CHAPTER XIII
ANNELIDS AND MISCELLANEOUS WORMS
For the purpose of this article the area of the Gulf of Mexico is limited to the approximately ellipse-shaped enclosure that terminates at its eastern end in Cape Sable, southern Florida, and at its other extremity in Cabo Catoche, northern Yucatán Province, Mexico. I exclude the northwestern end of Cuba and the Florida Keys, both of which fringe the Gulf of Mexico at the far eastern end, since in their polychaete fauna these areas may be regarded as part of the West Indian zoogeographic region and thus differ from that of most of the Gulf of Mexico.

The physical features of the area under consideration favor the development of an invertebrate fauna dominant in sand and mud dwelling species. Such are the habitats of many groups of marine annelids which may be expected to occur in prodigious numbers but which have still remained largely unknown. Based on records in the writer's possession, it can now be stated that there is a large endemic population; this may have had its origin within the enclosure of the Gulf and possibly in its center or western half. Thus, there are unique genera, a surprising number of undescribed species and subspecies. Some of them show marked affinities with the annelids of eastern United States, particularly in its southern end; others are akin with those of the Gulf of California and southern California. Still others have affinities with those of Brazil and less so with those of New England. Some species may be regarded as circummundane or be widely dispersed, thus common also to the Mediterranean Sea and western Europe. The annelids of western Florida are clearly related to those of the West Indies except for those species which may have been swept eastward from the western half of the Gulf. The floating logs, weeds, and other pelagic or drifting objects support an annelid fauna like that of the West Indies. The sponge, ascidian, and oyster-clump fauna appears to be similar throughout the Gulf.

The number of species which can be recorded from the literature is disappointingly small (less than 60). This number can be easily tripled when the records now in the writer's collections are published. The records given below are based on species associated with a wide variety of habitats and only in a limited extent those from sand or mud flats. The last, however, should yield the richest fauna when the Gulf of Mexico will be more completely known.

The polychaetous annelids are summarized by family. The arabic number (1 to 59) preceding the name is consecutive. An asterisk preceding the name indicates that a change is newly made herein. The date following the original author's name is that of the erection of the species. The literature citations are listed at the end. A short appendix at the end summarizes ecological associations insofar as they are recorded.

Family POLYNOIDAE

1. Lepidametria commensalis Webster, 1879.
   As Lepidasthenia lactea Treadwell, 1939, pp. 3-4, figs. 13-15, from Galveston, Texas. Commensal in tubes of terebellid worms or free-living. Elsewhere known from eastern United States. The synonymy is here newly indicated.

2. Lepidonotus sublevis Verrill, 1893.
   As Lepidonotus pallidus Treadwell, 1939, p. 3, figs. 10-12, from Freeport, Texas, and as Lepidonotus squamatus Warren, 1942, p. 45, from Grand Isle, Louisiana. Occurs in crevices, in oyster clumps, in ascidian masses. Elsewhere known from eastern United States. The synonymy is here newly indicated.

3. Lepidonotus variabilis Webster, 1879.
   Reported by Warren, 1942, p. 45, from Grand Isle, Louisiana, and by Hartman, 1945, p. 10, from south-
western Florida. Occurs in crevices, under stones, in ascidian and sponge masses. Elsewhere known from eastern United States.

   Recorded by Rioja, 1946, p. 193, from Veracruz, Mexico, from between calcareous algae and mollusk shells. Elsewhere known from the West Indies and Bermuda.

   Reported by Hartman, 1945, p. 10, from Lemon Bay southwestern Florida, under stones, in crevices, and on piles. Elsewhere known from North Carolina and Maryland.

6. Harmothoe aculeata (Treadwell), 1924.
   Recorded by Rioja, 1946, p. 193, from Tecolutla, Mexico, from mollusk shells. Otherwise known from Barbados and Antigua, West Indies.

**Family SIGALIONIDAE**

   As *Eupholoe globosa* Winternitz, 1936, p. 3, figs. 6–12, from Apalachicola, Florida. This is here newly referred to the genus *Sthenelais* and questionably to the species *articulata* Kinberg. As the latter, it is known also from Brazil and the West Indies.

**Family AMPHINOMIDAE**

8. Amphinome rostrata (Pallas), 1766.
   Reported by Augener, 1922, p. 39, from Veracruz, Mexico, and Campeche Bank, Gulf of Mexico, on floating logs. Widely recorded from Brazil northward through the West Indies and Gulf Stream to North Carolina.

