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ARTÍCULO POR INVITACIÓN

SCLERACTINIANS OF YUCATÁN PENINSULA, MEXICO: RESULTS OF 1983-1984 INVESTIGATION

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ABSTRACT. From 1983 to 1984, the Center for Advanced Studies and Research in Mérida, Yucatán, Mexico (CINVESTAV-Unidad Mérida) conducted an extensive study of reef scleractinians all around the Yucatán peninsula, from Cayos Arcas to the border of Belize. The results were not published. This article aims to preserve the unique information gathered in this study regarding scleractinian taxonomy, nomenclature and health, their species richness, community data and distribution, as well as their reef zonation. Scuba observations and collections were performed daily and nightly from the coast to a depth of 60 m, in 39 transects and 10 single stations, from a total of 141 sites and 174 stations. 4,579 coralla were collected, inventoried and identified. In total, 42 species and one hybrid of 27 genera were determined and four reef types were established: Campeche Bank reefs, reefs in the east coast of the Yucatán Peninsula, Cozumel Island coral reefs and Chinchorro Bank reefs. The severe negative impact of oil exploitation was evident in Cayos Arcas. Poorly conducted tourism and fishing damaged the reefs in Cozumel, Punta Brava and Isla Mujeres. Scleractinian health did not show significant anomalies. No epizootic phenomena were established. Recruits frequented non-damaged locations. The results obtained in less than 14 months of field work present a quarter-century-old snapshot and baseline for understanding scleractinian life and their role in the reef-building process, and assist in the formulation of recommendations for the conservation of coral reefs in southeastern Mexico.

Keywords: Scleractinians, reefs, Yucatán Peninsula.

RESUMEN. Durante 1983 y 1984, el Centro de Investigación y Estudios Avanzados en Mérida, Yucatán, México (CINVESTAV-Unidad Mérida) condujo un estudio sobre los arrecifes de corales escleractinios alrededor de la península de Yucatán, desde Cayos Armas hasta la frontera con Belice; los resultados no fueron publicados. Este artículo está enfocado en preservar la única información obtenida de este trabajo sobre la taxonomía, nomenclatura, salud, riqueza de especies, datos de la comunidad y distribución, así como la localización por zonas en el arrecife, de los escleractinios. Las observaciones y recolectas fueron realizadas diariamente mediante buceo libre (día y noche), desde la costa hasta una profundidad de 60 m, en 39 lineas de muestreo y 10 estaciones, de un total de 141 sitios y 174 estaciones. Se recolectaron 4,579 corales, que fueron inventariados e identificados. Se determinaron 42 especies y un híbrido de 27 géneros; se establecieron cuatro tipos de arrecifes: arrecifes de banco de Campeche, arrecifes de la costa este de la península de Yucatán, arrecifes coralinos de Isla Cozumel y arrecifes del banco Chinchorro. El impacto negativo por explotación de petróleo fue evidente en Cayos Arcas. Y en Cozumel, Punta Brava e Isla Mujeres debido a turismo pobremente manejado y por pesca. La salud de los escleractinios no mostró anomalías significativas. No se determinaron fenómenos epizooticos. El reclutamiento fue frecuente en lugares sin daño. Con menos de 14 meses de trabajo de campo se presenta una fotografía de hace un cuarto de siglo y una línea base para entender la vida de los escleractinios y su papel en el proceso de la construcción del arrecife. Asimismo, coadyuva en las recomendaciones para la conservación de los arrecifes coralinos del sureste de México.

Palabras clave: Escleractinos, arrecifes, Península de Yucatán.

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INTRODUCTION

While working from November 15, 1983 to December 29, 1984 in the Center for Advanced Studies and Research in Mérida, Yucatán, Mexico (CINVESTAV-Unidad Mérida), the author conducted an extensive study of reef

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scleractinians in southeastern México. The results were not published. The following quarter-century-old snapshot of the scleractinian presence around the Yucatán Peninsula, prepared from field and laboratory notes, is the author's attempt to preserve the data regarding species richness, community information and the scleractinians participation in different reef types.

Two publications examined scleractinians of the Yucatán Peninsula before the CINVESTAV 1983-1984 project. Castañares & Soto (1982) published a taxonomical synopsis of 38 zooxanthellate species based on three to five specimens collected in 1976 to a depth of 25 m off the northeastern coast of the Yucatán Peninsula. Farrell *et al*. (1983) reported on scleractinian diversity and reef zonation at Cayos Arcas, Campeche Bank. The works of Jordan (1979), Jordan *et al*. (1981) and Jordan & Martin (1987) focused on reef morphology and composition in the Mexican Caribbean and also contained information about corals. Reef scleractinians around the Yucatán Peninsula were mentioned in several publications: Smith (1948, 1954 and 1972), Kornicker *et al*. (1959), Logan *et al*. (1969), Macintyre *et al*. (1977), Glynn (1973) and Geister (1983). During the years following the CINVESTAV 1983-1984 project, several interesting investigations on certain reefs and specific scleractinian problems were realized. Fenner (1988, 1991, 1993, 1999 and 2001) published several articles on Cozumel scleractinians and reefs, comparing them with Belize species, and also examined the biogeography of three scleractinian species. Jordán-Dahlgren & Rodríguez-Martínez (1998) described the post-hurricane recovery of *Acropora palmata* in two reefs, and later (2003a) focused on coral diseases in Gulf of Mexico reefs. Novak *et al*. (1992) reported on the sedimentology and community structure of some reefs of the Yucatán Peninsula. Jordán-Dahlgren *et al*. (1994) described and discussed the Sian Ka'an Biosphere Reserve coral reef system. The skeletal growth of representatives of *Montastraea* was the object of attention of two articles (Cruz-Piñón *et al*., 2003, Carricart-Ganivet, 2004). Beltrán-Torres & Carricart-Ganivet (1999) published their revised and annotated list of zooxanthellate stony coral species from the Mexican East Coast. Jordán-Dahlgren (2003) shared two decades of experience on the status of Acroporids in the Mexican Atlantic. Jordán-Dahlgren & Rodríguez-Martínez (2003b) offered a synthesis on the Atlantic coral reefs of Mexico. In the well-illustrated book "Coral reefs of southern Gulf of Mexico," researchers conducting four decades of studies in the area led a team summarizing for the first time many aspects of the existing wealth of information (Tunnell *et al*., 2007). The only reports of the CINVESTAV project conducted 24 years ago appeared as abstracts and were of a preliminary nature (Zlatarski, 1984, 1985, 2006 and 2008b).

MATERIAL AND METHODS

The 1983-1984 project involved the first massive sampling and detailed investigation of scleractinians in waters all around the peninsula of Yucatán. The study area included Campeche Bank in the southeastern Gulf of Mexico (from Cayos Arcas in the south to Alacrán Reef in the north) and the Mexican Caribbean sector (east coast of Yucatán Peninsula, Cozumel Island and Chinchorro) (Fig. 1). Scuba observations and collections were performed daily and nightly from the coast to a depth of 60 m, in 39 transects and 10 single stations, from a total of 141 sites and 174 stations (Table 1). 4,579 coralla were collected, inventoried and identified (Table 2). In 1985, CINVESTAV donated 801 of these to the Smithsonian Institution in Washington, D.C., where they are well-preserved with all pertinent data. The remaining 3,778 coralla stayed in CINVESTAV-Mérida. From them, only 428 survive, without the data on locality or identification. Mr. José Manuel Castelló took 630 color scleractinian pictures, from which 231 were selected for an atlas for scleractinian identification, ecology end reef participation.

RESULTS

The identification of all taxa was done by the author in 1983-1984, with the exception of three azooxanthellate species (*Colangia immersa*, *Thalamophyllia riisei* and *Rhizosmilia maculata*) identified by Dr. S. Cairns in 1985. In total, 42 species and one hybrid of 27 scle-

ractinian genera were determined (Table 2). From all species, only five are azooxanthellate and one may or may not have zooxanthallae. 452 coralla from five genera (*Madracis*, *Diploria*, *Isophyllia*, *Meandrina* and *Porites*) showed characters of two species or intermediate characters between two species and were classified in transitive categories of five species couples. Another 237 specimens were identified with the signs of the open nomenclature as "sp." Among the collected *Siderastraea* colonies, 61 had the morphology of "rolling stones." 149 specimens represented the hydrozoan genus *Millepora*. The supraspecies systematic order follows Zlatarski & Matinez Estalella (1982) and Chevalier (1987).

Having been made two dozen years ago, the taxonomical decisions reflected the state of scleractinian knowledge at that time. The author presents them here after becoming acquainted with the evolution and current state of the art on the notion of sceractinian species, variability and taxonomy, and consistent with the current integrative approach to scleractinian taxonomy (Zlatarski, 2007a, 2007b, 2008a). Usage of taxonomic reserves and transitive categories in 1983-1984 has been validated by recent molecular studies. For example, *Acropora prolifera* ? has been proven to be a hybrid*; Porites porites* and *P. furcata* were indicated as having no distinct lineages; and the absence of reproductive isolation in the genus *Madracis* has been established (van Oppen & Gates, 2006; Stake & Neigel, 2007).

In Campeche Bank, only one species of *Isophyllia*, *I. sinuosa*, was found, but not *I. rigida*. Colonies with intermediate characters between *I. rigida* and *I. sinuosa*, which occur when both species are present (Tables 3, 4), were not found. This coincidental fact might indirectly indicate a potential hybridization process between *I. rigida* and *I. sinuosa*. In contrast, the genus *Meandrina* was represented in the entire study area by *M. meandrites* and by transitorial *M. meandrites – M. brasiliensis* and *M. meandrites – M. memorialis* (Tables 3-7). Colonies showing solely the characters of *M. brasisiensis* or *M. memorialis* were not found, which might indicate a rate of concerted evolution for *Meandrina* that is faster than the rate of speciation.

The need to satisfy conceptual as well as practical taxonomic considerations, as well as the need to develop a common language among a large number of users of coral names, does not always result in perfect solutions and sometimes requires the development of temporary taxonomic *modus operandi*. By accepting this compromise, we have to keep in mind the existence of serious unresolved taxonomic problems in *Mycethophyllia*, *Scolymia* and *Meandrina* and in most other Atlantic scleractinians. *Montastraea annularis* is considered *sensu lato*. The species name *Madracis auretenra* (Locke *et al*., 2007) is applied for *M. mirabilis sensu* Wells. After a revision of the genus *Leptoseris* (Dinesen, 1980), its name became frequently used for an Atlantic species. The review of this case did not confirm the necessity of such change and so the species is here called *Helioseris cucullata* as was also used for the last time by Wells (1986).

Scleractinian distribution, species richness, health and reef zonation

The scleractinian distribution, species richness and reef zonation (of alive and dead scleractinians) is documented in 33 figures representing 39 transects and 10 single stations from all 141 sites and 174 stations (Figs. 2-34). The taxa of each locality were assigned to three categories in accordance with their abundance in the scleractinian community: present (found in locality), dominant (predominant by numbers or coverage of substratum) and highly dominant (predominant by more than half in numbers or coverage of substratum).

Biogeography. Sampling practices and taxonomical approaches differ among scleractinian researchers. This makes it difficult to juxtapose the obtained information with the biogeographical data for the rest of the Caribbean region. However, the usage of the same methods makes it possible to compare with data for Cuba (Zlatarski & Martínez Estalella, 1982; Cairns, 2000), which is a hotspot of scleractinian diversity in the Caribbean. The com-

parison reveals no significant differences in important reef building species. Generally the differences are with respect to ahermatypic and strictly photophobic species. During the 1983-1984 project, none of the following were found: *Madracis formosa*, *M. senaria*, *Solenastraea bournoni, Cladocora arbuscula*, *Phyllangia americana*, *Mycethophyllia ? reesi*, *Tubastraea coccinea*, *Coenocyathus caribbeana* or any representatives of *Caryophyllia*. The genus *Oculina* was established by only one colony of *O. diffusa*. In Yucatán waters, *Colangia immersa* and *Thalamophyllia riisei* were found, which were unknown in Cuba (Table 2). In México, there was neither collected nor observed the material showing the characters of the later described *Porites colonensis* (Zlatarski, 1990).

Species richness. Throughout the study area, the scleractinian species richness was uniform with a slight trend in decreasing species numbers going from the eastern sector of the Yucatán Peninsula to Campeche Bank in the southern Gulf of México (Table 3). The reason appeared to be the approaching of a marginal zone of the Caribbean Region. Two zooxanthelate species, *Dendrogyra cylindrus* and *Isophyllia rigida*, were not found in Campeche Bank, most probably due to this reason (Table 4). The gonochoric nature of the first species was also probably a factor for its confined distribution. The absence in certain stations of some species of *Mycethophyllia* and *Scolymia* might be a taxonomic artifact of arbitrary decisions because of existing coralla with intermediate characters. The azooxanthellate species were found in the eastern Yucatán sector where there exist dark refuges (Tables 3, 5-7). Both *Solenastraea hyades* and *Oculina diffusa* were established only in Campeche Bank, where the vast shallow areas presented a favorable environment for them (Tables 3, 4). The fact that each was documented in only one locality can be explained by the project focus on reef areas. This makes possible the suggestion that both species might also have been present in other parts of the Yucatán Platform. In 1983-1984, no epizootic phenomena were established. Recruits frequented and existed even in devastated *Acropora* zones. Observations on negative impacts on reefs are presented below together with the data for different reef types.

Reef types. Reefs were related to four groups: Campeche Bank, east coast of Yucatán Peninsula, Cozumel Island and Chinchorro Bank.

1. Campeche Bank reefs are developed near the shelf edge in the northeastern Gulf of Mexico and are located some 130 km to 200 km offshore the Yucatán Peninsula. They appear as emergent or submerged platforms or banks from Cayos Arcas to Alacrán Reef (Figs. 1-10, 35-39; Table 4). Regardless of the fact that they occupied a very minute part of the vast Campeche Bank, they demonstrate an extremely strong reef-building process. An Alacrán Reef core hole recorded the thickest Holocene reef section in the world (33.5 m, which translates to accretion rates of 1.2 m per hundred years), dominated by *Acropora cervicornis* (Macintyre *et al*., 1977). In 1983-1984, *A. palmata* followed by *A. cervicornis* were the primary reef constructors in shallow zones. Dense healthy populations of *A. palmata* existed west of Cayo del Este, Cayos Arcas (st. 72a, depth 0.4-2 m; Figs. 2, 35); at Cayo Triángulo Sur (st. 62, depth 2-4 m; Figs. 4, 36); at Cayo Nuevo (st. 73a, depth 0.4-1,5 m; Fig. 6); and at Cayo Arenas (st. 20, depth 0.4-4 m – Fig. 7; st. 23a, depth 0.4-1,5 m – Fig. 7; st. 38a, depth 1.5-6 m – Fig. 8; Fig. 38). While negatively affected close to the sea surface, *Acropora* representatives still had an exuberant presence in deeper waters. For example, in Cayo Arenas (Fig. 38), at 11 m (st. 37b; Fig. 8) and below 6 m (st. 40c; Fig. 8), *A. cervicornis* formed a dense monospecific community. Elkhorn coral had built a unique, pristine and large (hundreds of meters in diameter) submerged bank at a depth of 13 m - 14 m called Bajo Obispo Norte (st. 65; Fig. 4). In it four circular sand arenas with diameters of more than 50 m were observed, called “blanquisales” because of their white color, in which fine coral sand was trapped. In these arenas and on their edges, scattered colonies of the remaining species were thriving. The *Acropora* zones were followed in depth by the *Montastraea* zones (first a *M. annularis s. l*. zone and then a *M. cavernosa* zone). Impressively, northwest of Cayo Arenas (Fig. 38), at depths of 13 m to

32 m (st. 22, 36, 39; Fig. 7), a very good scleractinian presence was documented. There, at 42 m, 10% of the flat hard substratum (st. 41; Fig. 7) was covered by scleractinians, with *M. cavernosa* dominating.

