

## RANGE EXTENSIONS OF AHERMATYPIC SCLERACTINIA IN THE GULF OF MEXICO

The 54 species of ahermatypic (azooxanthellate) Scleractinia then known from the Gulf of Mexico were listed by Cairns (1978). This work also divided the Gulf into six geographic subdivisions to better characterize ahermatypic Scleractinia distributions (Figure 1). A year later, Cairns (1979) reported subdivisional range extensions for five of these species: three new to subdivision 1 (*Stephanocyathus diadema*, *Asterosmilia prolifera*, and *Dasmosmilia lymani*) and two new to subdivision 2 (*Polymyces fragilis* and *Flabellum fragile*). This paper reported descriptions, illustrations, and maps of most (i.e., deep-water = over 200 m) of the species. Zlatarski and Estalella (1982) reported four shallow-water ahermatypes new to subdivision 6, off northwestern Cuba: *Astrangia solitaria*, *Phyllangia americana*, *Rhizosmilia maculata* and *Gardineria minor*. Castaneres and Soto (1982) published a useful review of all major listings of hermatypic and shallow-water ahermatypic Scleractinia in the Gulf of Mexico and Caribbean, with additional records for off the Yucatan, but did not include any new records from the Gulf of Mexico. In a thorough review of the reefs and banks of the northwestern Gulf of Mexico, Rezak *et al.* (1985) reported ten ahermatypes from off southeast Texas and Louisiana. This work reported two new records for the Gulf of Mexico (*Caryophyllia parvula* and *Madracis brueggemani*) and two new records for subdivision 3 (*Coenosmilia arbuscula* and *Javania cailletii*).

Based on recently collected specimens, particularly those from the extensive biological surveys of the northern Gulf of Mexico slope and off

southwest Florida conducted by LGL Ecological Research Associates (Figure 1), two ahermatypic corals are reported as new to the Gulf of Mexico (*Madracis formosa* and *Thalamophyllia riisei*). Nine other species are reported as subdivisional range extensions within the Gulf. This increases the number of ahermatypic now known to occur in the Gulf of Mexico to 58 species.

### MATERIAL AND METHODS

Specimens from four sources contributed to the distribution records of this paper: (1) the biological surveys of the northern Gulf of Mexico continental slope made by LGL Ecological Research Associates (LGL) for Minerals Management Service, Gulf of Mexico OCS Regional Office (MMS) deposited at the U.S. National Museum; (2) specimens resulting from the Dames and Moore BLM-MAFLA collections off Mobile, AL, deposited at DISL; (3) specimens collected off Louisiana by the *Alaminos*, deposited at Texas A & M University; and (4) specimens collected by the U.S. Geological Survey off Louisiana and Texas, deposited at the USNM. All specimens have been examined, and their identifications verified by the junior author.

The following abbreviations are used in this paper: BLM-Bureau of Land Management; MMS-Minerals Management Service; DISL-Dauphin Island Sea Lab, Alabama; MAFLA-Mississippi, Alabama, Florida BLM project; USNM-United States National Museum, Smithsonian Institution.

### RANGE EXTENSIONS

Subdivision 1: Florida Keys to Apalachee Bay, Florida

*Madracis formosa* Wells, 1973:

Previously known from Jamaica from 15-79 m (Wells, 1973). — New records: III-30-C-TDS: 24°47'N, 083°51'W, 76.1 m, USNM 72555; IV-29-B-TDS: 24°47'N, 083°41'W, 62 m, USNM 72548 (both records northwest of Dry Tortugas). New record for Gulf of Mexico.

Subdivision 2: Apalachee Bay to Mississippi River Delta, Louisiana

*Anomocora fecunda* (Pourtalés, 1871): Previously known from throughout Caribbean and southeast Gulf of Mexico (subdivisions 1, 5, and 6) from 73-567 m (Cairns, 1979). — New record: MAFLA—2645: 29°35'N, 087°20'W (off Mobile, Alabama), 107 m, DISL.

*Dendrophyllia cornucopia* Pourtalés, 1971: Previously known from Antilles, Straits of Florida, and southeast Gulf of Mexico (subdivisions 1 and 6) from 132-960 m (Cairns, 1979). — New record: MAFLA—2645: 29°35'N, 087°20'W (off Mobile, Alabama), 107 m, DISL. Shallowest known record of this species.

Subdivision 3: West of Mississippi River Delta to Texas-Mexico border

*Caryophyllia berteriana* Duchassaing, 1850: Previously known from throughout Caribbean and eastern Gulf of Mexico (subdivision 1, 2, 5, and 6) from 100-850 m (Cairns, 1979). — New records: LGL WC-7: 27°45.53'N, 091°13.62'W, 457-472 m, 11 June 1985, USNM 75687; LGL WC-9: 27°42.79'N, 091°15.28'W, 695-807 m, 23 May 1985, USNM 75686 (both records off Louisiana).

