

A CHECKLIST OF THE STOMATOPOD CRUSTACEANS OF THE FLORIDA - GULF OF MEXICO AREA

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INTRODUCTION

Very little is known about the stomatopod fauna of the western Atlantic. No comprehensive review of the western Atlantic species has yet appeared, although many papers have dealt with a few forms from localized areas. One paper lists the stomatopods of the Gulf of Mexico (Chace, 1954), but no workers have dealt with the stomatopods from the nearby Atlantic coast of Florida.

During the course of a review of the genus *Squilla* in the western Atlantic, new records of *Squilla* and other stomatopods have come to the attention of the author. As it might be some time before a complete review of the western Atlantic stomatopods can be completed, the author felt that a checklist of the species now known from the Florida-Gulf of Mexico area would be of value.

Five of the eight currently recognized genera of stomatopods have been reported from the Florida-Gulf of Mexico waters. Two of these genera, *Gonodactylus* and *Odontodactylus*, are each represented in the area by one species, although varietal forms have been reported for *Gonodactylus* from the Caribbean (Schmitt, 1924a, 1924b). *Pseudosquilla*, known previously from Florida and the Gulf by one species, is now represented by three. Chace (1958), in describing a new species of *Lysiosquilla* from Massachusetts, gave an excellent key to the eight western Atlantic species, three of which have been reported from Florida and the Gulf. Chace (1954) listed six species of *Squilla* from the Gulf of Mexico, and the present investigation has increased that number to eleven (plus one subspecies).

HISTORICAL REVIEW

The earliest paper to record a stomatopod from Florida was that by Say (1818), who recorded *S. empusa* from southeast Florida. DeKay (1844) also recorded this species from that locality. Gibbs

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(1850) recorded *G. oerstedii* from Key West, and von Martens (1872) described *S. rubrolineata* (now *dubia*) and recorded *P. ciliata* from Cuba. Ives (1891) reported *S. prasinolineata* from Yucatan, and Sharp (1893) listed *L. glabriuscula*, *L. scabricauda*, and *G. oerstedii* from Florida, and *S. empusa* from the Gulf.

Bigelow (1893) described four new species from Florida and the Gulf, *S. rugosa* from the Gulf, *S. intermedia* from the Gulf and the Bahamas, *S. quadridens* from east Florida, and *O. havanensis* from off Havana, Cuba. In 1894 Bigelow listed these and several other species from the Florida - Gulf of Mexico area in his report on the collections in the U. S. National Museum. Rathbun (1893) reported *S. empusa* from Texas, and Faxon (1896) also recorded this species from the Gulf.

Kemp (1913) reported *S. prasinolineata* from Cuba. McLendon (1911) and Pearse (1932) made observations on *G. oerstedii* at Dry Tortugas, and Lunz (1937) described *S. edentata* from the Gulf and *S. rugosa* var. *pinensis* from the Isle of Pines. Lunz also gave locality records for several other species from the Gulf. Chace (1939) described *S. heptacantha* from the southern coast of Cuba and (1942) *O. nigricaudatus* from the Gulf of Campeche. Chace has advised the author in a letter that *O. nigricaudatus* is a synonym of *O. havanensis* (Bigelow), and represents an older specimen than the latter. Anonymous (1942) and Behre (1950) listed three species from the Grand Isle, Louisiana, region and Chace (1954) summarized the known distribution of the species recorded from the Gulf.

The species are listed below in alphabetical order by genus, and the list includes only the adult forms. Following each specific name is a reference that may be used to identify the species. Notes on habitat and depth are given when possible. UMML is used for specimens in the collections in The Marine Laboratory, University of Miami, USNM for specimens in the U. S. National Museum collections, CHML for specimens at the Cape Haze Marine Laboratory, Placida, Florida, and FSBC for specimens at the State Board of Conservation Marine Laboratory at St. Petersburg, Florida. OREGON, SILVER BAY, and COMBAT refer to collections made by those U. S. Fish and Wildlife vessels in the Gulf of Mexico and tropical Atlantic. Some of the records herein listed for the OREGON have been published (Springer and Bullis,

1956). Station numbers have been given for the unpublished records, several of which are extensions of the range of the species involved, and the locality for these records may be obtained by referring to the station sheets released by the Fish and Wildlife Service. Localities without reference are those given by Chace (1954).

