same locations as above are represented with the addition of Alacran Reef shells from Louis S. Kornicker and Winnie H. Rice and contributions from local conchologists Jean Andrews and Anne Speers.

Herbarium

The herbarium includes both algae and flowering plants and consists of approximately 400 catalogued specimens. Collections represent local habitats such as barrier islands, spoil banks, tidal flats, and marshes. Collectors include Peter Edwards, seagrasses and seaweeds in the vicinity of Port Aransas; Terry Gillespie, vegetation of Mustang Island; Jerry McAtee, Padre Island vegetation; and RANN group collections. The RANN (Research Applied to National Needs) collection forms the basis for a computerized data bank which will give the user information on the species of plants in the local area, and habitats and relationships to other flora.

Catalogues of specimens are maintained by group, to facilitate utilization of the collection in smaller units, and retrieval of computerized information in more files of manageable size.

- I. Porifera, Cnidaria
- II. Mollusca
- III. Vermes and Minor Phyla - includes polychaetes, sipunculids, nemerteans, bryozoans, platyhelminthes, etc.
- IV. Crustacea
- V. Echinodermata, Chordata
- VI. Fishes and other vertebrates
- VII. Herbarium

MAJOR PROJECTS TO BE COMPLETED FOR THE NATURAL HISTORY COLLECTIONS

1. Natural history collections data bank has been set up for the collections so that each specimen is recorded, coded, and loaded into the computer with all the pertinent information about that specimen. Retrieval of the information may be by specimen, or by various categories, such as all of one family, all of a certain location, all of a genus collected in one area during a period of time, etc. New categories of information can be added to the system. Once the system has been set up, it would probably require input every four months with a yearly printout. These printouts could be distributed to interested institutions and persons. To date, only the herbarium is in the system; part of the mollusc collection has been coded but not keypunched, and all other collections remain to be done (samples attached).

2. A system for checkout of specimens and procedures for loan of specimens has been set up. In addition, a system by which researchers may access data in the collections data bank has been formalized for optimal utilization of the collection. One person will be in charge of all these procedures and records will be kept.

3. Previous maintenance of the specimen collections has been by special temporary funds and by volunteer helpers. The collection now has permanent, continuing support (at least on a half-time basis) for proper maintenance, acquisition, and facilitation of utilization of collection specimens.

4. We need more storage space, especially heavy containers. We need more storage room, especially if the collection is to be expanded to any extent or if the BLM specimens are archived in it. Plankton samples on the shelves may need to be stored elsewhere.
5. A teaching collection of representative marine organisms will be set up from specimens that have no data and are not valuable to the catalogued collection.
6. The taxonomy on many of the catalogued specimens will be reviewed and updated. A system will be incorporated in the Natural History Collections Data Bank to accommodate these changes, i.e., so that the specimens may be located under both old and new names.
7. Trips will be made to other museums to coordinate the UTMSI-PAML collections with other widely-used museums.
8. Consultants are foreseen for specialized problems, such as updating the taxonomy of a particular group of organisms or advice in maintenance of special specimens.
9. Additions to the collections will be made when time allows for trips on the R/V Longhorn, R/V Lorene, R/V Oregon and any of the scheduled boat trips for UTMSI-PAML. Other additions will be made upon the completion of research projects in which marine organisms were collected, identified, and recorded.

CODING SHEET FOR COLLECTIONS DATA BANK

1. Class	A	PELELYPODA	1
2. Family		PHOLADIDAE	
3. Genus		BARNEA	
4. Species		TRUNCATA	SAP
5. Locality Name	B	FALLEN ANGEL WING	
6. Life Stage		ADULT	
7. Historical Age	C		
8. Geological Period			
9. Formation			
10. Identified By	H	ANNE SPERS	
11. Collector		ANNE SPERS	
12. Date of Collection (Mo, Da, Yr)			58
13. Date of Collection (24HR)			
14. Locality (Day-min, in 24HR)			
15. Locality (Hour-min, in 24HR)			
16. Locality (Name of Locality)	E	MUSTANG IS.	
17. Locality		SPRIL BANK	
18. Date of Collection			
19. Method of Collection			
20. Original Collection Number	F	159	
21. Catalogue or Accession Number			
22. Voucher Number			
23. Method of Preservation			
24. Condition of Specimen		GOOD	
25. Date of Collection			
26. Additional Information	G		
27. The Collector		MSI	
28. Date of Collection		P. JEHN	
29. Date of Collection (Mo, Da, Yr)		5	21
30. Date of Collection (Mo, Da, Yr)			'76

