

JOB REPORT

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Field Assistant

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Project Name: Oyster Investigations, Area MO-1.
Period Covered: 1 July 1959 to 30 June 1960. Job No. B-2b

Preliminary Survey of Invertebrate Species

Objectives: To construct a checklist of species present and to attempt correlations between distribution and abundance of the organisms and environmental factors. To establish a reference collection at the Field Laboratory.

Procedures: Collections were made from all parts of the Galveston Bay system and the adjacent Gulf of Mexico beach. Collection gear consisted of a fine-mesh dredge and any other equipment that prevailing conditions required, such as plain old-fashioned beachcombing. Invertebrates taken in any other study were saved as part of this job. A cabinet was constructed in the Field Laboratory to house a study and reference collection of local organisms and a catalog of species contained in the collection is in preparation.

Findings: Checklist of Species Identified

A subjective estimate was made of the abundance of each organism, and of the salinity in which each most commonly occurred. These designations are modified slightly from those used by Andrews in his 1956 checklist of Chesapeake Bay mollusks, and are as follows:

Abundance: Rare - found only occasionally
Scarce - available upon search in known places
Common - likely to be found on any field trip if the proper habitat is visited
Abundant - found in large numbers in nearly all seasons
Very abundant - a dominant or ubiquitous species.

Salinity: LS = 0 to 15 ‰
MS = 15 to 25 ‰
HS = 25 to 35 ‰
AS = all salinities in the area.

Figure I shows the area included by each of the salinity designations. The map is based on 1076 salinity determinations made from 43 stations in all parts of the bay system during the period 1 July 1959 to 30 June 1960.

This is essentially a report on bay (estuarine) organisms, but some Gulf species are included. The content of the following checklist reflects in many important ways the specialized nature of the author's collecting methods and his differing familiarity with the various types of invertebrates. Quite a few species listings followed by "Rare; HS." are gulf organisms which are probably common offshore but which were not adequately sampled in this study. However, these records do include some material (Argyrotheca, Spondylus, Chama) from a coral lump brought up off Galveston and from some limited fine-mesh dredging in the Gulf. Microscopic species are absent from the list and parasitic forms are poorly represented.

Some of the collection data and many of the hydrographic data used in compiling this report were collected by the following biologists: R.P. Hofstetter, E.J. Pullen, and J.R. Stevens. In addition, some collections made by the biologists H.D. Hoese and W.C. Renfro were included in the records.