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SYSTEMATIC LIST

Class Crustacea
Division Hoplocarida
Order Stomatopoda
Family Squillidae

Genus *Gonodactylus* Latreille, 1825

G. oerstedii Hansen, 1895. Bigelow, 1902.

Florida: Biscayne Bay, Soldier Key, Crocker Reef, Plantation Key, Long Key, Bahia Honda, Sand Key, Key West, Dry Tortugas,

(all UMML), Fort Myers (CHML), Clearwater (CHML), Gulf, north of Anclote Keys (FSBC), Gulf, west of Florida (OREGON Sta. 276), Gulf, southeast of Apalachicola (SILVER BAY Sta. 581). Also North Carolina to Brazil; Bermuda (UMML); Bahamas (UMML); eastern Pacific from Gulf of California to Ecuador (Schmitt, 1940); Galapagos (USNM). From 0 to 70 fms. in rock, coral and sponge.

Genus *Lysiosquilla* Dana, 1852

L. excavatrix Brooks, 1886. Chace, 1958.

Florida: west of Charlotte Harbor. Alabama: Mobile. Mississippi: Petit Bois Island (USNM). Louisiana: Grand Isle. Texas: Port Aransas (USNM). - Also North Carolina; Sao Paulo, Brazil (Lemos de Castro, 1955). Littoral, in sand.

L. glabriuscula (Lamarck, 1818). Chace, 1958.

Florida: Lake Worth (USNM), Biscayne Bay (UMML), off Fowey Light (USNM), Key West (Sharp, 1893), Garden Key, Dry Tortugas (Bigelow, 1894), Gulf Coast (CHML). Also South Carolina to Brazil, including the Antilles (Holthuis, 1941). Littoral.

L. scabricauda (Lamarck, 1818). Chace, 1958.

Florida: Indian River, Fort Pierce, Biscayne Bay, Key West (all UMML), Placida (CHML), Lemon Bay (CHML), Gasparilla Sound (CHML), Sanibel Island, Longboat Key, Manatee County (USNM), Johns Pass, and Pensacola. Louisiana: Grand Isle, Breton Island (USNM), off Chandaleur Island (USNM), Timbalier (USNM). Texas: Galveston, Aransas Pass (USNM). Gulf of Campeche: off "west coast of Yucatan" (USNM), Obregon (USNM). Also New England to Brazil; West Africa (Holthuis, 1941). Littoral to 27 fms. in sand and mud.

Genus *Odontodactylus* (Bigelow, 1893)

O. havanensis (Bigelow, 1893). Bigelow, 1894.

Florida: Key West, Dry Tortugas, S.W. of Boca Grande (CHML). Campeche Bank and Gulf of Campeche. Also Cuba; Bahamas; Curacao. Littoral to 163 fms.

Genus *Pseudosquilla* Dana, 1852.

P. ciliata (Fabricius, 1787). Bigelow, 1902.

Florida: Biscayne Bay (UMML), Soldier Key (UMML), Key Largo (USNM), Lower Matecumbe (USNM), Ohio Key (UMML), Key Vacca (USNM), No Name Key (USNM), Indian Key (USNM), Key West (UMML). Also Bermuda and Bahamas (UMML) to Brazil; Indo Pacific (Schmitt, 1940). Littoral to 66 fms., in rock, coral and sponge.

P. oculata (Brulle, 1835-1844). Schmitt, 1940.

Florida: $\frac{1}{2}$ mile off Matecumbe Key, Atlantic side (UMML). Also Brazil (Lemos de Castro, 1955); Canary Islands; Madeira; Cape Verde Islands; east and west Pacific (Schmitt, 1940). Littoral to 2 fms.