The biggest anthropogenic damage was registered in Cayos Arcas. There, leeward of Cayo del Centro, more than a hundred fishing boats sought refuge during bad weather, and nearby, active oil exploitation was occurring. Pieces of fishing nets, boat chains and lines (thicker than 4 cm) were abundant on the dead crest (st. 25b; Figs. 3, 35) together with some pieces of *A. palmata*. The small colonies of *Favia fragum* were the only living scleractinians marking a recolonisation of the deserted reef flat, which is why the zone is named for this species. Northwest of Cayo del Centro (st. 69; Figs. 3, 35), another dead crest was witnessed, in this case of staghorn coral that was obviously recently dead because the colonies were covered by algae but were not broken. In 1984, the situation at Cayo del Centro was strikingly different from the picture of "extensive reef flat, over 100 meters wide, almost completely covered by a dense, monospecific stand of *Acropora cervicornis*" observed only three and a half years earlier, in the fall of 1980, by Farrell *et al*. (1983, p. 4; and personal communication by Dr. C. F. D'Elia). Crests of dead *A. palmata* zone were observed near: Cayo Triángulo Oeste (st. 28, 30; Figs. 5, 37); Cayo Arenas (st. 42, Fig. 7 – recently dead *A. palmata* with patios of living *A. cervicornis*; st. 23c, Fig. 7 – crest covered by pieces of dead *A. palmata* and *A. cervicornis*; st. 40a, Fig. 8 – many dead *A. palmata*, many zoanthids, a strange *Acropora* colony: half *A. palmata* and half *A. prolifera* = *A. cervicornis* + *A. palmata*, connected at the colony base; Fig. 38); Isla Pérez, Alacrán Reef (st. 19, Fig. 9 – half buried in sand colonies of *A. cervicornis*; st. 17, Fig. 9 – broken, reversed but living *A. palmata*; st. 16, Fig. 9 – pieces of dead *A. cervicornis* with colony bases *in situ*; Fig. 39); Surge channel, Alacrán Reef (st. 46, Fig. 10 – dead crest of *A. palmata* covered 15% - 20% by dominant *Porites astreoides*, *Porites porites* – *P. furcata*, and *Millepora* sp.; Fig. 39). While in the southern part of Campeche Bank the reef damage was predominantly anthropogenic, in the north, the destructive effects of hurricanes or tropical storms were witnessed. Both kinds of negative impacts were recent, caused most probably within the previous ten years.

2. Reefs in the east coast of the Yucatán Peninsula border the narrow continental shelf from Isla Contoy in the north to the Belize border in the south (Figs. 1, 11-22; Table 5). The reef track is marked sometimes by fringing reefs, but most frequently by specific barrier reefs separated from the coast by a shallow (only 3 – 8 m deep) lagoon of variable width (hundreds to thousands of meters). The reefs grew frequently on eolianites. A primary reef crest builder was *A. palmata*. *A. cervicornis* and representatives of *Porites* formed patios or stands in protected areas. A well-develo- ped *A. palmata* zone was documented in the following places: Los Manchones (st. 124; Fig. 12); El Manchón de Roca la Bandera (st. 128; Fig. 12); El Manchón de Chital (st. 129; Fig. 12 – covering crests with vertical walls and shark caves); Punta Nizuk (st. 121a, 122; Fig. 13) and with a patch of *A. cervicornis* (st. 122a; Fig. 13); Punta Petempich (st. 102, 103; Fig. 15); Puerto Morelos (st. 35; Fig. 17); Punta Brava (st. 110a; Fig. 18 – with patio of *Porites astreoides* and front of Millepora); Punta Maroma (st. 114a, 114b; Fig. 19); Punta Allen (st. 137a; Fig. 21); Mahahual (st. 135; Fig. 22 – reef front covered by *A. palmata* – *Agaricia tenuifolia* zone). Immediately behind or in front of the crests frequented *Montastraea annularis s. l*. and *Agaricia tenuifolia*. In the lagoon, scleractinians were rare and accumulated in coral heads or "cabezos" and small internal crests of *A. palmata*. There were terraces at 10 m - 12 m (Punta Nizuk, Fig. 13; "Bajo" Finduvet, Fig. 14; Tulum, Fig. 20), at 17 m (Punta Allen, Fig. 21; Mahahual, Fig. 22) and at 30 m (Tulum, Fig. 20; Mahahual, Fig. 22). The slopes between these terraces were inhabited by many scleractinians without domination by any species. On the terraces themselves, there was poor development of the benthos. The Acroporid hybrid *prolifera* was found in six stations (Tables 3, 5). By Isla Che (st. 131; Fig 11), it formed a large (15 by 15 m) patch. The presence of a hard substratum and considerable current probably facilitated the development of the usually rare *Dendrogyra cylindrus*,

which was found in six stations (Tables 3, 5). Seaward of the barrier, at a depth of 7 m on rocky bottom, there existed small sand pockets approximately one meter in diameter. Like nests with eggs, they contained "rolling stones" colonies of *Siderastraea siderea* (Puerto Morelos, st. 33, Fig. 16; Tulum, st. 140, Fig 20), *S. radians* (Punta Petempich, st. 104; Fig. 15), *Madracis decactis* (Tulum, st. 138; Fig. 20 - 33 m), *Porites* sp., and *Millepora* sp. (Isla Che, st. 130; Fig. 11).

The reefs in the east coast of the Yucatán Peninsula were affected considerably less by negative anthropogenic impact than the reefs in Campeche Bank. In Isla Mujeres, in front of the Hotel El Garrafón (st. 125; Fig. 12), tourists were trampling and killing the reef flat, which was luxurious only several years earlier, before the hotel's appearance. In Punta Brava (st. 111b; Fig. 18), a large broken column (>1 m) of *D. cylindrus* evidenced destructive anchoring. Many dead *A. palmata* were observed in the folloving places: Isla Che (st. 130a, 131a; Fig 11); "Bajo" Finduvet (st. 119a; Fig. 14); Puerto Morelos (st. 31; Fig 16 – dead colonies on reef front, but alive on inner slope); Punta Maroma (st. 115, 116; Fig. 19); Tulum (st. 140a; Fig. 20); Mahahual (st. 135; Fig 22 – but with presence of recruits). A dead *A. cervicornis* zone was registered in Punta Maroma (st. 115, 116; Fig. 19).

3. Cozumel Island coral reefs stretch only some 40 km along the insular leeside (Figs. 1, 23-28, 40; Table 6). However, the presence of a very steep continental slope and the clear water masses of the Gulf Stream (Yucatán Current) favored luxurious scleractinian life and the existence of mesophotic reefs down to 55 m. Reef structures are elongated, parallel to the shore and coincide with the direction of the current. Compared with the other reefs of Yucatán waters, Cozumel reefs lack only a large *Acropora* barrier, but possess a large spectrum of reef forms: from fringing coral beds, stands and crests to spectacular reef castles on the edge of the continental slope. All of these reef forms are present in the southwestern corner of the shelf. For example, during the study period, in Palancar (Fig. 28), a crest at a depth of 2-7 m (st. 1b) showed high species richness without a dominant taxon. Later, at 12 m, a terrace dropped to 17 m into a 2 m-wide sand channel. The majestic reef constructions known as "las Catedrales," or "the Cathedrals," followed on the shelf edge (st. 1a). The tops of the Cathedrals were constructed from massive coral colonies. Their walls dropped almost vertically from 15 m to 30 m (st. 1d). The outer reef slope was shingled by delicate scleractinians, with a presence of *Gardineria minor* behind them. To 55 m, *Helioseris cucullata* and *Agaricia lamarcki* dominated (st. 1c). Below this depth, scleractinians were rare. Sometimes the crest of the reefs on the shelf edge was interrupted and was asymmetric like waves evidencing the current's direction (San Francisco, st. 56; Santa Rosa; st. 2; Paso del Cedral, st. 54 – Fig. 27). Fringing reefs were observed at Dzul-Ha (st. 75; Fig. 24) and Chankanaab (st. 10; Fig. 25). On the sandy shelf platform, diverse coral life was concentrated on the cabezos of *Montastraea annularis s. l.* (Chankanaab, st. 8, 9, 15 – Fig 25; Colombia, st. 49 – Fig. 28) as well in stands of *Agaricia tenuifolia* (Paraíso, st. 47, 51 – Fig. 24; Dzul-Ha, st. 76 – Fig. 24; Yucab, st. 50 – Fig. 26; Tunich, st. 11, 12 – Fig. 26; Santa Rosa, st. 2a – Fig. 27; Paso del Cedral, st. 54 – Fig. 27; Colombia, st. 49 – Fig. 28). In Maracaibo (st. 55; Fig. 28), an enormous colony (4 m by 5 m) of *Eusmilia fastigiata* and a large colony of *Diploria labyrinthiformis* (>1.5 m) were found. In the Laguna of Chankanaab (st. 4; Fig. 25), the following were transplanted: *Acropora cervicornis*, *A. palmata*, *Diploria clivosa - D. strigosa*, *Montastraea cavernosa*, *Stephanocoenia intersepta*, *Dichocoenia stokesi*, *Meandrina meandrites* and *Porites astreoides*. The walls of the Chankanaab Cave (st. 14; Fig 25) were covered by azooxanthellate scleractinians to 40 m from the entrance. On the northern end of the insular shelf, no cabezos or crests were observed. In San Juan (st. 53; Fig. 23), at 12 m and in the presence of a strong and constant current, a vast area of the platform (more than a hundred meters) was covered by a megacolony of *Porites porites – P. furcata*. It was impossible to distinguish any colony borders in this dense branching mass.

Cozumel reefs were under the constant stress of scuba and snorkeling tourism. Hun-

dreds of experienced and inexperienced divers were visiting the best reefs and touching them every day. Damage by anchoring was registered in Cardona (st. 3; Fig. 26) on *Montastraea annularis s. l*.

4. Chinchorro Bank is rimmed by an atoll-like barrier reef system (Figs. 1, 29-34; Table 7). Its best development was observed in the southern and southeastern part of the platform. The lagoon deepened from 2 m in the north to 10 m in the south. Here, near Cayo Lobos (Fig. 34), there were linear ridges of dead *Acropora palmata* covered by algae. At a depth of 2.5 m, patches of *Montastraea annularis s. l*. and *Agaricia tenuifolia* were observed (st. 82; Fig. 33). At 12 m, there followed small cabezos (<2 m) of *M. annularis s. l*. (st. 84; Fig. 33). Deeper, at 20 m, channels with sand cut the hard substratum, which was populated by diverse scleractinians (st. 85; Fig. 33). At 30 m, on the horizontal sandy bottom, scattered patches (<5 m) were observed, with no dominant species (st. 78; Fig. 33). At the terrace edge, at 31 m, thriving *A. palmata* formed a cabezo (st. 81; Fig.33). In the eastern part of Chinchorro, the barrier was covered by algae with sparse *Millepora* on the inner reef slope and reef front. Seaside, in a spur and groove system, two zones were observed: on spur flats, a *Millepora* zone, and on their vertical walls up to 2.5 m (st.88a; Fig. 31), an *Astrangia solitaria* zone. *Millepora* continued to cover the spurs at a depth 1.5 m, but their slopes were populated by *Agaricia tenuifolia* (st. 88b; Fig. 31). Gorgonians and diverse scleractinians without dominant species inhabited the hard substratum at 22 m (st. 87; Fig. 31). In the western part of Chinchorro, scleractinians did not construct a barrier as in the east. Colonies formed scattered small patches (st. 94; Fig. 32) on a sand terrace at a depth of 15 m - 20 m. Scleractinians frequented the following steep slope. In the upper half, an *M. annularis s. l*. zone was observed, and following that, to a depth of 45 m, an *Agaricia lamarckiana* zone (st. 93; Fig. 32). In northern Chinchorro, there existed a clear spur and groove system, with the presence of *A. cervicornis* on the 30 m terrace (st. 96; Fig. 29). This system continued down the steep slope, when at 33 m it disappeared, and at 45 m a horizontal platform was covered by sand without scleractinians. In the shallow zones, cabezos of *M. anuularis s. l*. were inhabited by diverse scleractinian life (st. 99; Fig. 29). Inside the Chinchorro barrier, in the lagoon, cabezos of *M. annularis s. l*. were hosting some scleractinians (st. 92b, 91; Fig. 30). In hardbottom areas, *Stephanocoenia intersepta* predominated (st. 92a; Fig. 30). At that time, Chinchorro was not an object of tourism.

CONCLUSION

The results of this investigation, obtained in less than 14 months of field work, present a quarter-century-old snapshot of reef scleractinians all around the Yucatán Peninsula. They offer a baseline for evaluation of the scleracrinian role in the reef-building process in Campeche Bank and the Mexican Caribbean. It is difficult to compare them directly with the results of other published investigations of the area because what was published before and after the CINVESTAV project, with few exceptions, was not dated or documented by transects, and objected predominantly shallow waters. The hope is that the picture presented here will stimulate interest in saving still available data from this project and lead to continuing to build up the significant bank of information on the area. Such efforts would contribute to an understanding of scleractinians and reefs and to conservation efforts in southeastern Mexico.

ACKNOWLEDGEMENTS

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APPENDIX 1
FIGURES

Figure 1. Yucatán Peninsula and studied stations.