   As *Metamphinome multibranchiata* Treadwell, 1940, pp. 1–2, figs. 1–3, from Galveston, Texas, on a floating log. This species is clearly separable from the nearly related *Hippoone guttardia* Audouin and Milne Edwards, known from the Gulf Stream, for having branchiae that are continued far back.

**Family PHYLLODOCIDAE**

   From Biloxi, Mississippi, sandy mud flats, also western and southwestern Florida and southeastern Texas, in sandy flats in littoral zones. Not taken outside of the Gulf.

11. *Nereis brevicirrata* (Webster), 1879.


**Family PILARGIIDAE**

   Reported from Englewood, Florida, by Hartman, 1945, p. 15, and described by Hartman, 1947, pp. 501–504, pl. 61, from the Gulf of Mexico, North Carolina, and San Francisco Bay, California, in low or subintertidal sand flats.

   Described by Hartman, 1947, pp. 506–509, pl. 63, from Biloxi, Mississippi, Grand Isle, Louisiana, and elsewhere off San José Light, Guatemala, Pacific Ocean; in sand, littoral.

**Family SYLLIDAE**

   Known only through the original description, Winternitz, 1936, p. 1, figs. 1–2, from Apalachicola, Florida. Incompletely characterized.

   As *Syllis* (Typosyllis) *corallicoides* Augener, 1922, pp. 42–43, from Veracruz, Mexico, and not otherwise known.

**Family NEREIDAE**

17. *Neanthes succinea* (Frey and Leuckart), 1847.
   Reported by Rioja, 1946, p. 194, and pp. 205–206, from Tecolutla and Veracruz, Mexico, from mangrove swamps associated with barnacles. Widely recorded from estuarine regions of temperate and subtropical regions of circummunda areas.

   First described as *Nereis brevicirrata* Treadwell, 1929, pp. 3–4, figs. 1–4, from Key Largo, Florida (not *Nereis brevicirrata* Treadwell, 1920, pp. 467–468, figs. 1–4, from Santos, Brazil, which is, however, a species of *Perinereis*). This was later reported from Grand Isle, Louisiana, in sand, as *Nereis gracilicirrata* Warren, 1942, pp. 39–40, from a name taken from manuscript. The species is not known outside of the Gulf of Mexico and Florida Keys.

   First described from Beaufort, North Carolina, by Hartman, 1945, p. 20, pl. 4, figs. 1–6, and more widely recorded from the Gulf of Mexico from southwestern Florida to Louisiana, in sponge, oyster, and ascidian masses, from pilings, and from sandy shoals, in littoral zones. This may be the "Nereis pelagica" of Cary and Spaulding, 1909, p. 9, which comes from among oysters in Louisiana.

*20. Nereis oligohalina* (Rioja), new combination.
   Described as *Neanthes oligohalina* Rioja, 1946, pp. 207–210, pl. 1, figs. 4–6, pl. 2, figs. 13–19, from Tecolutla, Mexico, among roots of mangroves with barnacles. I refer the species to the genus *Nereis* since the notopodia have homogomph faileigers (Rioja, pl. 1, fig. 5). The species may be the same as *Nereis pelagica occidentalis*, above.

   Recorded by Augener, 1922, p. 42, from Veracruz, Mexico, on corals and sponges. Elsewhere reported from both sides of subtropical and tropical America.
22. Laeonereis culveri (Webster), 1879.

Reported as Leptonereis nota Treadwell, 1941, pp. 1, 3, figs. 7–10, from Offats Bayou, Galveston, Texas, presumably in muddy sand, and from southern Florida by Hartman, 1945, p. 21. The species is more widely known from North Carolina south to Brazil and the West Indies, in muddy sand. The synonymy is newly indicated herein.


By Rioja, 1946, pp. 211–212, pl. 1, figs. 7–12, from Tectoluta, Mexico, from mangrove swamps.


Described as Uncineres trimaculosa Treadwell, 1940, p. 3, figs. 4–9, from Galveston, Texas, on a floating log. It is known elsewhere from circummundane littoral regions. The synonymy is here newly indicated.

25. Glyceria americana Leidy, 1855.

By Warren, 1942, pp. 42–43, from Grand Isle, Louisiana, and by Rioja, 1946, p. 194, from Tectoluta, Mexico, in tidal tributaries, in mixed sand. More widely recorded from east and west coasts of the Americas, and from South Pacific regions.

Family ONUPHIDAE

26. Diopatra cuprea (Bose), 1802.

By Cary and Spaulding, 1909, p. 9, from Louisiana, reporting tubes abundant on sandy shoals and sand flats, also by Warren, 1942, p. 44, from Grand Isle, Louisiana. The species is elsewhere known from tropical and subtropical eastern North and South America.