P. plumata (Bigelow, 1902). Bigelow, 1902.

Florida: off Sand Key (Key West) (UMML). Also Mayaguez Harbor, Puerto Rico (Bigelow, 1902). 25 - 30 fms.

Genus *Squilla* Fabricius, 1787.

S. alba Bigelow, 1893. Bigelow, 1894.

Florida: Biscayne Bay (UMML). Also Bimini Harbor, Bahamas (Bigelow, 1893); Curacao (Schmitt, 1924a); Saint Helena (Ingle, 1958); South Africa (Ingle, 1958); Hawaii (?) (Townsend, 1953). Littoral, burrowing in sand or rock

S. brasiliensis Calman, 1917. Calman, 1917.

Gulf of Mexico: northern Gulf (SILVER BAY Sta. 181), Gulf of Campeche (OREGON Sta. 1060), and 16 OREGON Stations. Also off Trinidad (USNM; OREGON Stats. 2207, 2208, 2209); off Venezuela (UMML); north of British Guiana (OREGON Stats. 2276, 2237); Cape Frio, Brazil (Calman, 1917); Uruguay (Hansen, 1921). 12 to 200 fms. in mud and broken shell.

S. dubia H. Milne Edwards, 1837. Schmitt, 1940.

Florida: Port Everglades (UMML). Also Charleston, South Carolina to Rio de Janeiro, Brazil, including Georgia, British Honduras, Cuba, Santo Domingo, Trinidad, Lemon Bay, Panama; west coast of America from El Triunfo, El Salvador to Rio Tumbes, Peru (Schmitt, 1940). Littoral, in sand and mud.

S. edentata (Lunz, 1937). Lunz, 1937.

Florida: W.S.W. of Pensacola in 120 fms.

S. empusa Say, 1818. Calman, 1917.

Florida: Fernandina (USNM), St. Augustine (USNM), Matanzas Inlet (Lunz, 1937), Biscayne Bay (UMML), Marathon (UMML), Key West (USNM), Dry Tortugas shrimp grounds (north and east of Dry Tortugas) (UMML), off Englewood (USNM), Sanibel Island (Lunz, 1937), Tampa Bay (USNM), Cedar Keys (USNM), Apalachicola Bay (FSBC), off Cape San Blas (USNM), Choctawhatchee Bay (USNM), Pensacola Bay (FSBC). Alabama: Mobile Bay near Cedar Point (USNM). Mississippi: Ocean Springs (UMML), Mississippi Sound off Horn Island (USNM). Louisiana: Cameron (USNM), Breton Island (USNM); Grand Isle. Texas: Galveston, Rockport (USNM), Corpus Christi Bay (USNM), Aransas Pass (USNM). Gulf of Mexico: 10 OREGON stations and northern Campeche Bank. Also Massachusetts to French Guiana (OREGON Sta. 2327), including Trinidad (OREGON Stats. 2208, 2209), and Surinam (OREGON Sta. 2279). Erroneously recorded from Brazil and West Africa. Lemos de Castro (1955) knew of no Brazilian records, and Calman (1916) redescribed the West African records as *S. africana*. From 0 to 84 fms. in sand, mud, and broken shell.

S. heptacantha (Chace, 1939). Chace, 1939.

Florida: off Daytona Beach (COMBAT Sta. 235), off Fort Pierce in 230 fms. (OREGON Sta. 1340). Bahia de Cochinos, Santa Clara Province, Cuba, 180-190 fms.; Old Bahama Channel, due north of Punta Alegre, Camaguey Province, Cuba, 150-180 fms. (Chace, 1939). From 150 to 250 fms.