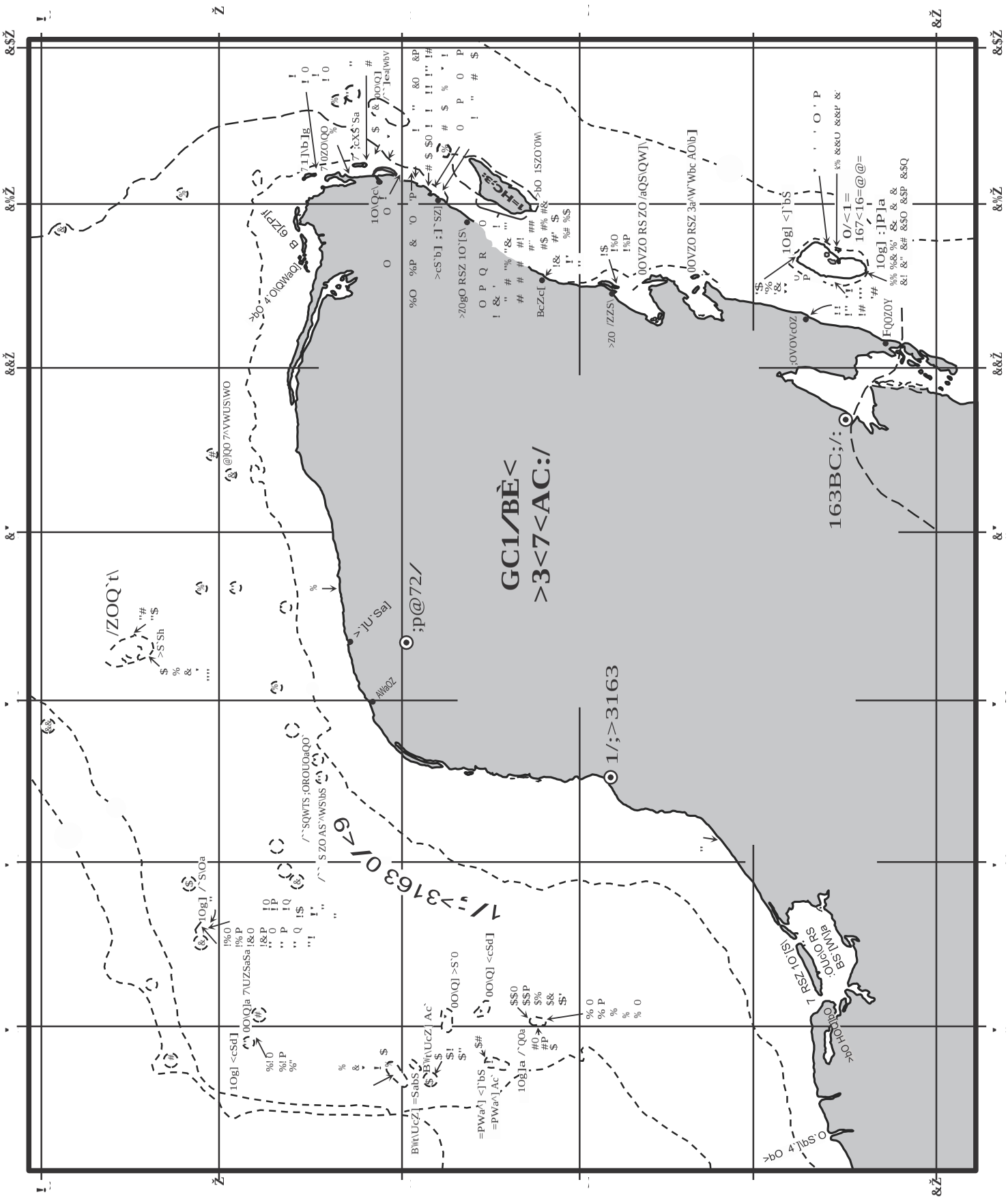
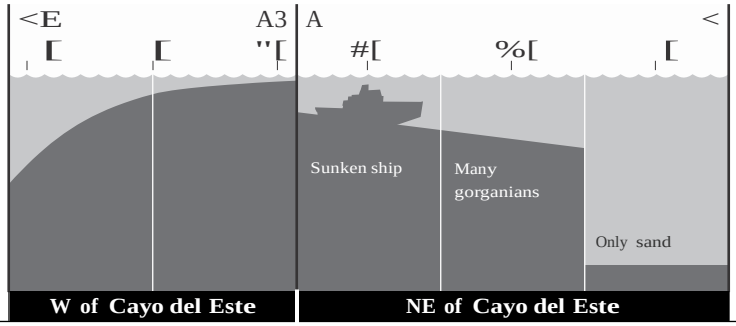


Figure 2.

Cayos Arcas (W of Cayo del Este and NE of Cayo del Este) and Playa between Champoton and Sabancuy.



KEY

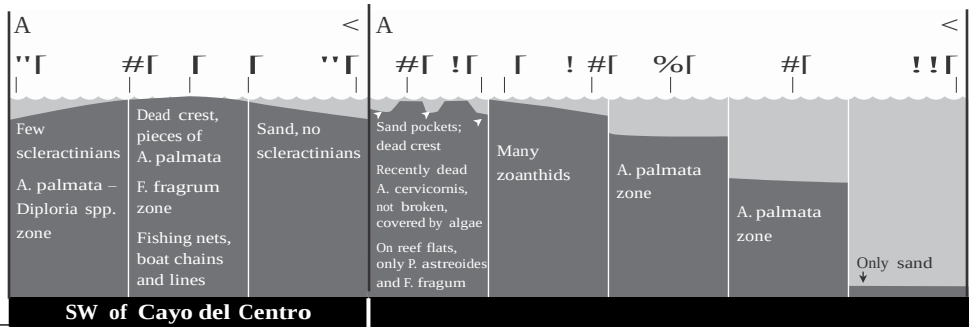
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
'' Dominant
Highly Dominant

TAXON \ STATION	72	72a	71	70b	70a	141
Acropora cervicornis				!		
Acropora palmata		#	''	$		
Madracis aurentenra	$					
Madracis auretenra — M. decactis	$					
Favia fragum	$		$	$		
Diploria clivosa	$		$			
Diploria labyrinthiformis	$		$	$		
Diploria strigosa	$		!	$		
Diploria clivosa — D. strigosa				$		
Colpophyllia natans	$		!	$		
Montastaea annularis s. l.			$	!		
Montastaea cavernosa				$		
Stephanocoenia intersepta	$					
Oculina diffusa						$
Dichocoenia stokesi	$			$		
Agaricia agarcites	$					
Agaricia sp.	$					
Siderastraea siderea	$		$	$		
Porites astreoides			$	$		
Porites divaricata	$					
Porites porites — P. furcata	$					
Millepora sp.	!		$	$		

Figure 3.

Cayos Arcas
(SW of Cayo del Centro and NW of Cayo del Centro).



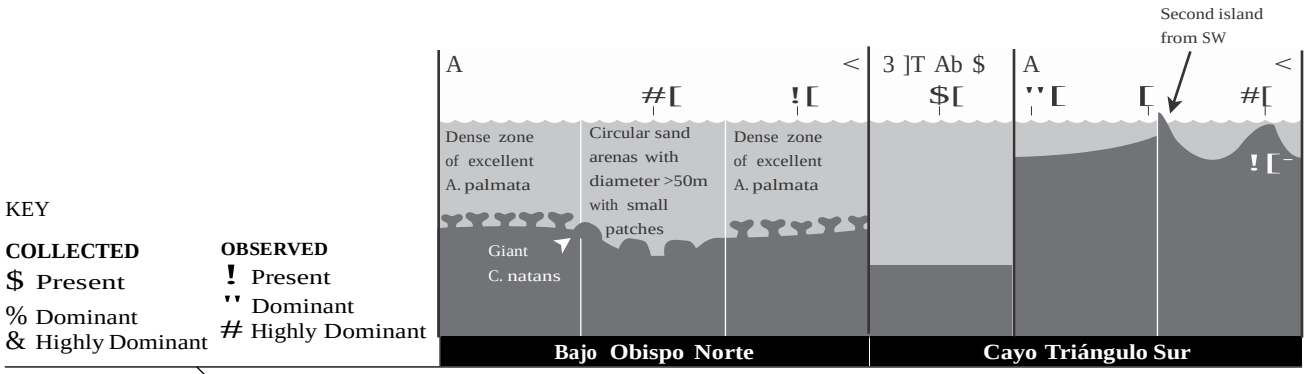
KEY

COLLECTED	OBSERVED
$ Present	! Present
% Dominant	'' Dominant
& Highly Dominant	# Highly Dominant

TAXON \ STATION	26	25b	25a	69	68	67	66b	66a
Acropora cervicornis				%			$	
Acropora palmata	%	%		!	$	&	%	
A. prolifera = A. cervicornis + A. palmata				!				
Madracis aurentenra							$	
Favia fragum	$	%		$	$			
Diploria clivosa	$	$		$	$	$	$	$
Diploria labyrinthiformis	$					$	$	
Diploria strigosa	$					$		
Diploria clivosa — D. strigosa						$	$	
Colpophyllia natans	!			$			$	
Montastaea annularis s. l.	$	$		$	$	!	$	
Montastaea cavernosa	$					$	$	
Stephanocoenia intersepta	!	!					$	
Isophyllia sinuosa				!				
Mycetophyllia ferox	$	$		$				
Mycetophyllia lamarckiana				$			$	
Mycetophyllia sp.	$			$				
Dichocoenia stokesi							$	
Meandrina meandrites							$	
Agaricia agaricites	$	$			!			
Agaricia lamarcki	!	!		$		$		
Agaricia tenuifolia	!							
Agaricia sp.		$		$				
Siderastraea radians	$	$						
Siderastraea siderea		$					$	
Porites astreoides	$	$		$	$	$	$	
Porites porites — P. furcata				$			$	
Millepora sp.	$	$		$	$	$		

Figure 4.

Bajo Obispo Norte and Cayo Triángulo Sur.



KEY

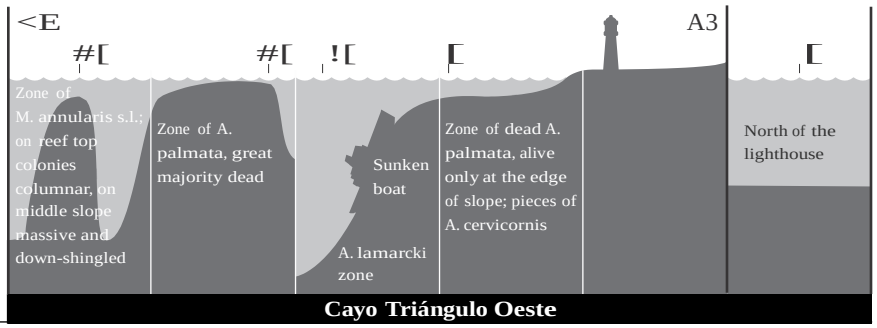
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
" Dominant
Highly Dominant

TAXON \ STATION	65		64	62	63
Acropora cervicornis	$			$	
Acropora palmata	&	&		#	$
Madracis aurentenra	$		$		
Favia fragum			$		$
Diploria clivosa	$		$	$	$
Diploria labyrinthiformis	$		$		
Diploria strigosa			$		!
Colpophyllia natans	%		$		$
Montastaea annularis s. l.	!		$	$	$
Montastaea cavernosa	$		$	$	
Stephanocoenia intersepta	$		$		!
Mycetophyllia ferox			$		$
Mycetophyllia lamarckiana			$		
Mycetophyllia sp.	$				$
Dichocoenia stokesi	$		$		
Meandrina meandrites	!		$		
Agaricia lamarcki			!		
Agaricia sp.			!		$
Siderastraea radians			!		
Siderastraea siderea	$		$	$	
Porites astreoides	$		$	$	$
Porites porites — P. furcata					$
Millepora sp.	$		$	!	$

Figure 5.

Cayos Triángulo Oeste.



KEY

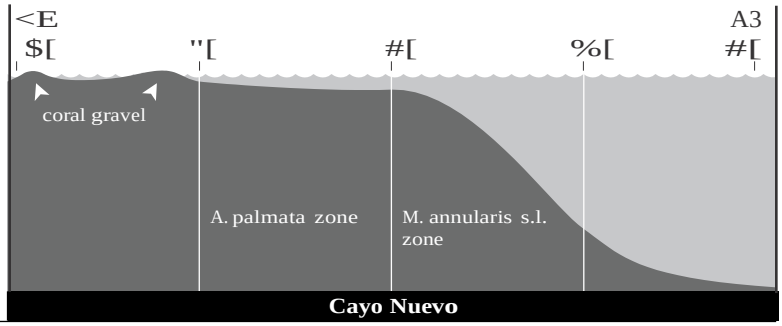
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
" Dominant
Highly Dominant

TAXON \ STATION	29	30	27	28	61
Acropora cervicornis	$		$	$	
Acropora palmata	$	%		%	$
Madracis aurentenra			$		
Madracis auretenra — M. decactis	$		$		
Favia fragum		$		$	
Diploria clivosa	$	$		$	$
Diploria labyrinthiformis	!		$	$	
Diploria strigosa				$	
Diploria clivosa — D. strigosa					!
Colpophyllia natans	$	!	$		
Montastaea annularis s. l.	%	$	$	$	
Montastaea cavernosa	$		$		$
Stephanocoenia intersepta			$		
Scolymia wellsi			$		
Mussa angulosa			!		
Mycetophyllia ferox	$				
Mycetophyllia lamarckiana	$		$		
Mycetophyllia sp.	$		$		
Dichocoenia stokesi					$
Meandrina meandrites — M. brasiliensis	$				
Eusmilia fastigiata			$		
Agaricia agaricites	$				
Agaricia lamarcki	$		%		
Agaricia sp.				$	
Siderastraea cucullata			$		
Siderastraea radians	$		$		
Siderastraea siderea	$		$		!
Porites astreoides	$	$	$	$	$
Millepora sp.	$	$		$	$

Figure 6.

Cayo Nuevo
(ephemeral island with single emergent platform).