27. Eunice schemacephala Schmarda, 1861.

As Eunice fucata Warren, 1942, p. 45, from Grand Isle, Louisiana. This is the West Indian palolo worm, and more widely known in the Caribbean Sea.

28. Marphysa sanguinea (Montagu), 1815.

As Marphysa aransensis Treadwell, 1939, p. 5, figs. 16–17, from Aransas Pass, Texas, considered possibly the same as M. sanguinea in Hartman, 1944, p. 128. Occurs in hard packed mud or clay, in circummundane, warm-water regions.

29. Palola siciliensis (Grube), 1840.

Reported by Rioja, 1946, p. 194, from Veracruz, Mexico. Circummundane.

30. Lysidice ninetta Audouin and Edwards, 1833.

Reported by Rioja, 1946, p. 194, from Veracruz, Mexico, from among algae growing on tubes of Sabella-starte. Circummundane.

Family LUMBRINERIDAE

31. Lumbrineris bassi Hartman, 1944.


32. Lumbrineris parvapedata (Treadwell), 1901.

First described as Lumbriconereis parva-pedata Treadwell, 1901, p. 198, figs. 38–40, from Ensenada Honda, Culebra; later as Lumbrineris elongata Treadwell, 1931, p. 3, fig. 2, from Grand Isle, Louisiana, and so reported by Warren, 1942, p. 45, from the same place; in sand. Not known elsewhere.

33. Lumbrineris inflata Moore, 1911.

By Hartman, 1944, p. 161, from the Gulf of Mexico, the Gulf of California, and the northeast Pacific Ocean; in sand.

Family LYSARETIDAE

34. Lysarete brasiliensis Kinberg, 1865.

As Oenone brevimaxillata Treadwell, 1931, pp. 1–3, figs. 4–9, from “Mexico,” and tentatively relegated to Lysarete brasiliensis in Hartman, 1944, p. 185. Elsewhere known from the West Indies and eastern South America.

Family SPIONIDAE

35. Nerine agilis Verrill, 1873.

As Nerine minuta Treadwell, 1939, p. 5, figs. 18–20, from Port Aransas, Texas, in sand. The species is more widely known from eastern United States, and by Faunel, 1950, p. 371, from French West Africa.


Family CHAETOPTERIDAE

37. Chaetocterus variopedalbus (Renier), 1847.

As C. pergamentaceus by Cary and Spaulding, 1909, p. 9, from Louisiana, on sand flats. Widely known from cosmopolitan areas in littoral zones.

Family ARENICOLIDAE

38. Arenicola cristata Stimpson, 1856.

By Warren, 1942, pp. 41–42, from Grand Isle, Louisiana, in sand. More extensively known from both sides of the Americas.

Family OPHELIIDAE

39. Polyphthalmus pictus (Dujardin), 1839.

By Rioja, 1946, p. 195, from Veracruz, Mexico, from encrusting algae. Considered cosmopolitan in distribution.

Family CAPITELLIDAE

*40. Capitellides teres Treadwell, 1939.

By Treadwell, 1939, p. 6, figs. 21–24, from Port Aransas, Texas. The single type specimen, examined by me, resembles a Capitella, but there are large genital hooks on the ninth setiger and large ova in the eleventh and twelfth segments, as in Capitellides. It departs from both these genera, however, in having setae, not hooks, in 8 anterior segments and in other respects. The species does not seem to fit any capitellid category (see Hartman, 1947, p. 400, for chart).

Family MALDANIDAE


By Hartman, 1945, pp. 40–42, pl. 9, from Lemon Bay, southwestern Florida and more widely known from North Carolina. In fine sandy mud.
Family SABELLARIDAE

42. *Sabellaria florigensis* Hartman, 1944.


Recorded by Rioja, 1946, pp. 195-196, fig. 1, from Tecolutla, Mexico, on mollusk shells, with the preceding species. This may be the *Sabellaria vulgaris* by Cary and Spaulding, 1909, p. 9, from Louisiana, on shells. Elsewhere known from North Carolina.

Family TERESELLIDAE

44. *Pista cristata* (Müller), 1788.

Recorded by Rioja, 1946, p. 198, from Tecolutla, Mexico, on mollusk shells. Cosmopolitan in report.

45. *Loimia medusa* (Savigny), 1818.

Recorded by Hartman, 1945, p. 46, pl. 10, figs. 2, 3, from Lemon Bay, southwestern Florida, from large boulders in sand, below intertidal zones. Elsewhere known from all warm seas.