*Deltocyathus italicus* (Michelotti, 1838): Previously known from throughout Caribbean and eastern and southwest Gulf of Mexico (subdivisions 1, 2, 4, and 6) from 403-2634 m (Cairns, 1979). — New records: LGL WC-2: 27°45.14'N, 092°29.14'W, 518-585 m, 9 June 1985, USNM 75689; LGL WC-3: 27°35.22'N, 092°22.67'W, 768-781 m, 9 June 1985,

USNM 76427; LGL WC-11: 27°24.75'N, 092°38.06'W, 1024-1247 m, 8 June 1985, USNM 75688; LGL WC-12: 27°19.62'N, 91°31.25'W, 1170-1236 m, 13 June 1985, USNM 75690 (all records from off Louisiana).

*Deltocyathus calcar* Pourtalés, 1874: Previously known from throughout western Atlantic from off North Carolina to Rio de Janeiro, including the Caribbean and eastern Gulf of Mexico (subdivisions 1, 2, 5, and 6), from 81-675 m (Cairns, 1979). — New record: LGL WC-5: 27°47.03'N, 091°43.76'W (off Louisiana), 402-444 m, 10 June 1985, USNM 76832.

*Lophelia prolifera* (Pallas, 1766): Previously known throughout world oceans from 60-2170 m (Cairns, 1979; Zibrowius, 1980), including eastern Gulf of Mexico (subdivisions 2 and 6). — New record: LGL WC-6: 27°42.34'N, 091°32.91'W (off Louisiana), 543-783 m, 10 June 1985, USNM 75691.

*Thalamophyllia riisei* (Duchassaing and Michelotti, 1860): Previously known from Antilles and western Straits of Florida from 18-1317 m (Cairns, 1979). — New record: "Alaminos" 66A16: 27°56'N, 091°50'W (off Louisiana), 155 m, 22 November 1966, Texas A & M University. New record for Gulf of Mexico.

*Peponocyathus stimpsonii* (Pourtalés, 1871): Previously known from Antilles and southwest Gulf of Mexico (subdivisions 1, 5, and 6) from 110-293 m (Cairns, 1979). — New record: VIII-A-2: 27°52.4'N, 091°50.9'W (off Louisiana), 175 m, 11 April 1976, USNM 61860.

*Schizocyathus fissilis* Pourtalés, 1874: Previously known from Antilles and eastern Gulf of Mexico (subdivisions 1, 2, and 6) from 88-640 m (Cairns, 1979). — New records: LGL C-1: 28°04.06'N, 090°15.53'W (off Louisiana), 358 m, 2 November 1984, USNM 76424; LGL WC-2: 27°45.14'N, 092°29.14'W (off Louisiana), 518-585 m, 9 June 1985, USNM 76841;

LGL WC-5: 27°47.03'N, 091°43.76'W (off Louisiana), 402-444 m, 10 June 1985, USNM 76843; LGL WC-6: 27°42.74'N, 091°32.92'W (off Louisiana), 543-783 m, 11 June 1985, USNM 76844.

*Balanophyllia palifera* Pourtalés, 1878: Previously known from Barbados and southeastern Gulf of Mexico (subdivision 6) from 53-708 m (Cairns, 1979). — New record: VIII-A-2: 27°52.4'N, 091°50.9'W (off Louisiana), 175 m, 11 April 1976, USNM 75592.