KEY

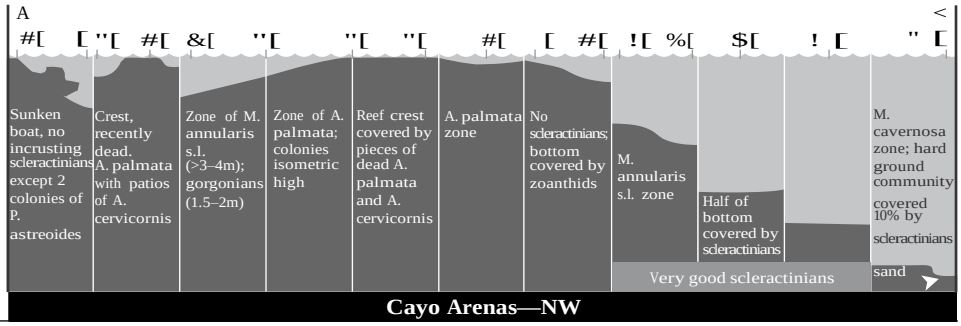
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
" Dominant
Highly Dominant

TAXON \ STATION	74	73a	73b
Acropora cervicornis		!	$
Acropora palmata		#	!
Madracis aurentenra			$
Madracis auretenra — M. decactis			$
Favia fragum	$	!	$
Diploria labyrinthiformis			$
Diploria strigosa			$
Colpophyllia natans		$	$
Manicina areolata			$
Montastaea annularis s. l.			%
Montastaea cavernosa			$
Stephanocoenia intersepta			$
Scolymia wellsi			$
Mycetophyllia ferox			$
Mycetophyllia lamarckiana			$
Mycetophyllia sp.			$
Meandrina meandrites			$
Eusmilia fastigiata			$
Agaricia agaricites			$
Agaricia lamarcki			$
Agaricia sp.			$
Helioseris cucullata			$
Siderastraea radians			$
Siderastraea siderea			$
Porites astreoides	$		$
Porites divaricata			$
Porites porites — P. furcata	!		$
Millepora sp.		!	$

Figure 7.

Cayo Arenas—NW.



KEY

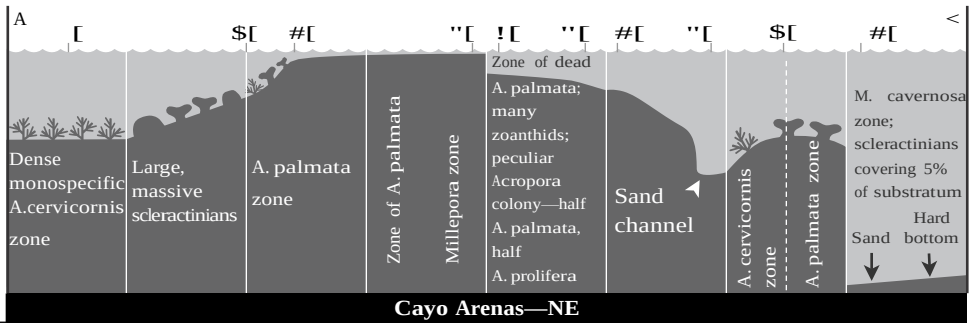
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
'' Dominant
Highly Dominant

TAXON \ STATION	24	42	21	20	23c	23a	23b	22	36	39	41
Acropora cervicornis		%	$		''						
Acropora palmata	$	&	$	&	''	#					
A. prolifera = A. cervicornis + A. palmata		$									
Madracis auretenra								$	$	$	
Madracis decactis									$	!	
Madracis auretenra — M. decactis									$		
Favia fragum	$		$	$							
Diploria clivosa	%	$	$	$				$	$		
Diploria labyrinthiformis			$					$	$	!	
Diploria strigosa	''		$						$	$	
Diploria clivosa — D. strigosa		$									
Colpophyllia natans			$					!	$	!	
Montastaea annularis s. l.	$	$	%	$				%	%	$	
Montastaea cavernosa	$		$					$	%	$	%
Stephanocoenia intersepta	!	!						$	$	$	$
Scolymia wellsi			$					!	$	$	$
Mussa angulosa										$	
Mycetophyllia aliciae											$
Mycetophyllia ferox	$							$	$	$	
Mycetophyllia lamarckiana			$					$		$	
Mycetophyllia sp.	$							$		$	$
Dichocoenia stokesi	$		!						$	$	$
Meandrina meandrites			$						!		$
Meandrina meandrites — M. memorialis									$		
Eusmilia fastigiata								$			
Agaricia agaricites	!		$					$			
Agaricia lamarcki	$		$					$	$		$
Agaricia sp.		$						$	$		
Siderastraea radians	$	$	$						!		
Siderastraea siderea		$	$					$	$	$	
Porites astreoides	$	$	$	$				$	$	$	
Porites divaricata								$		$	
Porites porites — P. furcata		$						$			
Millepora sp.		$	$	$				$			

Figure 8.

Cayo Arenas—NE.



KEY

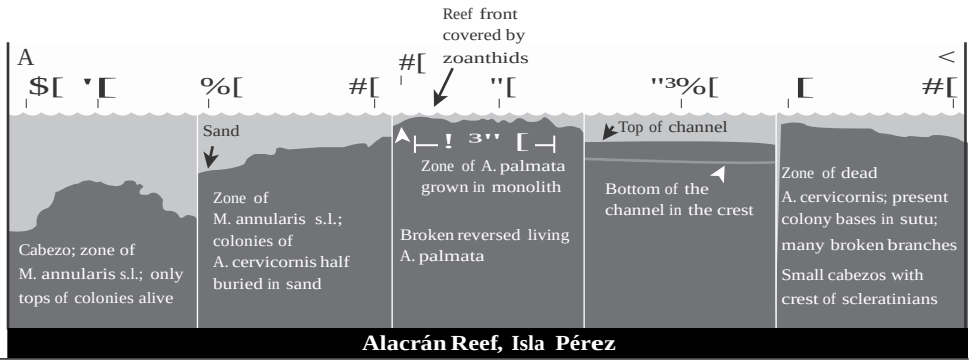
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
'' Dominant
Highly Dominant

TAXON \ STATION	37b	37a	38a	38b	40a	40b	40c	43
Acropora cervicornis	&		$		$		''	
Acropora palmata		$	&	#	&		&	
A. prolifera = A. cervicornis + A. palmata					$			
Madracis auretenra						$		$
Favia fragum		$	!					
Diploria clivosa		!	$					
Diploria labyrinthiformis		!	$			$		
Diploria strigosa		!				$		
Colpophyllia natans						$		
Montastaea annularis s. l.			$			$		$
Montastaea cavernosa		!	$			$		%
Stephanocoenia intersepta						$		$
Isophyllia sinuosa		!						
Mycetophyllia aliciae								$
Mycetophyllia ferox		$	$			$		
Mycetophyllia lamarckiana								$
Mycetophyllia sp.						$		
Dichocoenia stokesi						$		$
Eusmilia fastigiata		!	$					
Agaricia agaricites			$					
Agaricia lamarcki			$			$		
Agaricia sp.						$		
Siderastraea siderea		!	$					$
Porites astreoides		$				$		$
Porites porites — P. furcata		!	$			$		
Millepora sp.		$	$		''	$		$

Figure 9.

Alacrán Reef, Isla Pérez.



KEY

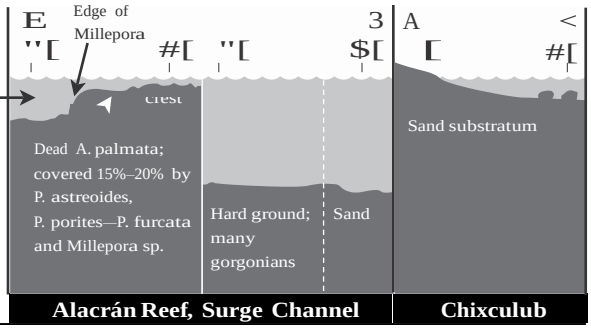
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
" Dominant
Highly Dominant

TAXON \ STATION	44	19	17	18	16
Acropora cervicornis	$	!	$		$
Acropora palmata			&		$
A. prolifera = A. cervicornis + A. palmata			!		
Madracis auretenra — M. decactis	$				
Favia fragum		$	$		$
Diploria clivosa	$		$	$	$
Diploria labyrinthiformis	$			$	
Diploria strigosa		$	$	$	
Diploria clivosa — D. strigosa	!				
Colpophyllia natans	$				
Montastaea annularis s. l.	%	%	$	$	$
Montastaea cavernosa	$	$		$	$
Stephanocoenia intersepta	$	$		$	$
Scolymia wellsi	$		$		
Isophyllia sinuosa	$				
Mycetophyllia ferox	$	$		$	
Mycetophyllia lamarckiana	$	$			
Mycetophyllia sp.	$			$	
Dichocoenia stokesi	$	$		$	
Meandrina meandrites	$				
Meandrina meandrites — M. memorialis	!				
Eusmilia fastigiata	$	$			
Agaricia agaricites	$		!	$	
Agaricia lamarcki	$				$
Agaricia sp.			$	$	$
Siderastraea radians		$		$	$
Siderastraea siderea	$	$		$	$
Porites astreoides	$	$	!	$	$
Porites divaricata	$				
Porites porites — P. furcata	$		$	$	$
Millepora sp.	$		$	$	$

Figure 10.

Alacrán Reef, Surge Channel and Chicxulub.



KEY

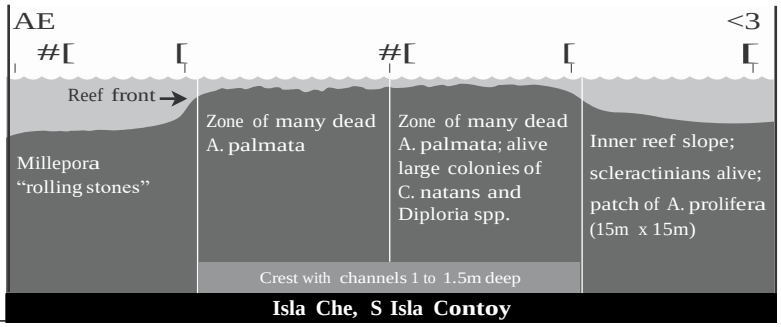
COLLECTED
$ Present
% Dominant
& Highly Dominant

OBSERVED
! Present
" Dominant
Highly Dominant

TAXON \ STATION	46	45	7
Acropora palmata	%		
Madracis auretenra		$	
Madracis auretenra — M. decactis		$	
Favia fragum	$		
Diploria clivosa		$	
Diploria labyrinthiformis		!	
Diploria strigosa	$	$	
Colpophyllia natans	$	$	
Montastaea annularis s. l.	$	!	
Montastaea cavernosa		!	
Solenastraea hyades			$
Stephanocoenia intersepta	!	$	
Mycetophyllia ferox	$		
Mycetophyllia lamarckiana		$	
Dichocoenia stokesi		$	
Meandrina meandrites		$	
Eusmilia fastigiata		$	
Agaricia agaricites		!	
Agaricia lamarcki	$		
Agaricia tenuifolia	!		
Agaricia sp.	$	$	
Siderastraea siderea		$	
Porites astreoides	%		
Porites porites — P. furcata	%		
Millepora sp.	%	$	

Figure 11.

Isla Che, S Isla Contoy.



KEY

COLLECTED
! Present
% Dominant
& Highly Dominant

OBSERVED
Present
$ Dominant
" Highly Dominant

TAXON \ STATION	130	130a	131a	131
Acropora cervicornis				!
Acropora palmata	!	"	"	
A. prolifera = A. cervicornis + A. palmata				#
Favia fragum	!			!
Diploria clivosa	!			!
Diploria strigosa	#			
Diploria clivosa — D. strigosa			#	!
Colpophyllia natans			#	
Montastaea annularis s. l.				!
Montastaea cavernosa	#			
Dichocoenia stokesi				!
Agaricia sp.				!
Siderastraea radians	#			!
Siderastraea siderea	!			!
Porites astreoides	!			!
Porites porites — P. furcata				!
Millepora sp.	!			!

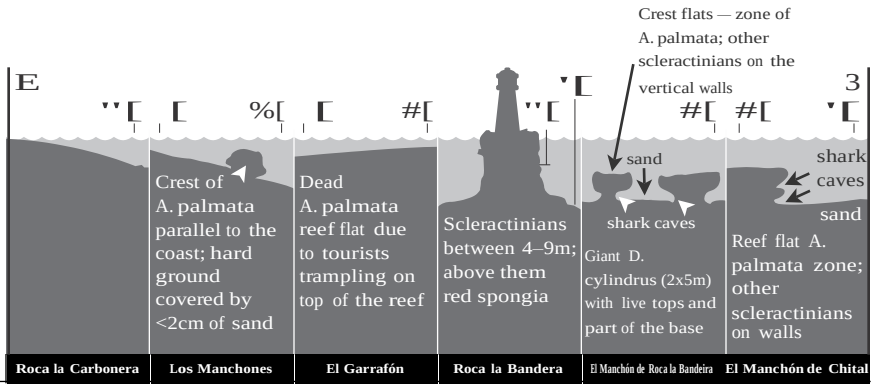
Figure 12.

Isla Mujeres (Rocal la Carbonera, Los Manchones, El Garrafón, Roca la Bandera, El Manchón de Roca la Bandera, El Manchón de Chital).

KEY

COLLECTED
! Present
% Dominant
'' Highly Dominant

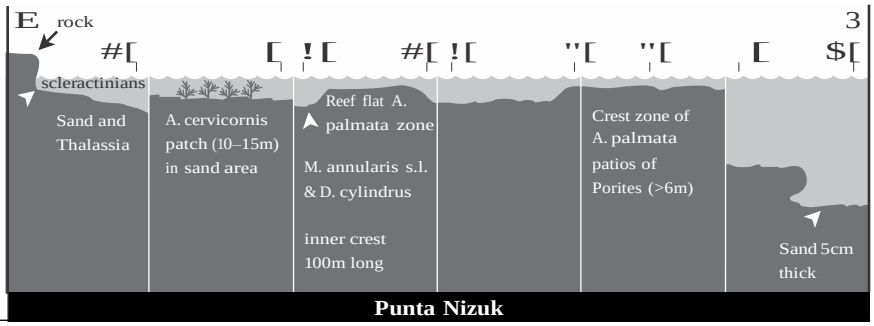
OBSERVED
$ Present
& Dominant
# Highly Dominant



TAXON \ STATION	127	124	125	126	128	129
Acropora cervicornis		!				!
Acropora palmata	!	''	#		#	''
A. prolifera = A. cervicornis + A. palmata		!				
Madracis auretenra		!				
Favia fragum	!		$	!		!
Diploria labyrinthiformis		!				
Diploria strigosa	!					!
Diploria clivosa — D. strigosa			$	$	!	
Colpophyllia natans	!	$				
Manicina areolata			$			
Montastaea annularis s. l.	!	%	$		!	!
Montastaea cavernosa		!		!		
Astrangia solitaria	$			!		!
Stephanocoenia intersepta		$				
Scolymia wellsi		$				
Isophyllia rigida	$	!				$
Isophyllia sinuosa	!	!		!		!
Isophyllia rigida — I. sinuosa		!				
Mycetophyllia lamarckiana		$				
Mycetophyllia sp.						$
Dendrogyra cylindrus				!	$	
Dichocoenia stokesi		!		!		
Meandrina meandrites		!		!	!	
Eusmilia fastigiata		!				
Agaricia agaricites	!					
Agaricia lamarcki	!	!			!	!
Agaricia tenuifolia	$					
Agaricia sp.	!	!		!	!	!
Siderastraea radians	$	!	$		!	
Siderastraea siderea	!	!		!		
Porites astreoides	!	!	$	!	!	!
Porites divaricata	!					
Porites porites — P. furcata	!	!	$	$	!	!
Millepora sp.	!	$	$	!		!