46. *Thelepus selosus* (Quatrefages), 1866.

Reported by Rioja, 1946, p. 198, from Veracruz, Mexico, in sandy tubes. Elsewhere known from cosmopolitan areas, in warm seas.

47. *Terebellides stromi* Sars, 1835.

Recorded by Rioja, 1946, p. 198, from Veracruz, Mexico, in mud bottom from a few meters depth. Cosmopolitan in dredged depths.

Family SABELLIDAE


Recorded by Rioja, 1946, p. 199, from Veracruz, Mexico, from among algae. Elsewhere known from the West Indies.

49. *Hyosphicmus circumspiciens* Ehlers, 1887.

By Rioja, 1946, p. 198, from Veracruz, Mexico, and Colombia on the Atlantic side.

50. *Sabellastarte magnifica* (Shaw), 1800.

By Augener, 1922, p. 48, from Veracruz, Mexico, and as *Sabellastarte indica* by Rioja, 1946, pp. 198-199, from Veracruz, Mexico. Reputedly circummundane in tropical seas.

51. *Branchioma bairdi* (McIntosh), 1885.

As *Dasychone bairdi* Augener, 1922, p. 49, from Veracruz, Mexico. Elsewhere known from the West Indies and Bermuda.

Family SERPULIDAE

52. *Eupomatus protulicola* (Benedict), 1887.

Recorded by Rioja, 1946, pp. 199-200, figs. 10-13, from *Pinna* (mollusk) shells at Tecolutla, Mexico. More widely known from southeastern United States.


Reported by Rioja, 1946, pp. 201-202, from Veracruz, Mexico, on algae; elsewhere known from western Mexico.


By Augener, 1922, p. 50, from Campeche Bank, Gulf of Mexico. Not otherwise known.

55. *Eupomatus dianthoides* Augener, 1922.

As *Hydroides* (*Eupomatus*) dianthoides Augener, 1922, pp. 49-50, from Veracruz, Mexico. Not otherwise known.

56. *Vermiliopsis bermudensis* (Bush), 1907.

As *Vermilia bermudensis* by Rioja, 1946, pp. 200-201, from Tecolutla, Mexico, on mollusk shells. More extensively known from Bermuda.

57. *Vermiliopsis annulata* (Schmarda), 1861.

By Rioja, 1946, p. 201, from Tecolutla, Mexico, on mollusk shells. Otherwise known from the West Indies and Colombia on the Atlantic side.

58. *Salmacina dyteri* (Huxley), 1855.

By Rioja, 1946, p. 202, from Veracruz, Mexico, on tubes of *Sabellastarte*. Possibly circummoundine in distribution.


Described by Rioja, 1945, pp. 412-417, 2 pls., from Tecolutla, Mexico and vicinity, in brackish water from mangrove esteros. Not otherwise known.

APPENDIX ON SOME ECOLOGICAL ASSOCIATIONS

Brackish or estuarine species:

*Laonereis culveri,* *Lycastopsis tectolulensis,* *Neanthes succinea,* *Nereis pelagica occidentalis,* *Nereis oligohalina* and *Mercierellopsis prietoi.*

Crevise dwellers, or on piles, or in oyster, ascidian, and sponge clumps:


Associated with algae:

*Platyneris dumerilii,* *Lysidice ninetta,* *Eunicidae spp.,* *Polydophthalus pictus,* *Megalomma bioculatum* and *Pomatoceros minutus.*

In sand or sandy mud or gravelly mud or mud and clay:


On mollusk shells:

*Sabelaria florigensis,* *Sabellaria vulgaris beaufortensis,* *Pista cristata,* *Hyosphicmus circumspiciens,* *Eupomatus protulicola,* *Vermiliopsis bermudensis,* *Vermiliopsis annulata.*

From floating logs:

*Amphipodra rostrala* and *Hipopoë multibranchiata.*

Commensal in tubes of worms:

*Lepidonotus communis.*

Boring in calcareous shells:

*Polydora websteri.*
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MISCELLANEOUS VERMES

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Phylum Echiurida

Information concerning this phylum in the Gulf of Mexico consists of two records for *Thalassema philostracum* Fisher (1947) which is known from the type locality, Thornton Island, near Englewood, Florida, and from a single specimen from Mustang Island, near Port Aransas, Texas, and a record of *Th. mellita* from Apalachicola Bay by Pearse and Wharton (1938). This latter record may actually refer to *Th. philostracum* which is also known from Beaufort, North Carolina. The Florida specimens were found in dead gastropod shells; the Texas specimen was found in a test of *Mellita quinquiesperforata*. The animal is rather small with a bright red body and a pale cream to white proboscis.