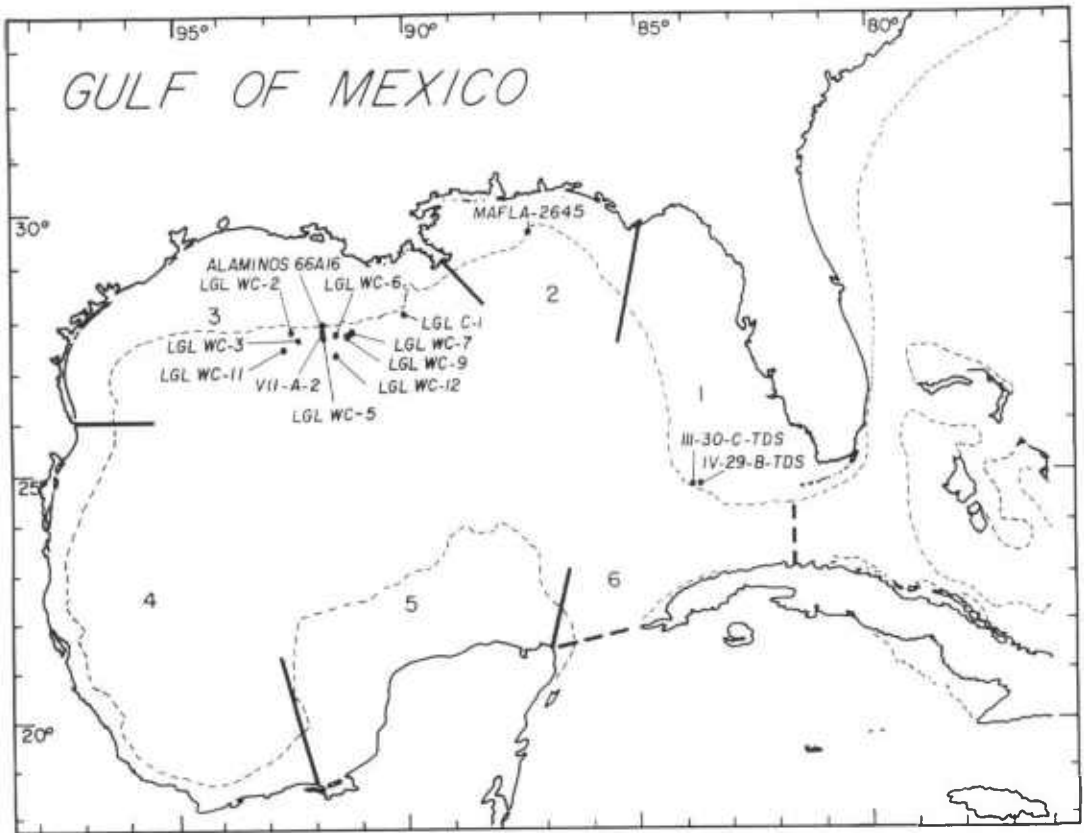
used in this study: Mary E. Kindinger (Corpus Christi State University), USGS specimens; Charles H. Lutz (DISL), BLM-MAFLA specimens; and Linda H. and Willis E. Pequegnat, "Alaminos" specimens. LGL specimens were collected by funding provided by the U.S. Department of Interior, Minerals Management Service, Gulf of Mexico OCS Regional Office (Contracts 14-12-0001-30212 and 14-12-0001-30046).

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**LITERATURE CITED**

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Cairns, S.D. 1978. A checklist of the ahermatypic Scleractinia of the Gulf of Mexico, with the description of a new



**Figure 1.** Geographic subdivisions used in this paper (after Cairns, 1978) with locations of range extensions and corresponding species names. IV-29-B-TDS: *M. formosa*; III-30-C-TDS: *M. formosa*; MAFLA-2645: *A. fecunda*, *D. cornucopia*; LGL C-1— *S. fissilis*; LGL WC-7: *C. berteriana*; LGL WC-6: *L. prolifera*, *S. fissilis*; LGL WC-12: *D. italicus*; LGL WC-5: *D. calcar*, *S. fissilis*; VII-A-2: *P. stimpsonii*, *B. palifera*; "Alaminos" 66A 16: *T. riisei*; LGL WC-2: *D. italicus*, *S. fissilis*; LGL WC-3: *D. italicus*; LGL WC-11: *D. italicus*.

- species. *Gulf Res. Rept.* 6(1): 9-15.
- \_\_\_\_\_. 1979. The deep-water Scleractinia of the Caribbean Sea and adjacent waters. *Stud. Fauna Curaçao* 57(180): 341 pp.
- Castanares, L.G. and L.A. Soto. 1982. Estudios sobre los corales escleractinios hermatípicos de la costa noreste de la Península de Yucatán, México. Parte 1. Sinopsis taxonómica de 38 especies. *An. Inst. Cienc. del Limnol. Univ. Nat. Auton México* 9(1):295-344.
- Rezak, R., T.J. Bright, and D.W. McGrail. 1985. Reefs and banks of the north-western Gulf of Mexico. John Wiley & Sons, New York, 259 pp.
- Wells, J.W. 1973. New and old scleractinian corals from Jamaica. *Bull. Mar. Sci.* 23(1):16-55.
- Zibrowius, H. 1980. Les Sclérectiniaires de la Méditerranée et de l'Atlantique nord-oriental, *Mém. Inst. ocean. Monaco* 11: 227 pp.
- Zlatarski, V.N. and N. Estalella. 1982. Les Sclérectiniaires de Cuba. *Academie bulgare des Sciences, Sofia*, 472 pp.

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