Figure 13.

Punta Nizuk.



KEY

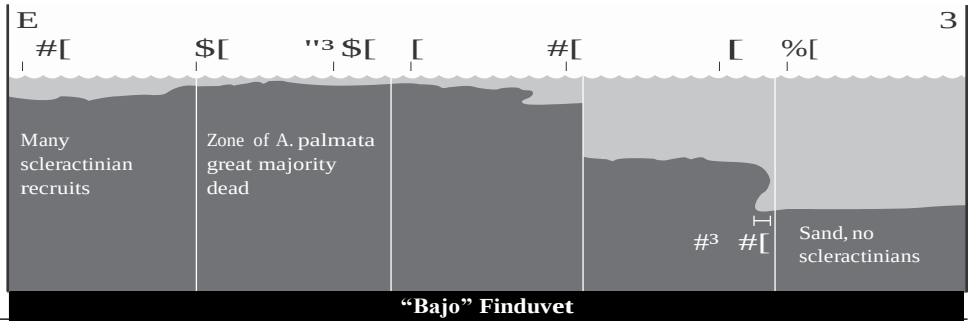
COLLECTED
'' Present
% Dominant
! Highly Dominant

OBSERVED
Present
& Dominant
$ Highly Dominant

TAXON / STATION	122	122a	123	121	121a	120
Acropora cervicornis		!				''
Acropora palmata			!	#	$	''
Madracis auretenra						''
Favia fragum			''			''
Diploria clivosa	''			''		
Diploria strigosa				''		''
Diploria clivosa — D. strigosa			#			
Colpophyllia natans	#			''		
Montastaea annularis s. l.			%	%		''
Montastaea cavernosa			#			''
Stephanocoenia intersepta				''		
Isophyllia rigida			''			
Isophyllia rigida — I. sinuosa			''	''		
Mycetophyllia lamarckiana			''			
Dendrogyra cylindrus			''			
Dichocoenia stokesi				''		''
Meandrina meandrites						''
Eusmilia fastigiata						#
Agaricia agaricites						''
Agaricia lamarcki			''			
Agaricia tenuifolia			#	''		
Agaricia sp.			''	''		''
Siderastraea radians	''		#			
Siderastraea siderea	''			''		''
Porites astreoides	''			''		
Porites divaricata				''		
Porites porites — P. furcata				''	&	
Millepora sp.	''		''			''

Figure 14.

"Bajo" Finduvet.



KEY

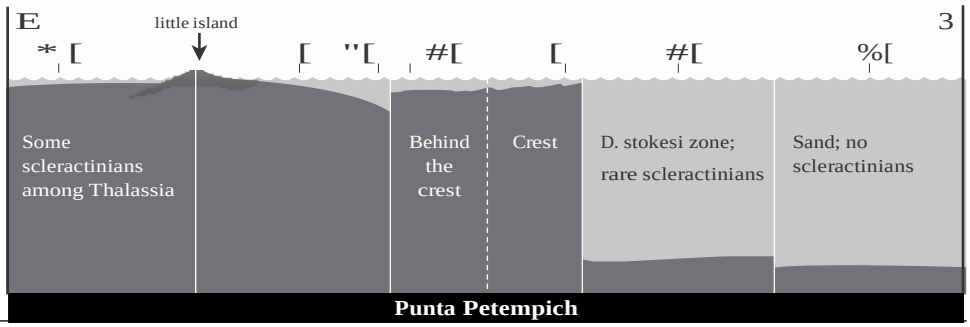
COLLECTED
! Present
" Dominant
$ Highly Dominant

OBSERVED
% Present
& Dominant
# Highly Dominant

TAXON \ STATION	119b	119a	118	117b	117a
Acropora cervicornis	!		!	!	
Acropora palmata	"	#	$	!	
Madracis auretenra				!	
Favia fragum				!	
Diploria clivosa	!		!	%	
Diploria labyrinthiformis				%	
Diploria strigosa			!	!	
Colpophyllia natans				%	
Montastaea annularis s. l.				"	
Montastaea cavernosa				!	
Scolymia wellsi				!	
Isophyllia rigida				!	
Isophyllia sinuosa	!				
Mycetophyllia lamarckiana				!	
Dichocoenia stokesi				!	
Meandrina meandrites				!	
Eusmilia fastigiata	!			!	
Agaricia agaricites	!				
Agaricia lamarcki				!	
Agaricia tenuifolia	!			!	
Agaricia sp.	!			!	
Siderastraea siderea			!	!	
Porites astreoides	!		!	!	
Porites divaricata	!		!	!	
Porites porites — P. furcata	"		!	!	
Millepora sp.			!	!	

Figure 15.

Punta Petempich.



KEY

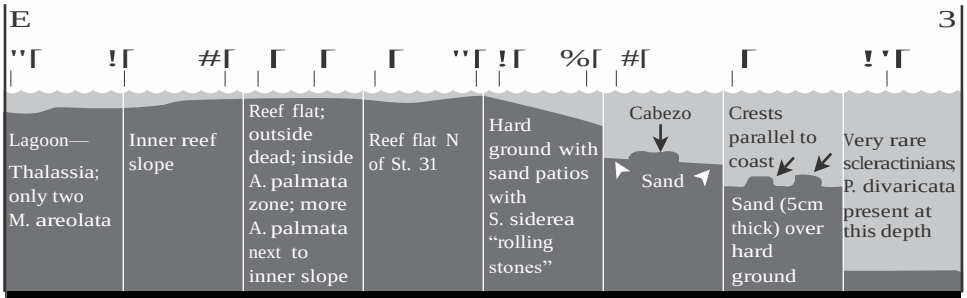
COLLECTED
Present
'' Dominant
& Highly Dominant

OBSERVED
! Present
$ Dominant
% Highly Dominant

TAXON / STATION	104	103	102	108b	108a
Acropora cervicornis			!		
Acropora palmata		''	''		
Favia fragum	#				
Diploria clivosa		#	#		
Diploria strigosa				#	
Diploria clivosa — D. strigosa				#	
Manicina areolata	#			#	
Montastaea cavernosa				#	
Scolymia wellsi				#	
Isophyllia sinuosa			#	#	
Mycetophyllia sp.				!	
Dichocoenia stokesi			#	''	
Meandrina meandrites			#	#	
Meandrina meandrites — M. brasiliensis				#	
Agaricia lamarcki				#	
Agaricia tenuifolia				#	
Agaricia sp.			#	#	
Siderastraea radians	#			#	
Siderastraea radians "rolling stones"	#				
Siderastraea siderea			#	#	
Porites astreoides	#				
Porites divaricata	#				
Porites porites — P. furcata	#	#	#		
Millepora sp.	#		# ''	#	

Figure 16.

Puerto Morelos, U.N.A.M.



KEY

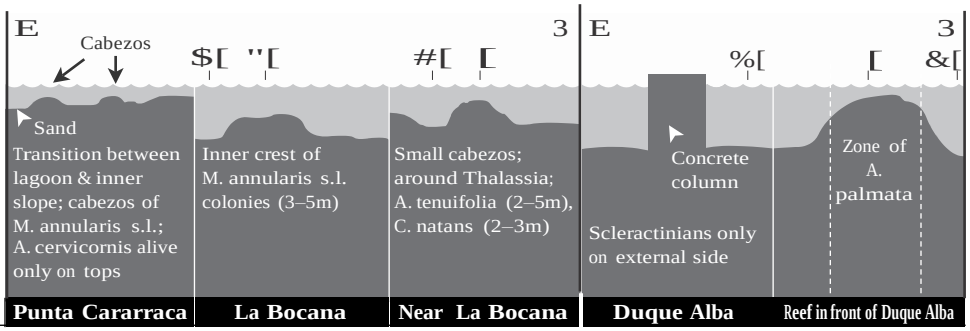
COLLECTED
! Present
'' Dominant
Highly Dominant

OBSERVED
$ Present
% Dominant
& Highly Dominant

TAXON / STATION	132	32	31	109	33	107	105	106
Acropora cervicornis		!		!	!			
Acropora palmata		''	#	#	!			
				!				
Madracis auretenra						!	!	!
Favia fragum					!			
Diploria clivosa		!	!	!	!	!		
Diploria labyrinthiformis						!		
Diploria strigosa		!	!		!			
Diploria clivosa — D. strigosa		!	!		!			
Colpophyllia natans							$	
Manicina areolata		!					!	
Montastaea annularis s. l.		!		!		!		
Montastaea cavernosa		!			!	!	!	!
Stephanocoenia intersepta		!			!	!	!	!
Scolymia wellsi							!	!
Mussa angulosa						!	!	
Isophyllia sinuosa		!		!	!			
Isophyllia rigida — I. sinuosa					!			
Mycetophyllia aliciae						!	!	
Mycetophyllia lamarckiana					!	!	!	
Mycetophyllia sp.						!	!	
Dichocoenia stokesi					!	!	!	
Meandrina meandrites						!	!	
Meandrina meandrites — M. brasiliensis						!	!	!
Eusmilia fastigiata						!		
Agaricia agaricites			!			!		
Agaricia lamarcki						!		!
Agaricia tenuifolia		''	!	$				
Agaricia sp.				!	!	!		!
Helioseris cucullata						!	!	
Siderastraea siderea		!	!		!	!	!	!
Siderastraea siderea "rolling stones"					!			
Porites astreoides		!	!		!	!	!	!
Porites divaricata		!			!		!	$
Porites porites — P. furcata		!		!	!		!	
Millepora sp.			!	!	!	!	!	

Figure 17.

Puerto Morelos.



KEY

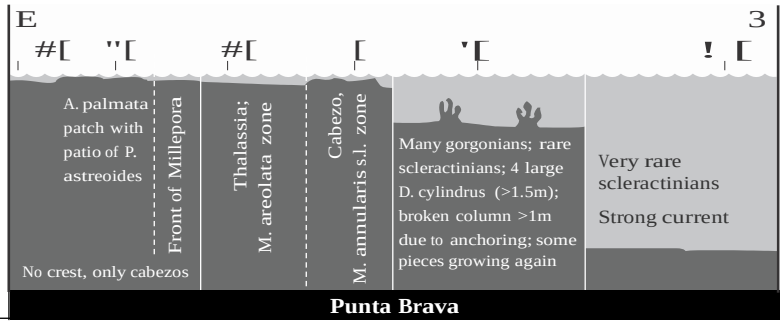
COLLECTED
'' Present
Dominant
$ Highly Dominant

OBSERVED
! Present
% Dominant
& Highly Dominant

TAXON \ STATION	5	6	6a	34	35
Acropora cervicornis	!	''	''		
Acropora palmata	'' #	''	''		$
Favia fragum	''			!	!
Diploria clivosa	''	''	''		
Diploria labyrinthiformis		!			''
Diploria strigosa		''	''		''
Diploria clivosa — D. strigosa	!	''		!	
Colpophyllia natans		!	#	!	''
Manicina areolata	''			!	
Manicina annularis s. l.	#	$	$		''
Montastaea cavernosa		''	''		''
Astrangia solitaria				''	
Stephanocoenia intersepta		''		!	''
Scolymia wellsi			''		
Isophyllia rigida		''	!		''
Isophyllia sinuosa	''	''	''		''
Isophyllia rigida — I. sinuosa		''	''		''
Mycetophyllia danaana					''
Mycetophyllia lamarckiana					''
Mycetophyllia sp.		''			''
Dichocoenia stokesi		''	''	!	
Meandrina meandrites		''	''		''
Eusmilia fastigiata	''	''	''	!	''
Agaricia agaricites		''	''		
Agaricia lamarcki		''	''		''
Agaricia tenuifolia	#	''	#		''
Agaricia sp.		''	''	!	''
Helioseris cucullata					''
Siderastraea radians	''	''			''
Siderastraea siderea	!	''	''		''
Porites astreoides	''	''	''	!	''
Porites divaricata	''	''	''		
Porites porites — P. furcata	''	''	''	!	''
Millepora sp.	''	''		!	''

Figure 18.

Punta Brava.



KEY

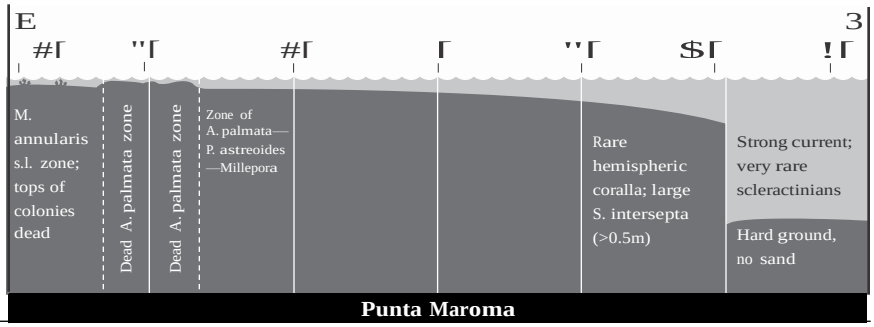
COLLECTED
! Present
Dominant
& Highly Dominant

OBSERVED
$ Present
% Dominant
'' Highly Dominant

TAXON \ STATION	110a	110b	111b	111a
Acropora cervicornis			!	
Acropora palmata	''	!		
Diploria clivosa	!	!	!	
Diploria strigosa			!	
Manicina areolata		#		
Montastraea annularis s. l.	!	''	$	
Montastraea cavernosa	$		!	$
Stephanocoenia intersepta		$		
Isophyllia rigida — I. sinuosa			!	
Dendrogyra cylindrus			!	
Dichocoenia stokesi			!	
Meandrina meandrites			!	
Eusmilia fastigiata			!	
Agaricia agaricites			$	
Agaricia tenuifolia		!		$
Agaricia sp.			!	
Siderastraea radians	!	!	$	
Siderastraea siderea	!		!	
Porites astreoides	!		!	
Porites divaricata	!			
Porites porites — P. furcata	!	!	!	
Millepora sp.	!		!	

Figure 19.

Punta Maroma.