PHYLUM Porifera

CLASS Demospongiae

ORDER Hadromerina

Clionidae

1. Cliona sp? (vastifica?) - Boring Sponge. Common; HS.

PHYLUM Cnidaria

CLASS Hydrozoa

2. Unidentified hydromedusae - Sporadically very abundant; LS to MS

ORDER Anthomedusae

Oceanidae

3. Unidentified hydroids (Bougainvillia sp?) - Seasonally abundant; AS?

ORDER Siphonophora

Rhizophysaliidae

4. Physalia pelagica Bosc - Man-of-war Jellyfish. Seasonally common; MS. to HS.

Chondrophoridae

5. Velella mutica Bosc - By-the-wind Sailor. Seasonally common; HS.

CLASS Scyphozoa

ORDER Cubomedusae

Carybdeidae

6. Chiropsalmus quadumanus L. Agassiz - Four-fingered Jellyfish. Rare; LS and HS.

ORDER Semaestomeae

Pelagidae

7. Dactylometra quinquecirrha L. Agassiz - Sea Nettle. Seasonally common; MS to HS

ORDER Rhizostomeae

8. Stomolophus meleagris L. Agassiz - Cabbagehead Jellyfish. Seasonally very abundant; MS to HS.

CLASS Anthozoa

ORDER Pennatulacea

Renillidae

9. Renilla mulleri Koelliker - Sea Pansy. Abundant; HS.

ORDER Actiniaria

Actinostolidae

10. Paranthus rapiformis LeSueur - Burrowing Sea Anemone. Scarce; HS.

ORDER Madreporaria

11. Astrangia astreiformis Milne-Edwards and Haime - Star Coral. Rare; HS.

PHYLUM Ctenophora

CLASS Tentaculata

ORDER Lobata

12. Mnemiopsis mccradyi A. Agassiz - Comb Jelly. Very Abundant; AS.

CLASS Nuda

ORDER Beroida

13. Beröe ovata Chamisso and Eysenhardt - Comb Jelly. Scarce; AS.

PHYLUM Platyhelminthes

CLASS Turbellaria

ORDER Polycladida

14. Unidentified polyclad - Common; LS to MS.

CLASS Cestoda

ORDER Trypanorhyncha

15. Poecilancistrum robustum Chandler - Spaghetti Worm (parasite of marine fishes). Seasonally common; AS.

PHYLUM Bryozoa

16. Unidentified bryozoans - Common; MS to HS

PHYLUM Brachiopoda

CLASS Articulata

SUPERFAMILY Terebratulacea

17. Argyrotheca sp? (schrammi Crosse and Fischer?) - Lamp Shell. Rare; HS.

PHYLUM Mollusca

CLASS Gastropoda

ORDER Archaeogastropoda

Neritidae

18. Neritina reclivata Say - Olive Nerite. Rare; LS

ORDER Mesogastropoda

Littorinidae

19. Littorina irrorata Say - Marsh Periwinkle. Abundant; AS.

20. L. nebulosa Lamarck - Periwinkle. Common; HS.

21. L. ziczac Gmelin - Zebra Periwinkle. Abundant; HS.

Amnicolidae

22. Littoridina sphinctostoma Abbott and Ladd - Very abundant; LS.

Architectonicidae

23. Architectonica nobilis Roeding - Common Sundial Shell. Common; HS.

Potamididae

24. Cerithidea pliculosa Menke - Plicate Horn Shell. Rare; HS.

Cerithiidae

25. Bittium varium Pfeiffer - Variable Bittium. Sporadically common; HS.

26. Seila adamsi H.C. Lea - Adams' Miniature Cerith. Scarce; MS to HS.

Janthinidae

27. Janthina janthina Linne - Common Purple Sea-Snail. Sporadically common; HS.

Epitoniidae

28. Epitonium angulatum Say - Angulate Wentletrap. Rare; HS.

29. E. rupicola Kurtz - Brown-Banded Wentletrap. Scarce; MS to HS.

Calyptraeidae

30. Crepidula fornicata Linne - Common Atlantic Slipper-Shell. Scarce; HS.

31. C. plana Say - Eastern White Slipper-Shell. Common; MS to HS.

Strombidae

32. Strombus alatus Gmelin - Florida Fighting Conch. Rare; HS.

Naticidae

33. Polinices duplicatus Say - Shark Eye. Common; AS.
34. Sinum perspectivum Say - Common Baby's Ear. Common; HS.
35. Natica pusilla Say - Southern Miniature Natica. Common; MS to HS.

Cassididae

36. Phalium granulatum Born - Scotch Bonnet. Rare; HS.

ORDER Neogastropoda

Muricidae

37. Murex pomum Gmelin - Apple Murex. Rare; HS.
38. M. fulvescens Sowerby - Prickly Conch. Scarce; HS.
39. Thais haemastoma floridana Conrad - Oyster Conch. Abundant; MS to HS.

Columbellidae

40. Anachis avara semiplicata Stearns - Greedy Dove Shell. Common; MS to HS.
41. A. obesa C.B. Adams - Fat Dove Shell. Common; MS to HS.
42. Mitrella lunata Say - Lunar Dove Shell. Common; MS to HS.

Buccinidae

43. Cantharus cancellarius Conrad - Cancellate Cantharus. Scarce; HS.

Melongenidae

44. Busycon perversum Linne - Lightning Whelk. Common; HS.
45. B. spiratum Lamarck - Pear Whelk. Common; HS.

Nassariidae

46. Nassarius vibex Say - Common Eastern Nassa. Common; MS to HS.
47. N. acutus Say - Sharp-Knobbed Nassa. Common; MS to HS.

Fascioliariidae

48. Fasciolaria hunteria Perry - Banded Tulip Shell. Rare; HS.
49. Pleuroploca gigantea Kiener - Florida Horse Conch. Rare; HS.