Phylum Sipunculida

Our knowledge of the Sipunculida of the Gulf of Mexico is based principally on collections in the vicinity of Key West and Tortugas, Florida. A total of 11 species is known to occur in the Gulf of Mexico, 10 of them from Key West or Tortugas. One of these is also recorded from Cedar Keys, and the eleventh has been collected from Caminada Bay near Grand Isle, Louisiana. The available published information on these sipunculids will be found in two papers: Gerould (1913) and Fisher (1947).

Examination of the known sipunculid fauna of the Gulf of Mexico reveals that two species, *Golfingia (=Phascolosoma, vide infra) cinerea* and *Siphonomecus multicincta* are so far known only from Key West and Bermuda. The two species occurring in the more northern waters of the Gulf, *Phascolion strombi* (?) and *Dendrostoma alutaceum*, occur on the South Atlantic coast and are evidently eurythermal, especially the latter which occurs at Key West. The other species are widely distributed throughout the American tropical area. A curious anomaly is the absence of *Sipunculus nudus* from the northern Gulf coast in view of its wide distribution and occurrence at Key West. This may simply be an indication of inadequate collecting.

Genus GOLFINGIA Lankester

*(Phascolosoma auct. nee Leuckart)*

This best known of sipunculid genera is one of those victims of nomenclatural confusion which is a sadder aspect of taxonomic procedure. Fisher (1950) has reluctantly determined that the available name which must be used is Lankester's *Golfingia*, a name coined in commemoration of an excursion on the golf links with Professor MacIntosh at St. Andrews. Furthermore, *Phascolosoma* is actually the valid name for the species which have been hitherto included under *Physcosoma* by most recent authors.

*Golfingia cylindrata* (Keferstein).
Gerould, pp. 382-383, pl. 58, fig. 2.

A small (less than 1 inch long) species known from Key West and Bermuda.

*Golfingia cinerea* (Gerould).
Gerould, pp. 396-398, figs. 6-7.

Known only from a single specimen collected south of Key West in 45 fathoms.

Genus PHASCOLION Théel

*Phascolion strombi* (Montagu).
Gerould, pp. 403-416, figs. 9-11, pl. 60, figs. 10-13.

Specimens, apparently of this widely spread and variable species, have been found inhabiting shells of *Nassarius vibex* in Caminada Bay, Louisiana. They are small, and the identification is tentative.

Genus DENROSTOMA Grube

*Dendrostoma alutaceum* Grube.
Gerould, pp. 417-418, fig. 12, pl. 59, fig. 9.

This species is known from off Cape Hatteras, Key West, Tortugas, and Cedar Keys.
Genus **PHASCOLOSOMA** Leuckart

*(Physcosoma Selenka)*

*Phascolosoma varians* Keferstein.
Gerould, pp. 419-420, pl. 62, fig. 18.

According to Gerould, this species is abundant in the Key West-Tortugas vicinity, and is also found on the southern coast of Florida. It occurs at Bermuda, Bahamas, and "among the West Indies," and at Ascension Island.

*Phascolosoma antillarum* Grube and Oersted.

Found at Key West in cavities in rocks, this species evidently occurs throughout the West Indian-Caribbean area, and has been taken on the Pacific side at Costa Rica, and on the coast of Chile.

Genus **ASPIDOSIPHON** Grube

*Aspidosiphon speciosus* Gerould.
Gerould, pp. 426-427, fig. 16, pl. 62, fig. 22.

Described from 3 specimens, 1 (the type) from Key West, another off Havana in 157 fathoms, and the third off the Brazilian coast at about 7° S in 20 fathoms.

Genus **SIPUNCULUS** Linnaeus

*Sipunculus nudus* Linnaeus.
Gerould, p. 428.

A widely distributed, cosmopolitan species, reported from Key West by Gerould (a single specimen).

*Sipunculus polymyotus* Fisher.
Fisher, pp. 354-358, fig. 54, pl. 10.

The species is based on two specimens from Key West. Another was collected off Long Bay, South Carolina.

Genus **SIPHONOSOMA** Spengel

*Siphonosoma cumanense* (Keferstein).
Gerould, pp. 432-435, pl. 60, fig. 14.

This species occurs in Oyster Bay, Florida, among oyster shells, and at Key West from sand along shore. It is also known from Venezuela and the West Indies.

Genus **SIPHONOMECUS** Fisher

*Siphonomecus multicinctus* Fisher.

Known from a single specimen collected at Key West.

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