KEY

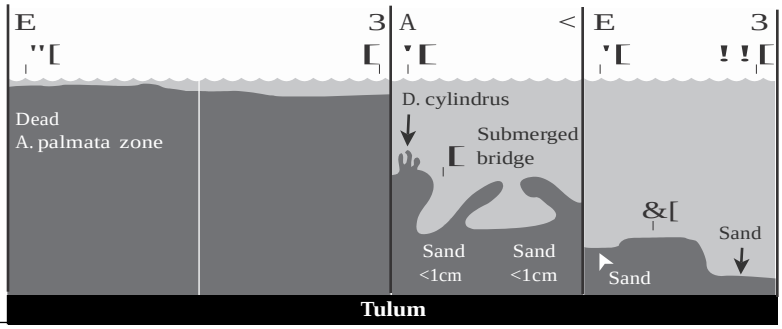
COLLECTED
% Present
$ Dominant
# Highly Dominant

OBSERVED
! Present
& Dominant
'' Highly Dominant

TAXON \ STATION	116	115	114b	114a	113	112
Acropora cervicornis			!	!		
Acropora palmata		'' # $	#	$		
A. prolifera = A. cervicornis + A. palmata			%	%		
Madracis auretenra						%
Favia fragum			%	%	%	
Diploria clivosa			%	%		
Diploria clivosa — D. strigosa	!					
Colpophyllia natans						!
Montastaea annularis s. l.	&				%	
Montastaea cavernosa			%	%		!
Stephanocoenia intersepta					%	
Isophyllia rigida			!	!	%	
Isophyllia sinuosa			%	%		
Isophyllia rigida — I. sinuosa			%	%	%	
Dichocoenia stokesi			%	%	%	
Agaricia lamarcki			%	%		
Agaricia tenuifolia	%		$	%		
Agaricia sp.					%	
Siderastraea radians					!	
Siderastraea siderea					%	!
Porites astreoides	%	$	%	%	%	
Porites divaricata	%				!	
Porites porites — P. furcata	%		%	%	%	
Millepora sp.		$				

Figure 20.

Tulum.



KEY

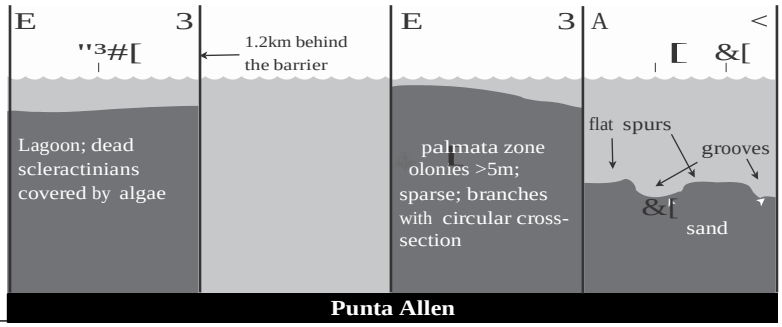
COLLECTED
! Present
$ Dominant
& Highly Dominant

OBSERVED
% Present
# Dominant
" Highly Dominant

TAXON \ STATION	140a	140	139	138
Acropora cervicornis			!	
Acropora palmata	"	#		
Madracis auretenra			!	!
Madracis decactis				!
Madracis auretenra — M. decactis			!	
Diploria clivosa		!	!	
Diploria labyrinthiformis			!	
Diploria strigosa		!	!	
Diploria clivosa — D. strigosa		$		
Montastraea annularis s. l.			!	!
Montastraea cavernosa		!	!	!
Astrangia solitaria			!	
Stephanocoenia intersepta			!	
Scolymia cubensis				!
Scolymia wellsi				!
Isophyllia rigida			%	
Isophyllia sinuosa			!	
Isophyllia rigida — I. sinuosa			!	
Mycetophyllia aliciae				!
Mycetophyllia lamarckiana			!	
Mycetophyllia sp.				!
Dendrogyra cylindrus			!	
Dichocoenia stokesi			!	
Meandrina meandrites			!	!
Meandrina meandrites — M. memorialis			!	
Eusmilia fastigiata			!	
Agaricia agaricites			!	%
Agaricia lamarcki				%
Agaricia sp.			!	!
Helioseris cucullata				!
Siderastraea siderea			!	!
Siderastraea siderea "rolling stones"		!		
Porites astreoides		!	!	!
Porites divaricata		!	!	
Porites porites — P. furcata		!	!	
Millepora sp.		$	!	

Figure 21.

Punta Allen.



KEY

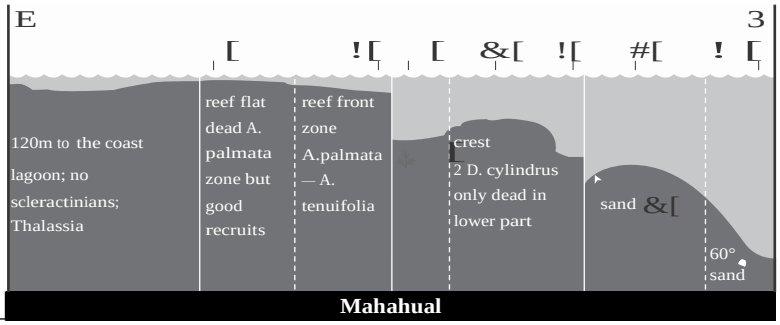
COLLECTED
! Present
% Dominant
& Highly Dominant

OBSERVED
Present
$ Dominant
" Highly Dominant

TAXON \ STATION	137b	137a	136
Acropora cervicornis		!	!
Acropora palmata	!	"	!
A. prolifera = A. cervicornis + A. palmata		#	
Madracis auretenra			!
Madracis auretenra — M. decactis			!
Diploria clivosa		!	
Diploria labyrinthiformis			#
Diploria strigosa		!	
Diploria clivosa — D. strigosa		!	!
Colpophyllia natans			#
Montastraea annularis s. l.		!	!
Montastraea cavernosa		!	!
Stephanocoenia intersepta		#	
Scolymia wellsi			!
Mussa angulosa			!
Isophyllia rigida		#	
Isophyllia sinuosa		!	
Mycetophyllia ferox			!
Mycetophyllia lamarckiana		!	!
Dichocoenia stokesi		!	
Meandrina meandrites			!
Agaricia agaricites		#	
Agaricia lamarcki		!	!
Agaricia tenuifolia		!	!
Agaricia sp.		!	
Siderastraea siderea		!	
Porites astreoides		!	!
Porites divaricata		!	
Porites porites — P. furcata		!	!
Millepora sp.		!	

Figure 22.

Mahahual.



KEY

COLLECTED
Present
% Dominant
& Highly Dominant

OBSERVED
$ Present
" Dominant
! Highly Dominant

TAXON \ STATION	135	134	133
Acropora cervicornis	! "	#	#
Acropora palmata		$	
Madracis auretenra		#	#
Favia fragum	#		
Diploria clivosa		#	#
Diploria labyrinthiformis		#	
Diploria strigosa	#	#	#
Diploria clivosa — D. strigosa	#	#	
Colpophyllia natans			$
Montastraea annularis s. l.	#	#	#
Montastraea cavernosa	#	#	#
Stephanocoenia intersepta		#	
Scolymia wellsi			#
Isophyllia rigida		#	
Isophyllia sinuosa	#		
Mycetophyllia lamarckiana		#	#
Mycetophyllia sp.		#	#
Dendrogyra cylindrus		#	
Dichocoenia stokesi		#	#
Meandrina meandrites		#	
Meandrina meandrites — M. brasiliensis			#
Meandrina meandrites — M. memorialis		#	
Eusmilia fastigiata	#	$	
Agaricia agaricites		#	
Agaricia lamarcki		$	#
Agaricia tenuifolia	%	#	
Agaricia sp.			#
Helioseris cucullata			#
Siderastraea radians	$		
Siderastraea siderea	#	$	#
Porites astreoides	#	#	#
Porites porites — P. furcata	#	#	#
Millepora sp.	#	#	

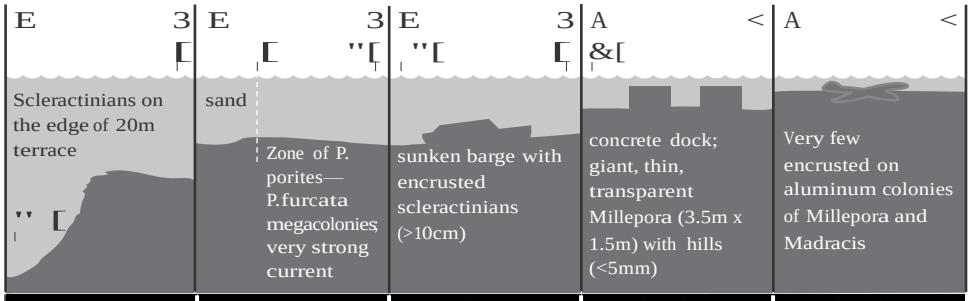
Figure 23.

Cozumel (Barracuda, San Juan, La plataforma undida, Dock in front of Hotel Ceiba and Plane in front of Hotel Ceiba).

KEY

COLLECTED
! Present
$ Dominant
% Highly Dominant

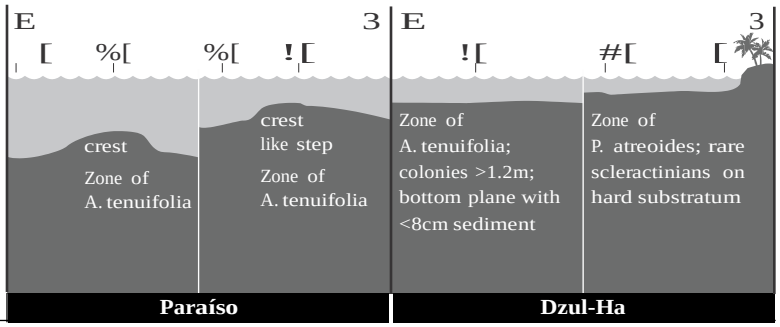
OBSERVED
Present
" Dominant
& Highly Dominant



TAXON \ STATION	Barracuda 57	San Juan 53	La Plataforma Undida 58	Dock in front of Hotel Ceiba 59	Plane in front of Hotel Ceiba 60
Madracis auretenra	!				
Madracis auretenra — M. decactis	!				"
Favia fragum			#		
Diploria labyrinthiformis			#		
Diploria clivosa — D. strigosa			#	#	
Montastaea annularis s. l.	!		#		
Montastaea cavernosa	!		#		
Stephanocoenia intersepta			#		
Isophyllia rigida		#			
Isophyllia rigida — I. sinuosa	!	!			
Mycetophyllia lamarckiana	!				
Dichocoenia stokesi		#	#		
Meandrina meandrites	!	!			
Eusmilia fastigiata	!		#	#	
Agaricia tenuifolia		$			
Agaricia sp.		!			
Helioseris cucullata	!				
Siderastraea radians			#		
Porites astreoides	!	!	#		
Porites divaricata	!	!		!	
Porites porites — P. furcata	!	%			
Millepora sp.				&	"

Figure 24.

Cozumel (Paraíso and Dzul-Ha).



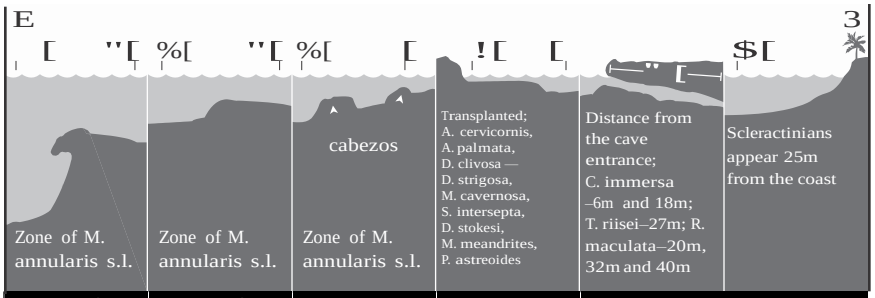
KEY

COLLECTED	OBSERVED
! Present	" Present
# Dominant	$ Dominant
& Highly Dominant	% Highly Dominant

TAXON \ STATION	51	47	76	75
Acropora cervicornis		!		
Madracis auretenra	!	!		
Madracis decactis	"			
Madracis auretenra — M. decactis		!		
Favia fragum	!	!	"	"
Diploria clivosa		!		
Diploria labyrinthiformis		!	"	"
Diploria clivosa — D. strigosa	!		"	
Colpophyllia natans		!		
Montastraea annularis s. l.	!	#	"	"
Montastraea cavernosa	!	!	"	
Stephanocoenia intersepta	!	"		
Isophyllia rigida	!	"	"	"
Isophyllia sinuosa		!		
Isophyllia rigida — I. sinuosa	!	!		
Mycetophyllia lamarckiana	!	!		
Mycetophyllia sp.	!			
Dichocoenia stokesi	!	!	"	"
Meandrina meandrites	!	!		
Meandrina meandrites — M. memorialis		!		
Eusmilia fastigiata	!	!	!	
Agaricia lamarcki	!			
Agaricia tenuifolia	#	#	$	
Agaricia sp.		!		
Siderastraea radians	!	!	"	
Siderastraea siderea	!	!	"	
Porites astreoides	!	!	"	#
Porites porites — P. furcata		!		
Millepora sp.		!	"	"

Figure 25.

Cozumel, Chankanaab.



KEY

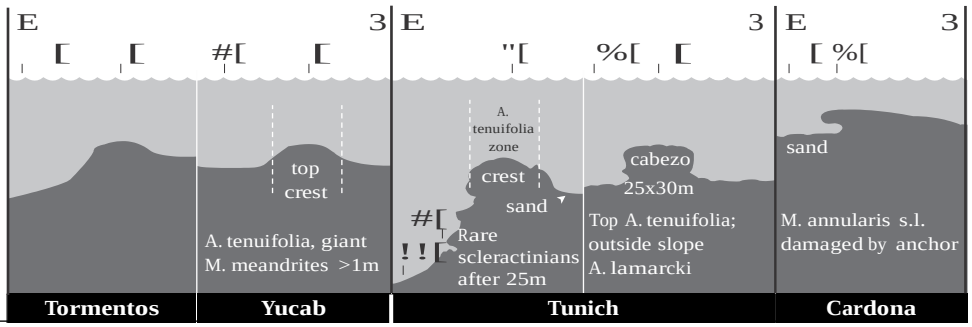
COLLECTED
! Present
Dominant
& Highly Dominant

OBSERVED
" Present
% Dominant
$ Highly Dominant

TAXON \ STATION	Reef 8	Reef 9	Cabezos 15	Laguna 4	Cave 14	Cebrada 10
Acropora cervicornis		!	"	"		
Acropora palmata			"	"		
Madracis auretenra	!	!	"			
Favia fragum			"			
Diploria labyrinthiformis	!	!	"	"		
Diploria strigosa	!	!				
Diploria clivosa — D. strigosa			"	"		"
Colpophyllia natans	!	!	"			
Montastaea annularis s. l.	#	#	$	"		"
Montastaea cavernosa	!	!	"			"
Astrangia solitaria					!	
Colangia immersa					!	
Stephanocoenia intersepta			"			
Scolymia cubensis			"			
Scolymia lacera			"			
Scolymia wellsi	!		"			
Isophyllia rigida			"			
Isophyllia sinuosa		!	"			
Isophyllia rigida — I. sinuosa		!				
Mycetophyllia danaana	!					
Mycetophyllia lamarckiana	!		"			
Mycetophyllia sp.	!					
Dendrogyra cylindrus			"			
Dichocoenia stokesi	!	!	"	"		"
Meandrina meandrites	!	!	"			
Meandrina meandrites — M. memorialis	"	!				
Thalamophyllia riisei					!	
Rhizosmilia maculata					!	
Eusmilia fastigiata	!	!	"	"		"
Gardineria minor					!	
Agaricia agaricites		!	"	"		
Agaricia lamarcki	!					
Agaricia tenuifolia	!	!	"			"
Agaricia sp.	!	!				
Siderastraea radians	"	!				"
Siderastraea siderea	!	!	"	"		"
Porites astreoides	!	!	"	"		"
Porites porites — P. furcata	!	!	"		!	!
Millepora sp.	!	!	"			"

Figure 26.