Olividae

50. Oliva sayana Ravenel - Lettered Olive Shell. Common; HS.

Terebridae

51. Terebra dislocata Say - Auger Shell. Scarce; HS.

Turridae

52. Mangelia sp. - Scarce; MS to HS.

ORDER Tectibranchia

Bullidae

53. Bulla striata Bruguiere - Bubble Shell. Sporadically common; HS.

Retusidae

54. Retusa canaliculata Say - Channeled Barrel-Bubble. Common; MS to HS.

Pyramidellidae

55. Odostomia impressa Say - (ectoparasite of oysters). Common; MS to HS.

56. Turbonilla hemphilli Bush - Scarce; HS.

57. T. incisa Bush - Common; MS to HS.

58. Niso interrupta Sowerby - Rare; HS

ORDER Nudibranchia

Dorididae

59. Unidentified dorid - Common; MS.

ORDER Basommatophora

Siphonariidae

60. Siphonaria pectinata Linne - False Limpet. Abundant; HS.

CLASS Scaphopoda

Dentaliidae

61. Dentalium texasianum Philippi - Tusk Shell. Scarce; HS.

CLASS Pelecypoda

ORDER Protobranchia

Nuculanidae

62. Nuculana acuta Conrad - Pointed Nut Clam. Scarce; HS.

ORDER Filibranchia

Arcidae

63. Anadara transversa Say - Transverse Ark Shell. Scarce; MS to HS.

64. A. campechiensis Gmelin - Bloody Clam. Scarce; MS to HS.
65. A. brasiliana Lamarck - Incongruous Ark Shell. Common; HS.
66. Noetia ponderosa Say - Ponderous Ark Shell. Scarce; MS to HS.

Mytilidae

67. Modiolus demissus granosissimus Sowerby - Gulf Ribbed Mussel. Common; AS.
68. Brachidontes exustus Linne - Scorched Mussel. Common; HS.
69. B. recurvus Rafinesque - Hooked Mussel. Abundant; AS.
70. Amygdalum papyrea Conrad - Paper Mussel. Scarce; MS to HS.

Pinnidae

71. Atrina rigida Solander - Stiff Pen Shell. Scarce; HS.
72. A. serrata Sowerby - Saw-Toothed Pen Shell. Common; HS.

Pectenidae

73. Aequipecten irradians Lamarck - Bay Scallop. Scarce; HS.

Spondylidae

74. Spondylus americanus Hermann - Atlantic Thorny Oyster. Rare; HS.
75. Anomia simplex Orbigny - Common Jingle Shell. Scarce; HS.

Ostreidae

76. Ostrea equestris Say - Gulf Oyster. Common; HS.
77. Crassostrea virginica Gmelin - Commercial Oyster. Very abundant; AS.

ORDER Eulamellibranchia

Crassatellidae

78. Crassinella lunulata Conrad - Scarce; HS.

Corbiculidae

79. Polymesoda caroliniana Bosc - Carolina Marsh Clam. Scarce; LS.

Dreissenidae

80. Congeria leucophaeata Conrad - Conrad's False Mussel. Common; LS.

Diplodontidae

81. Diplodonta punctata Say - Scarce; MS to HS.

Lucinidae

82. Phacoides pectinatus Gmelin - Thick Lucina. Rare; HS.

Chamidae

83. Chama macerophylla Gmelin - Leafy Jewel-Box Clam. Rare; HS.

Leptonidae

84. Myrella planulata Stimpson - Atlantic Flat Lepton. Scarce; HS.

Cardiidae

85. Trachycardium muricatum Linne - Yellow Cockle-Shell. Scarce; HS.
86. Dinocardium robustum Solander - Giant Atlantic Cockle-Shell. Common; HS.

Veneridae

87. Mercenaria mercenaria texana Dall - Gulf Quahog. Common; HS.
88. Chione cancellata Linne - Cross-Barred Venus. Common; HS.
89. Callocardia texasiana Dall - Texas Venus. Scarce; HS.
90. Dosinia discus Reeve - Disk Shell. Common; HS.

Petricolidae

91. Petricola pholadiformis Lamarck - False Angel-Wing Shell. Common; HS.

Tellinidae

92. Tellina texana Dall - Say's Tellin. Common; MS to HS.
93. T. versicolor DeKay - DeKay's Dwarf Tellin. Scarce; HS.
94. T. tampaensis Conrad - Tampa Tellin. Scarce; HS.
95. T. iris Say - Iris Tellin. Scarce; HS.
96. T. alternata Say - Alternate Tellin. Common; HS.
97. Tellidora cristata Recluz - White Crested-Tellin. Rare; HS.
98. Macoma tenta Say - Tenta Macoma. Common; MS to HS.
99. M. constricta Bruguière - Constricted Macoma. Scarce; AS.
100. M. tageliformis Dall - Tageliform Macoma. Common; HS.
101. M. mitchelli Dall - Mitchell's Macoma. Very abundant; LS.

Semelidae

102. Cumingia tellinoides Conrad - False Tellin. Common; HS.
103. Abra aequalis Say - Common Atlantic Abra. Common; MS to HS.

Donacidae

104. Donax variabilis Say - Coquina Shell. Sporadically abundant; HS.

Sanguinolariidae

105. Tagelus plebius Solander - Common Short Razor Clam. Abundant; AS.
106. T. divisus Spengler - Purplish Short Razor Clam. Common; MS to HS.