NO. OF ITEMS = 357

SAMPLE CALL OUT OF DATA BANK
INFORMATION

PRINT: CLASS, FAMILY, (GENUS, SPECIES, COMMON NAME) FOR ENTRIES WITH
NOT GENUS, UNKNOWN*

NO. OF ITEMS IN QUERY RESPONSE = 357

NO. OF ITEMS IN THE DATA BANK = 357

PERCENTAGE OF RESPONSE/TOTAL DATA BANK = 100.00

STATISTICS TAPE FILE NO.: 1

END*

NO. OF FILES ON STATISTICS TAPE: 1

TOTAL RUN TIME IN SECONDS

CENTRAL PROCESSOR: 13.347

PERIPHERAL PROCESSOR: 3.224

CHLOROPHYCEAE

ULVACEAE

CHLOROPHYCEAE	ENTEROMORPHA	INTESTINALIS	---
	BYOPSIDACEAE		
	BYOPSIS	PLUMOSA	---
	CAULERPACEAE		
	CAULERP	RACEMOSA	---
	CLADOPHORACEAE		
	CHAETOMORPHA	AEREA	---
	CHAETOMORPHA	LIGNUM	---
	CLADOPHORA	ALATA	---
	CLADOPHORA	GLAUDESCENS	---
	CLADOPHORA	GRACILIS	---
	CLADOPHORA	GRACILIS SIMPLEXIOSA	---
	RHIZOCLOMITE	TORTULOSIS	---
	SPOROCLADOPHORA	ARTICA	---
	CODIACEAE		
	PHOTOCOPHALUS	PHOENIX	---
	ULVACEAE		
	ENTEROMORPHA	DIATHRATA	---
	ENTEROMORPHA	COMPRESSA	---
	ENTEROMORPHA	CRINITA	---
	ENTEROMORPHA	ERECTA	---
	ENTEROMORPHA	FLEXUOSA	---
	ENTEROMORPHA	INTESTINALIS	---
	ENTEROMORPHA	LINZA	---
	ENTEROMORPHA	MINIMA	---
	ENTEROMORPHA	PLUMOSA	---
	ENTEROMORPHA	PROLIFERA	---
	ULVA	FASCIATA	---
	ULVA	LACTUCA	---
	ULVA	RIGIDA	---
	VALONIACEAE		
	DICIYOSPHAERIA	CAVERNOSA	---
	VALONIA	VERRICOSA	---
	CICOTYLEDOREAE		
	SEMOPHULARIACEAE		
	STEMODIA	TOMENTOSA	MOULY STEMODIA
	DICOTYLEDONEAE		
	AMARANTHACEAE		
	AMARANTHUS	GREGGII	---
	COMPOSITAE		
	COMPOSITAE		

CONTROL VOCABULARY*

1. CLASS

NO. OF CHARACTERS IN LONGEST STATE: 16
 OPTION: NAME NO. OF STATES: 11
 NO. OF DELETED STATES: 0
 NO. OF DICTIONARY ENTRIES RESERVED: 68

LOS, DSSA, NOS 11 1 11

CHLOROPHTCEAE
 CHLOROPHYCEAE
 DICOTYLEDONEAE
 DICTYLEDONEAE
 DICOTYLEDONEAE
 EUPHYCOPHYTA
 MONOCOTYLEDONEAE
 MYXOPHYCEAE

PHAEOPHYCEAE
 RHODOPHTCEAE
 RHODUPHYCEAE

2. FAMILY

NO. OF CHARACTERS IN LONGEST STATE: 19
 OPTION: NAME NO. OF STATES: 84
 NO. OF DELETED STATES: 0
 NO. OF DICTIONARY ENTRIES RESERVED: 354

LOS, DSSA, NOS 84 01 93

ACROCHARTIACEAE
 ACROCHARTIID
 AIZACEAE
 AMARANTHACEAE
 AMARYLLIDACEAE
 ASCLEPIADACEAE
 ASCLEPIADACEAE
 ASPEROCOCCEAE
 AVICENNIACEAE
 BANGIACEAE
 BATACEAE
 BORAGINACEAE
 BRYONSIACEAE
 CAULIACEAE
 CEFALACEAE
 CHACTAGIACEAE
 CHAMPACEAE
 CHAPTIACEAE
 CHENOPODIACEAE
 CHREOCOLACEAE
 CLADOPHYACEAE
 CUDIACEAE
 CUMELINACEAE
 COMPOSITAE
 CONVULVACEAE
 CONVULACEAE
 CRUCIFERAE
 CRYPTONEMIACEAE
 CYPERACEAE
 DASYACEAE
 DASYCLADACEAE
 PELESERIACEAE
 PISTYACEAE