Cozumel (Tormentos, Yucab, Tunich, and Cardona).



KEY

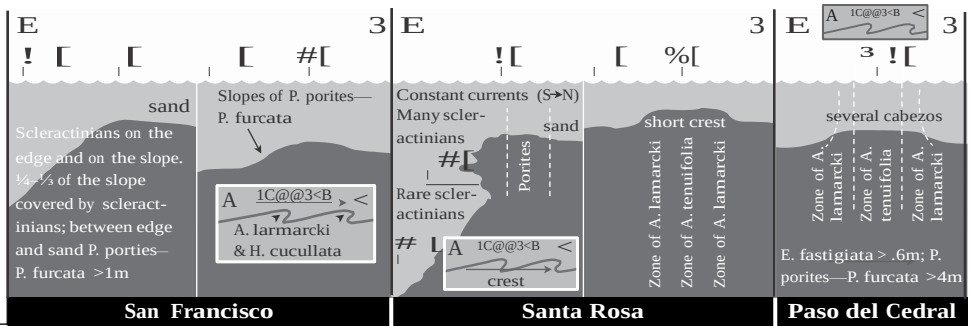
COLLECTED
'' Present
Dominant
& Highly Dominant

OBSERVED
! Present
$ Dominant
% Highly Dominant

TAXON \ STATION	52	50	11	12	3
Acropora cervicornis					!
Madracis auretenra	''	''	''	''	
Madracis auretenra — M. decactis				''	
Favia fragum		''	''		
Diploria labyrinthiformis	!	''	''		!
Diploria strigosa		''			
Diploria clivosa — D. strigosa	!		''		!
Colpophyllia natans	!	!		''	!
Montastaea annularis s. l.	''	!	''	''	!
Montastaea cavernosa	''	''	''	''	!
Stephanocoenia intersepta		!			!
Scolymia wellsi		!			
Isophyllia rigida		!			
Isophyllia rigida — I. sinuosa		''	''		
Mycetophyllia aliciae		''			
Mycetophyllia lamarckiana	''	''	''	''	
Mycetophyllia sp.		''			
Dichocoenia stokesi	''	!	''		!
Meandrina meandrites	''	''	''	''	!
Meandrina meandrites — M. brasiliensis	''				
Eusmilia fastigiata	''	''	''	''	''
Agaricia agaricites					!
Agaricia lamarcki		''	#	#	!
Agaricia tenuifolia	$	#	#	#	!
Agaricia sp.	''				
Helioseris cucullata		''	''		
Siderastraea radians	!			''	
Siderastraea siderea	''	''	''		
Siderastraea siderea "rolling stones"					!
Porites astreoides	''	''	''	''	!
Porites divaricata		''	''		
Porites porites — P. furcata	''	!			!
Millepora sp.	''	!			!

Figure 27.

Cozumel (San Francisco, Santa Rosa, and Paso del Cedral).



KEY

COLLECTED
! Present
$ Dominant
& Highly Dominant

OBSERVED
" Present
Dominant
% Highly Dominant

TAXON / STATION	13	56	2	2a	54
Madracis auretenra	!	!	!	!	!
Madracis decactis			"	"	
Favia fragum	!	!	!	!	!
Diploria clivosa			!		
Diploria labyrinthiformis				!	
Diploria strigosa			!	!	
Diploria clivosa — D. strigosa		!			
Colpophyllia natans			!	!	
Manicina areolata			!	!	!
Montastaea annularis s. l.		!	!	!	
Montastaea cavernosa	!	!	!	!	!
Stephanocoenia intersepta	!			!	"
Scolymia wellsi		!	!		!
Isophyllia rigida	"		!		"
Isophyllia sinuosa	"		"	!	!
Isophyllia rigida — I. sinuosa	!	!	!	!	!
Mycetophyllia aliciae			!	!	
Mycetophyllia danaana			!		
Mycetophyllia lamarckiana		!	!	!	!
Mycetophyllia sp.		!	!	!	!
Dichocoenia stokesi	!	!	!	!	!
Meandrina meandrites	!	!	!	!	!
Meandrina meandrites — M. memorialis		!			!
Eusmilia fastigiata	!	!	!	!	!
Gardineria minor			"		
Agaricia agaricites		!			
Agaricia lamarcki	!		!	# #	# #
Agaricia tenuifolia	!	!	!	$	$
Agaricia sp.	!		!	!	
Helioseris cucullata	!	!	!		! !
Siderastraea radians			"	"	!
Siderastraea siderea	!	!	!	!	!
Porites astreoides			!	!	!
Porites divaricata	!		!	!	!
Porites porites — P. furcata	!	!	!	!	"
Millepora sp.	"		!	!	

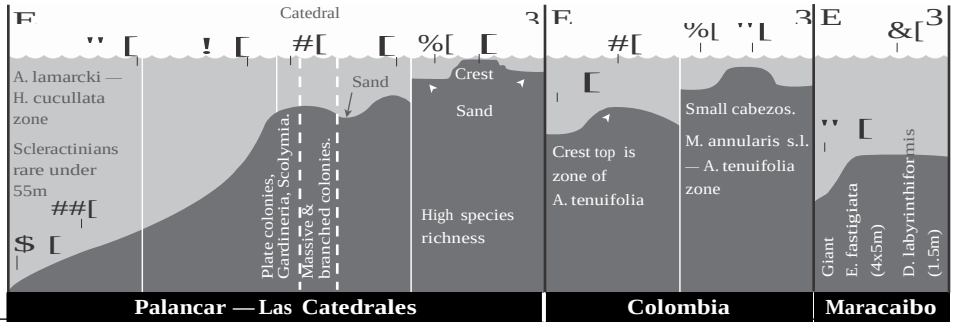
Figure 28.

Cozumel (Palancar—Las Catedrales, Colombia, and Maracaibo).

KEY

COLLECTED
'' Present
Dominant
& Highly Dominant

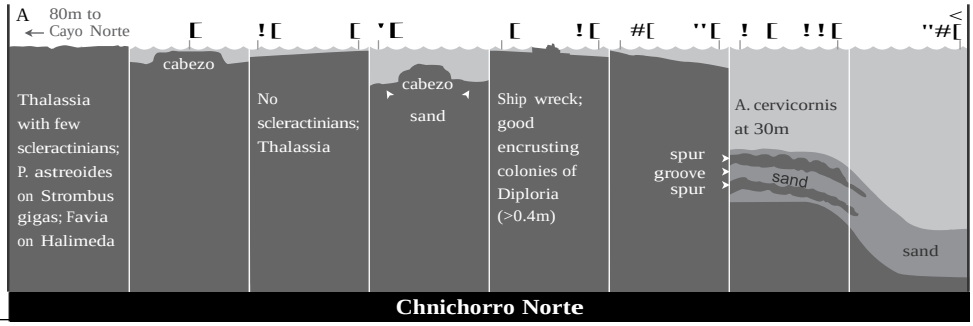
OBSERVED
! Present
$ Dominant
% Highly Dominant



TAXON \ STATION	1c	1d	1a	1b	48	49	55
Acropora cervicornis				!			
Madracis auretenra	''	''	''	''	''		''
Madracis auretenra — M. decactis	!		!	''		''	
Favia fragum				''	!	''	
Diploria clivosa				''	''		
Diploria labyrinthiformis			!	!			''
Diploria strigosa				''			''
Diploria clivosa — D. strigosa			!	''			
Colpophyllia natans			''	''		''	''
Manicina areolata							''
Montastraea annularis s. l.			''	''		#	
Montastraea cavernosa	''		!	''	''	''	''
Stephanocoenia intersepta				''		!	''
Scolymia lacera			''				
Scolymia wellsi			''			''	!
Mussa angulosa			''				
Isophyllia rigida			!	''		''	
Isophyllia sinuosa				!		''	
Isophyllia rigida — I. sinuosa			''	''		''	
Mycetophyllia aliciae			''				
Mycetophyllia danaana			''	''		''	
Mycetophyllia lamarckiana	''		''	''	''	''	
Mycetophyllia sp.		''	''	''	''	''	''
Dichocoenia stokesi				''	''	''	''
Meandrina meandrites	''	''	''	''	''	''	''
Meandrina meandrites — M. memorialis		''					
Eusmilia fastigiata			''	''	''	''	''
Gardineria minor			''				
Agaricia agaricites			!	''			
Agaricia lamarcki	$		''		''	''	!
Agaricia tenuifolia			!	''	! $!	#	!
Agaricia sp.		!	''	''		''	
Helioseris cucullata	#	''	!		''	''	''
Siderastraea radians				''		''	
Siderastraea siderea	''	''	!	''	''	''	''
Porites astreoides		''	''	''	''	''	''
Porites divaricata			''		''	''	''
Porites porites — P. furcata			''	''	''	''	''
Millepora sp.			''	''			

Figure 29.

Chinchorro Norte.



KEY

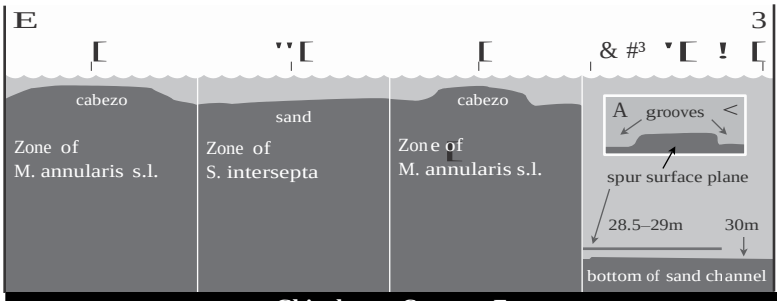
COLLECTED
! Present
$ Dominant
& Highly Dominant

OBSERVED
" Present
% Dominant
# Highly Dominant

TAXON / STATION	101	100b	100a	99	98	97	96
Acropora cervicornis				!	!	"	!
Acropora palmata					!	#	
Madracis auretenra				!			
Favia fragum	!	!			!	!	
Diploria clivosa				!			
Diploria labyrinthiformis				!			
Diploria strigosa		!					!
Diploria clivosa — D. strigosa					"		
Colpophyllia natans				!			!
Manicina areolata	!						
Montastaea annularis s. l.		!		$	!	"	
Montastaea cavernosa		!		!			!
Stephanocoenia intersepta					"	"	!
Scolymia wellsi	!			!			!
Mussa angulosa				!			
Isophyllia rigida					!	"	!
Isophyllia sinuosa				"	!	!	
Isophyllia rigida — I. sinuosa				!	!		
Mycetophyllia lamarckiana				!	!		!
Mycetophyllia sp.						!	!
Dichocoenia stokesi		!		!	!	"	
Meandrina meandrites							!
Eusmilia fastigiata		!		!			
Agaricia agaricites				!		!	
Agaricia lamarcki		"		!	!	"	!
Agaricia tenuifolia		!			!	%	!
Agaricia sp.		!		!	!		
Helioseris cucullata							!
Siderastraea radians						"	
Siderastraea siderea		!		!	!		!
Porites astreoides	!	!		!		!	!
Porites divaricata	!	!			"		
Porites porites — P. furcata	!	!		!	"		
Millepora sp.		!		!	!	!	

Figure 30.

Chinchorro Centro, E.



KEY

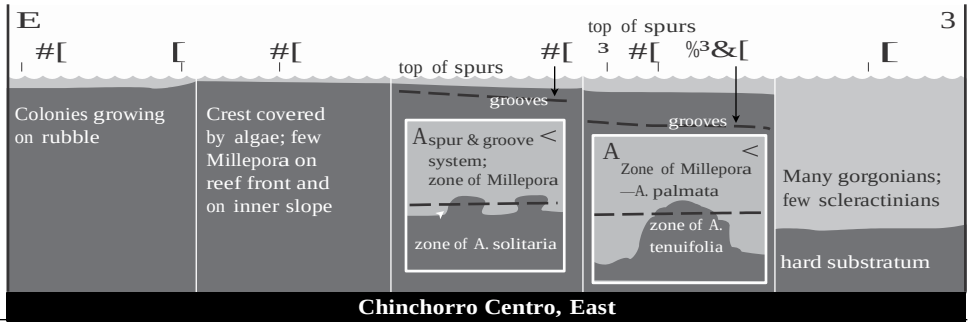
COLLECTED
! Present
$ Dominant
& Highly Dominant

OBSERVED
" Present
Dominant
% Highly Dominant

TAXON \ STATION	92b	92a	91	90
Favia fragum	!			!
Diploria clivosa				!
Diploria strigosa	!			!
Diploria clivosa — D. strigosa			"	
Colpophyllia natans	!		!	!
Manicina areolata				!
Montastraea annularis s. l.	#		$	
Montastraea cavernosa				!
Stephanocoenia intersepta	"	#		!
Scolymia wellsi			!	!
Isophyllia rigida			!	
Isophyllia sinuosa			!	
Mycetophyllia lamarckiana				!
Mycetophyllia sp.			"	!
Dichocoenia stokesi	!	!		!
Meandrina meandrites				!
Meandrina meandrites — M. brasiliensis				!
Meandrina meandrites — M. memorialis				!
Eusmilia fastigiata	!		!	!
Agaricia agaricites	!		!	
Agaricia lamarcki	!		!	!
Agaricia tenuifolia	"		!	!
Agaricia sp.	!		!	
Helioseris cucullata				!
Siderastraea radians	!			
Siderastraea siderea	!		!	
Porites astreoides	!	!	!	!
Porites porites — P. furcata	!		!	

Figure 31.