Solenidae

107. Ensis minor Dall - Gulf Jackknife Clam. Abundant; AS.

Mactridae

108. Mactra fragilis Gmelin - Fragile Atlantic Mactra. Scarce; HS.
109. Spisula solidissima similis Say - Southern Surf Clam. Common; HS.
110. Mulinia lateralis Say - Dwarf Surf Clam. Abundant; AS
111. Labiosa plicatella Lamarek - Channeled Duck Clam. Common; HS.
112. L. lineata Say - Smooth Duck Clam. Common; HS.
113. Rangia cuneata Gray - Common Mud Clam. Very abundant; LS.
114. R. flexuosa Conrad - Brown Mud Clam. Common; LS.

Corbulidae

115. Corbula contracta Say - Scarce; HS.
116. C. swiftiana C.B. Adams - Scarce; HS.

Pholadidae

117. Cyrtopleura costata Linne - Angel-Wing Shell. Common; AS.
118. Pholas campechiensis Gmelin - Campeche Angel-Wing Shell. Common; HS.
119. Martesia smithi Tryon - Common; MS to HS.

Lyonsiidae

120. Lyonsia hyalina Conrad - Glassy Lyonsia. Rare; HS.

Pandoridae

121. Pandora trilineata Say - Say's Pandora. Common; MS to HS.

Periplomatidae

122. Periploma fragile Totten - Fragile Spoon Clam. Common; MS to HS.
123. P. inequale C.B. Adams - Unequal Spoon Clam. Scarce; HS.
124. P. angulifera Philippi - Rare; HS.

CLASS Cephalopoda

ORDER Decapoda

Spirulidae

125. Spirula spirula Linne - Common Spirula. Scarce; HS.

Loliginidae

126. Lolliguncula brevis Blainville - Brief Squid. Common MS to HS.

PHYLUM Annelida

CLASS Chaetopoda

ORDER Polychaeta

Nereidae

127. Unidentified nereid worm - Common; LS to MS.

Eunicidae

128. Diopatra cupraea Claparède - Plumed Worm. Common; MS to HS.

Glyceridae

129. Glycera americana Leidy - Beak-Thrower Worm. Scarce; MS to HS.

Polydoridae

130. Polydora ciliata Claparède - Mud-Blister Worm. Common; LS to MS.

Chaetopteridae

131. Unidentified parchment worm - Common; MS to HS.

Amphectenidae

132. Cistenides gouldii Verrill - Trumpet Worm. Scarce; AS.

Serpulidae

133. Unidentified serpulid worm - Common; MS to HS.

CLASS Hirudinia

ORDER Rhynchobdellida

134. Unidentified leech - Scarce; LS.

PHYLUM Arthropoda

CLASS Crustacea

ORDER Caligoida

Lernaeidae

135. Lernaeenicus radiatus Lesueur - Red-Streamer Parasite (on fishes). Scarce; HS.

ORDER Thoracica

Lepadidae

136. Lepas anserifera Linnaeus - Gooseneck Barnacle. Common; HS.
137. L. pectinata Spengler - Gooseneck Barnacle. Scarce; HS.
138. Octolasmus muelleri Coker - "Red Worm" Parasite (on crab gills). Scarce;
LS and HS.

Balanidae

139. Balanus eburneus Gould - Ivory Barnacle. Common; AS.
140. B. improvisus Darwain - Barnacle. Abundant; LS to MS.
141. B. amphitrite Darwin - Barnacle. Common; MS to HS.
142. B. a. niveus Darwin - Barnacle. Common; LS.

Chthamalidae

143. Chthamalus fragilis Darwin - Barnacle. Abundant; HS.
144. Chelonibia patula Ranzani - Blue Crab Barnacle. Scarce; HS.

SUBORDER Rhizocephala

145. Loxothylacus panopaei Boschma (sacculinid parasite on mud crabs). Rare; MS.

ORDER Mysidacea

Mysidae

146. Mysis sp? - Opossum Shrimp. Rare; LS.

ORDER Isopoda

147. Glencira praegustator (parasite of menhaden). Rare; LS.

Cymothoidae

148. Nerocila californica (parasite of various fishes). Common; AS.
149. Anilocera acuta - (parasite of gars). Rare; LS.

Oniscidae

150. Lygida exotica Roux - Sea Roach. Abundant; AS.

ORDER Amphipoda

Gammaridae

151. Gammarus sp? - Scud. Common; AS.

ORDER Decapoda

Peneidae

152. Penaeus setiferus Linnaeus - White Shrimp. Very Abundant; AS.
153. P. duorarum Burkenroad - Pink Shrimp. Rare; HS.
154. P. aztecus Ives - Brown Shrimp. Abundant; AS.
155. Xiphopenaeus krøyeri - Sea Bob. Scarce; MS to HS.
156. Trachypeneus sp. (similis Smith?) - Shrimp. Scarce; MS to HS.