S. intermedia Bigelow, 1893. Bigelow, 1894.

Florida: off Daytona Beach (COMBAT Sta. 235), off Fort Pierce (COMBAT Stats. 237, 238). Gulf of Mexico: off Mississippi delta, (SILVER BAY Sta. 182) and 8 OREGON stations. Also north of Cuba (OREGON Stats. 1343, 1344); Little Bahama Bank; Puerto Rico; Caribbean Sea (OREGON Sta. 1883); Curacao (USNM); north of British Guiana (OREGON Sta. 1983); north of Surinam (OREGON Stats. 2286, 2288, 2285); north of French Guiana (OREGON Sta. 2295). From 30 to 250 fms. in mud, sand, and broken shell.

S. neglecta Gibbes, 1850. Lemos de Castro, 1955.

Florida: Lemon Bay, Gulf Coast (CHML), Sanibel Island, Gulf of Mexico, north of Key West (OREGON Sta. 993). Also North and South Carolina; Brazil (Lemos de Castro, 1955). Littoral to 35 fms.

S. prasinolineata Dana, 1852. Lemos de Castro, 1955.

Florida: Miami (UMML), Flamingo, Florida Bay (UMML). Gulf of Mexico: Yucatan (Ives, 1891). Also Cuba (USNM; Kemp, 1913); St. Thomas (USNM); Brazil (Lemos de Castro, 1955). *S. prasinolineata* Miers, 1880, is probably not this species. Dr. Chace has informed the author that there are three specimens from Cape Hatteras, one from Pensacola, and one without data in the National Museum that had been identified by Miss (Mary J.) Rathbun as *S. prasinolineata* Miers, not Dana.

S. quadridens Bigelow, 1893. Bigelow, 1894.

Florida: Biscayne Bay (UMML), off Key Largo (Bigelow, 1893), Englewood Beach (CHML), Northwest Gulf of Mexico (OREGON Stats. 896, 899). Also Gairaca, Santa Marta (Holthuis, 1941). From 0 to 56 fms. in sand.

S. rugosa Bigelow, 1893. Bigelow, 1894.

Florida: Biscayne Bay (UMML), Tortugas shrimp grounds (north and east of Dry Tortugas) (UMML), west coast of Florida (OREGON Sta. 907), Charlotte Harbor; Pensacola (USNM). Gulf of Mexico (OREGON Stats. 449, 1050; SILVER BAY Sta. 71). Also south of Cuba (OREGON Sta. 713); Little Bahama Bank (UMML); north of British Guiana (OREGON Stats. 2244, 2249); north of Surinam (OREGON Stats. 2262, 2267, 2276). To 39 fms. in sand and broken shell.

S. rugosa pinensis (Lunz, 1937). Lunz, 1937.

Florida: off east coast in 30 fms. (COMBAT Sta. 334). Also Sigüanea Bay, Isle of Pines, Cuba (Lunz, 1937). This subspecies may prove to be a normal variant of *S. rugosa* sp.

DISCUSSION

Of the 29 western Atlantic stomatopods, 19 are known from the Florida - Gulf of Mexico area (Table 1). Ten of the Florida -

Gulf species have extensive ranges, at least from Florida to Brazil, and only one (*S. edentata*) is not known outside of the Gulf. Of the ten western Atlantic species not recorded from the Gulf, all but one are known from only one or two localities.

TABLE 1

Numbers of species of stomatopods in the western Atlantic and the Florida-Gulf of Mexico area.

Genus	Western Atlantic	Florida-Gulf of Mexico
<i>Gonodactylus</i>	1, and 2 subspecies	1
<i>Hemisquilla</i>	1	0
<i>Lysiosquilla</i>	8	3
<i>Odontodactylus</i>	1	1
<i>Pseudosquilla</i>	4	3
<i>Squilla</i>	14, and 1 subspecies	11, and 1 subspecies
Total	29, and 3 subspecies	19, and 1 subspecies

The majority of western Atlantic species are tropical or subtropical forms. Five are temperate, and one is sub-antarctic. Three of the 29 species are also known from the eastern Atlantic, and five are known from the Pacific and Indian Oceans. There are several pairs of closely related species in the eastern Pacific and western Atlantic (Schmitt, 1940). Much future work is needed to clarify the zoogeographic relations of this group.

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