X 1

A DICOTYLEDONEAE, GENTIANACEAE, EUSTIMMA, EXALTATUM
 D T GILLESPIE, T GILLESPIE, 7, 18, 1967,
 E NUACES, BARRIER FLAT, MUSTANG IS, HAWAII
 F 118, 358, , PRESSED, EXCELLENT,
 G , UTMSI, BOAMAN, 1, 17, 1975
 A DICOTYLEDONEAE, COMPOSITAE, APHANOSTEPHUS, SKIRROBASIS THALASSIUS
 D T GILLESPIE, T GILLESPIE, 7, 27, 1967,
 E NUACES, BARRIER FLAT, MUSTANG IS, HAWAII
 F 190, 342, , PRESSED, EXCELLENT,
 G , UTMSI, BOAMAN, 1, 17, 1975
 A CHLOROPHYCEAE, ULVACEAE, ENTEROMORPHA, CLATHRATA
 D JTC, , 1, 30, 1959,
 E BOUY 27, OYSTER REEF, LAGUNA MADRE, HAWAII
 F , 128, , PRESSED, GOOD,
 G , UTMSI, BOAMAN, 12, 20, 1974
 A CHLOROPHYCEAE, CLADOPHORACEAE, SPONGOMORPHA, ARTICA
 D , , 4, , 1929,
 E MASS, , , HAND
 F , 191, , PRESSED, GOOD,
 G , UTMSI, BOAMAN, 12, 13, 1974
 A RHODOPHYCEAE, CHAMPIDACEAE, LORENTZIA, UNCINATA
 D J W ADAMS, , 7, 22, 1929,
 E MASS, MARINA,
 F 193, , PRESSED, GOOD,
 G , UTMSI, BOAMAN, 12, 16, 1974
 A RHODOPHYCEAE, CHAMPIDACEAE, LORENTZIA, UNCINATA
 D , , 7, 15, 1930,
 E MASS, EAST CHURCH, HAWAII
 F , 189, , PRESSED, GOOD,
 G , UTMSI, BOAMAN, 12, 15, 1974
 A RHODOPHYCEAE, BELLISSIMOCELOIDACEAE, LIAGORA, VALIDA
 D H J HUMM, H H HILDEBRAND,
 E MEXICO, BLANGUILLA REEF, HAWAII,
 F , 188, , PRESSED, GOOD,
 G SHALLOW WATER, UTMSI, BOAMAN, 12, 16, 1974
 A RHODOPHYCEAE, HYPNEACEAE, HYPNEA, SPISELLA
 D H J HUMM, H H HILDEBRAND, 4, 26, 1955
 E MEXICO, BLANGUILLA REEF
 F , 187, , PRESSED, GOOD
 G SHALLOW WATER, UTMSI, BOAMAN, 12, 16, 1974
 A RHODOPHYCEAE, HYPNEACEAE, HYPNEA, MUSCIFORMIS
 D H J HUMM, H H HILDEBRAND, 2, 6, 1953
 E CAMERON, JETTY, BRAZOS SAN TIAGO PASS, HAWAII
 F , 186, , PRESSED, GOOD,
 G , UTMSI, BOAMAN, 12, 16, 1974
 A RHODOPHYCEAE, HYPNEACEAE, HYPNEA, MUSCIFORMIS
 D H J HUMM, H H HILDEBRAND, 11, 21, 1952,
 E , OYSTER REEF, COBAIN BAY,
 F , 185, , PRESSED, GOOD
 G SHALLOW WATER, UTMSI, BOAMAN, 12, 16, 1974
 A RHODOPHYCEAE, HYPNEACEAE, HYPNEA, MUSCIFORMIS
 D H J HUMM, H H HILDEBRAND, 4, 13, 26, 1953
 E MEXICO, OYSTER REEF, LAGUNA MADRE, HAWAII
 F , 184, , PRESSED, EXCELLENT,
 G , UTMSI, BOAMAN, 12, 16, 1974
 A RHODOPHYCEAE, HYPNEACEAE, HYPNEA, MUSCIFORMIS
 D , , 3, 12, 1931,
 E MASS, WOBBSKA PT,
 F 183, , PRESSED, EXCELLENT,
 G , UTMSI, BOAMAN, 12, 16, 1974