Sergestidae

157. Lucifer spp. - Common; AS.

Alpheidae

158. Crangon heterochelis Say - Pistol Shrimp. Common; AS.

Palaemonidae

159. Palaemonetes sp. (vulgaris Say or intermedius Holthuis?) - Grass Shrimp.
Common; LS to MS.

160. P. pugio Holthuis - Grass Shrimp. Abundant; LS.
161. Macrobrachium acanthurus Wiegmann - River Shrimp. Rare; LS.
162. M. ohione Smith - River Shrimp. Scarce; LS.

Callianassidae

163. Callianassa sp? - Ghost Shrimp - Scarce; LS to MS.

Porcellanidae

164. Petrolisthes armatus Gibbes - Common; MS to HS.

Paguridae

165. Glibinarius vittatus Bosc - Hermit Crab. Abundant; AS.
166. Isocheles wurdemanni Stimpson - Hermit Crab. Common; HS.
167. Pagurus longicarpus Say - Hermit Crab. Common; MS to HS.
168. P. pollicaris Say - Hermit Crab. Common; MS to HS.

Raninidae

169. Unidentified frog crab? - Rare; HS.

Calappidae

170. Hepatus epheliticus Linnaeus - Calico Crab. Scarce; HS.

Portunidae

- 171. Portunus sp. (sayi Gibbes?) - Swimming Crab. Rare; HS.
- 172. Callinectes sapidus Rathbun - Blue Crab. Abundant; AS.
- 173. C. danae Smith - Swimming Crab. Rare; HS.
- 174. Ovalipes sp. (ocellatus Herbst?) - Lady Crab. Rare; HS.
- 175. Arenaeus cribrarius Lamarck - Speckled Crab. Scarce; HS.

Xanthidae

- 176. Panopeus herbsti Milne-Edwards. - Mud Crab. Common; MS.
- 177. Neopanope texana ssp. - Mud Crab. Scarce; MS to HS.
- 178. Eurypanopeus depressus Smith - Mud Crab. Abundant; AS.
- 179. Rhithropanopeus harrisii Gould - Mud Crab. Scarce; LS to MS.
- 180. Menippe mercenaria Say - Stone Crab. Common; MS to HS.

Ocypodidae

- 181. Ocypode albicans Bosc - Ghost Crab. Common; HS.
- 182. Uca pugnax S.I. Smith - Fiddler Crab. Abundant; AS.

Grapsidae

- 183. Sesarma sp. (cinereum?) - Wharf Crab. Common; AS.

Maiidae

- 184. Libinia dubia Milne-Edwards - Spider Crab. Scarce; HS.

ORDER Stomatopoda

Squillidae

- 185. Squilla empusa Say - Mantis Shrimp. Common; MS to HS.

PHYLUM Echinodermata

CLASS Echinoidea

ORDER Camarodonta

Arbaciidae

- 186. Arbacia punctulata Lamarck - Purple Sea Urchin. Scarce; US.

ORDER Clypeasteroida

Scutellidae

- 187. Mellita quiquiesperforata Leske - Keyhole Urchin. Common; HS.

CLASS Ophiuroidea

ORDER Ophiurae

Amphiuridae

188. Hemipholis elongata Say - Brittlestar. Common; HS.
189. Amphiodia limbata Grube - Brittlestar. Common; MS to HS.

Correlation of Distribution with Environment

In the coming project year, more life history information will be accumulated so that next year's checklist can be an annotated one. More emphasis will be given groups sketchily known in this area, such as Coelenterata, Annelida, and Echinodermata. Time permitting, studies will be made of such isolated topics as the life history of Littoridina spinctostoma, the salinity tolerance of the two species of Rangia, or the importance of small bivalves in the diet of bay fishes. Changes in distribution and abundance will be compared with changes in environmental conditions and perhaps some correlations can be found.

The Field Laboratory Collection

All of the collection of pelecypod mollusks and part of the gastropod mollusks have been arranged in the specimen cabinet drawers. In most cases only a single collection of each local species of organism will be retained except where there is a discernable range of variation within this area. Card files will be prepared for the reference collection, arranged both phylogenetically and alphabetically.

Prepared by Jon K. Shidler

Accepted by

Howard T. Lee
Howard T. Lee

Field Assistant

Date

7 November 1960

REFERENCE

- Andrews, J.D. 1956. Annotated checklist of mollusks of Chesapeake Bay.
(mimeographed) Virginia Fisheries Laboratory, Gloucester Point, Virginia,
10 pp.

FIGURE I