Chinchorro Centro, East



KEY

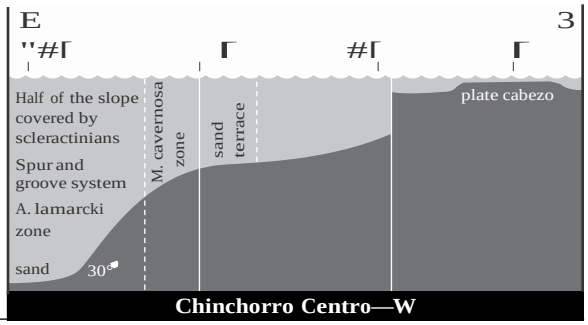
COLLECTED
! Present
$ Dominant
% Highly dominant

OBSERVED
Present
" Dominant
& Highly dominant

TAXON \ STATION	89	88a	88b	87
Acropora cervicornis				!
Acropora palmata			"	
Madracis auretenra				!
Favia fragum	!		!	
Diploria clivosa	#		!	
Diploria labyrinthiformis				#
Diploria strigosa	!		!	!
Montastaea annularis s. l.			!	!
Montastaea cavernosa				!
Astrangia solitaria		$	!	
Scolymia cubensis				!
Mussa angulosa				!
Isophyllia sinuosa			!	!
Mycetophyllia lamarckiana				!
Mycetophyllia sp.				!
Dichocoenia stokesi				!
Meandrina meandrites			!	!
Eusmilia fastigiata				!
Agaricia agaricites				!
Agaricia lamarcki			!	
Agaricia tenuifolia	!		$	!
Agaricia sp.				!
Helioseris cucullata				!
Siderastraea siderea			!	
Porites astreoides	!		!	!
Porites divaricata				!
Porites porites — P. furcata	!		!	!
Millepora sp.	!	%	%	

Figure 32.

Chinchorro Centro, West.



KEY

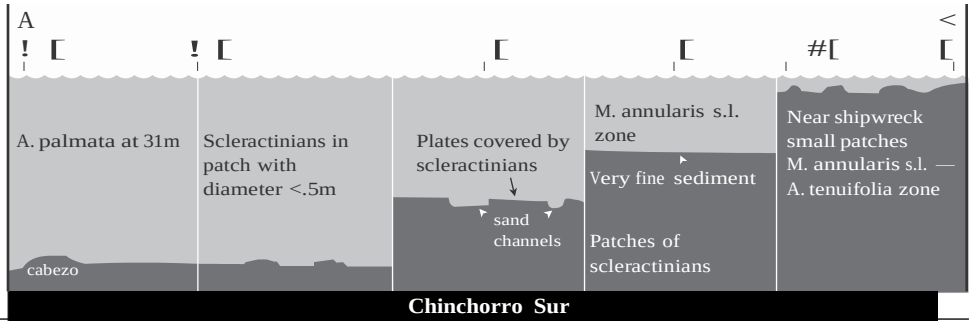
COLLECTED
! Present
Dominant
& Highly dominant

OBSERVED
" Present
$ Dominant
% Highly dominant

TAXON \ STATION	93	94	95
Acropora cervicornis			!
Madracis auretenra		!	
Madracis decactis		!	
Madracis auretenra — M. decactis	"		
Favia fragum			"
Diploria clivosa			!
Diploria labyrinthiformis			!
Diploria strigosa			!
Colpophyllia natans		"	
Montastraea annularis s. l.		!	!
Montastraea cavernosa	! #	"	"
Stephanocoenia intersepta			!
Scolymia wellsi		!	
Mussa angulosa		!	
Isophyllia rigida			"
Isophyllia rigida — I. sinuosa			!
Mycetophyllia aliciae	!		
Mycetophyllia danaana		!	
Mycetophyllia lamarckiana		!	
Mycetophyllia sp.	!	!	
Dichocoenia stokesi		!	!
Meandrina meandrites	!	!	
Meandrina meandrites — M. brasiliensis		!	
Meandrina meandrites — M. memorialis		!	
Eusmilia fastigiata	!	!	
Gardineria minor		!	
Agaricia agaricites		!	"
Agaricia lamarcki	# !	!	"
Agaricia tenuifolia	"		"
Agaricia sp.	!	!	
Helioseris cucullata	!	!	!
Siderastraea siderea	!		"
Porites astreoides			"
Porites divaricata		!	
Porites porites — P. furcata		!	!
Millepora sp.			"

Figure 33.

Chinchorro Sur.



KEY

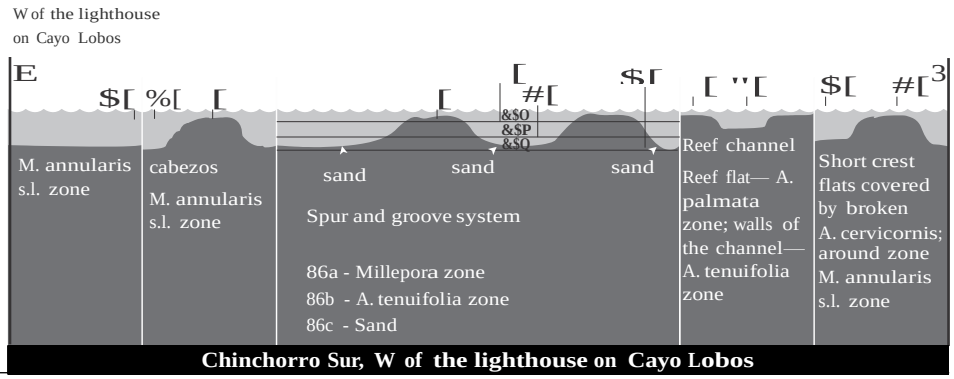
COLLECTED
! Present
Dominant
& Highly Dominant

OBSERVED
" Present
$ Dominant
% Highly Dominant

TAXON \ STATION	81	78	85	84	82
Acropora palmata	!				!
Madracis auretenra	!	!	!		
Madracis decactis	!			!	
Madracis auretenra — M. decactis		!			
Favia fragum			!		!
Diploria clivosa			!		
Diploria clivosa — D. strigosa					!
Colpophyllia natans	!	"		"	
Manicina areolata				!	
Montastraea annularis s.l.	!	!	!	#	#
Montastaea cavernosa	!	!	!	!	
Stephanocoenia intersepta	!	!	!		
Scolymia wellsi	!			!	
Mussa angulosa			!		
Isophyllia rigida			!		
Mycetophyllia lamarckiana		!	!	!	
Mycetophyllia sp.	!		!	!	
Dendrogyra cylindrus			!		
Dichocoenia stokesi	!		!	!	
Meandrina meandrites			!		
Meandrina meandrites — M. memorialis	!				
Eusmilia fastigiata			!	!	
Agaricia agaricites		"		!	
Agaricia lamarcki	!	!	!		!
Agaricia tenuifolia					#
Agaricia sp.	!	!			!
Helioseris cucullata	!				
Siderastraea siderea		!	!	!	
Porites astreoides				!	!
Porites porites — P. furcata				!	!
Millepora sp.			!		

Figure 34.

Chinchorro Sur, W of the lighthouse on Cayo Lobos.



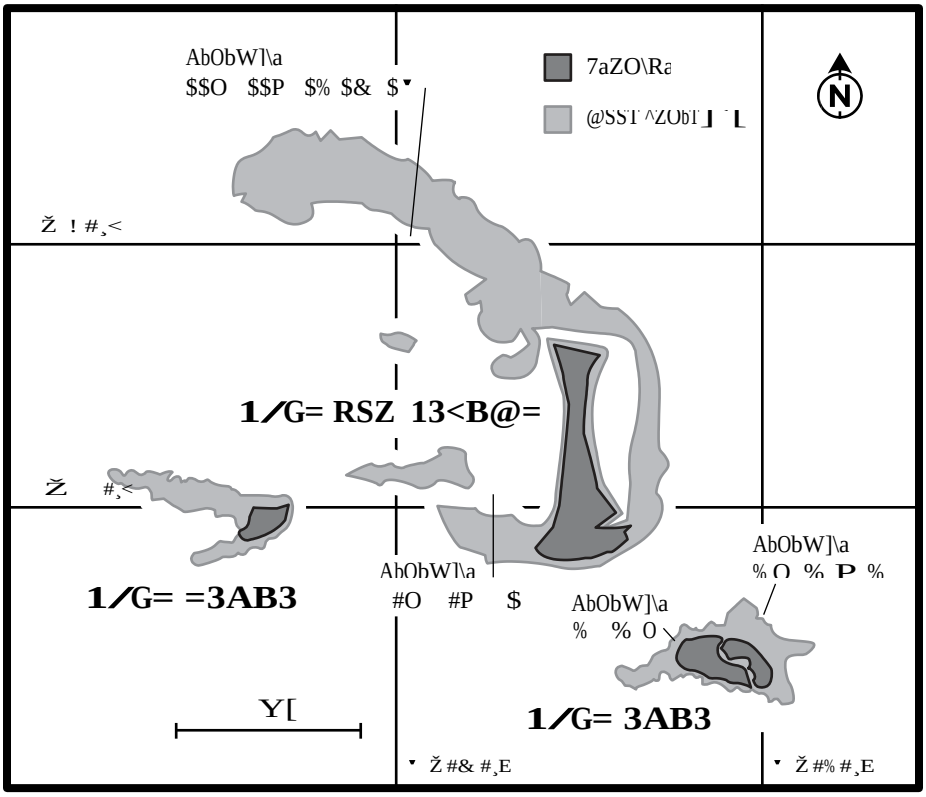
KEY

COLLECTED
! Present
Dominant
$ Highly dominant

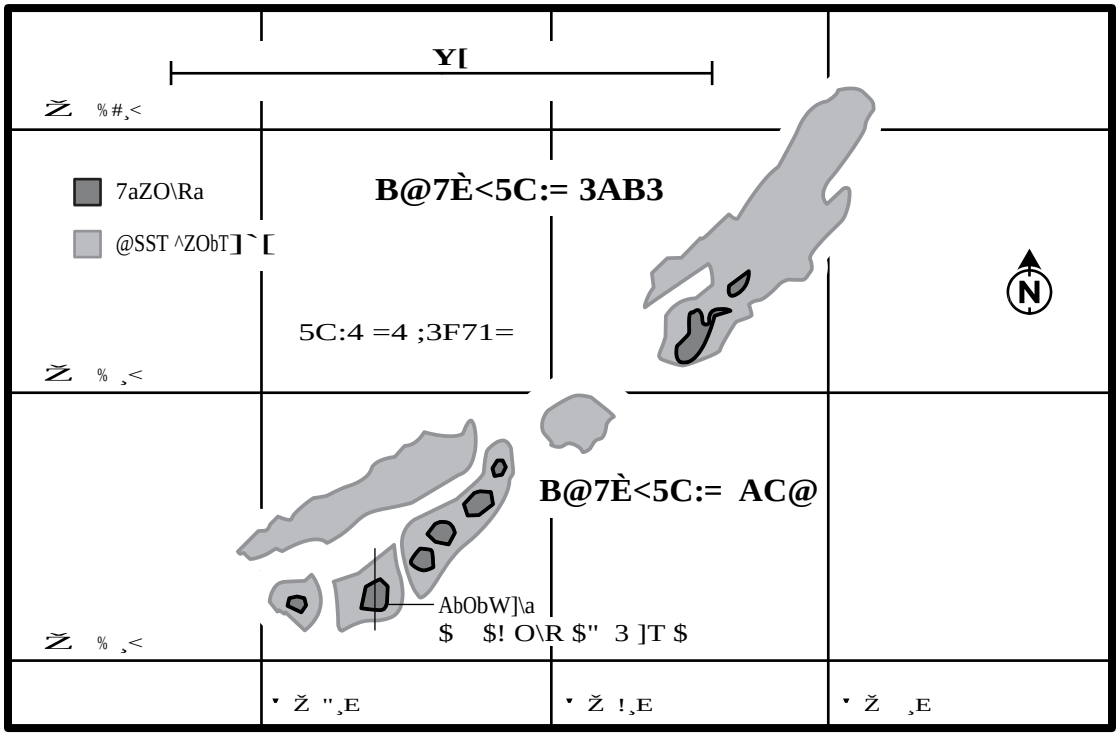
OBSERVED
" Present
% Dominant
& Highly dominant

Chinchorro Sur, W of the lighthouse on Cayo Lobos

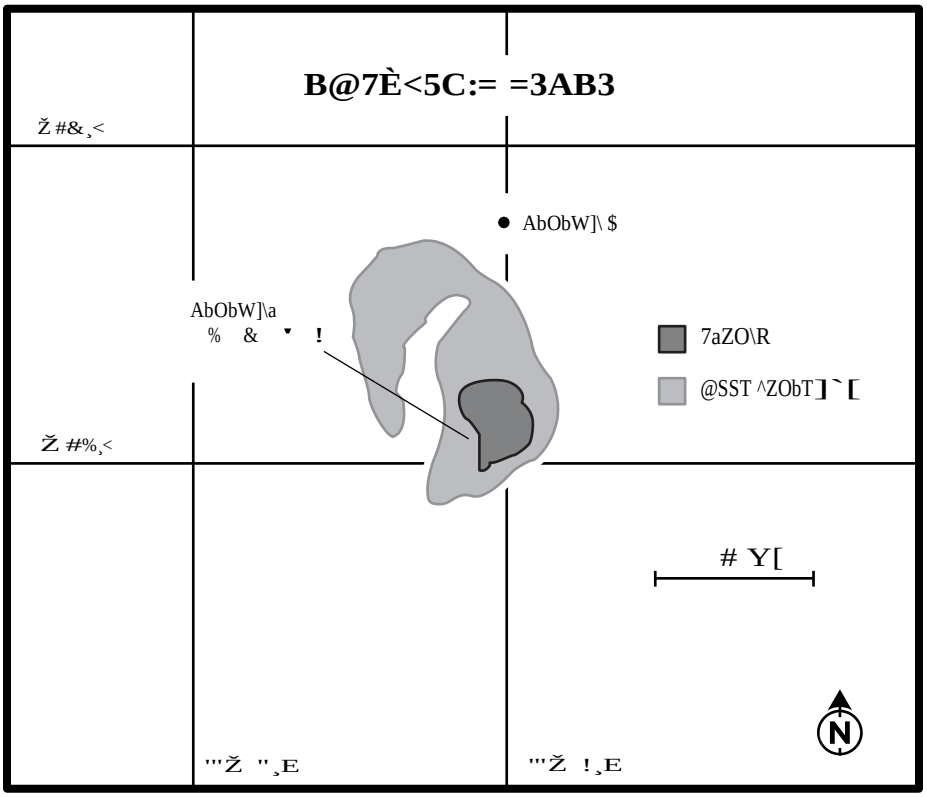
TAXON \ STATION	77	83	86a	86b	86c	80	79
Acropora cervicornis	!	!				!	!
Acropora palmata		"	"			#	!
Favia fragum	!	!	"	"		!	!
Diploria clivosa	!	!				!	!
Diploria labyrinthiformis	!	!					!
Diploria strigosa	!	!				!	!
Diploria clivosa — D. strigosa				!			!
Colpophyllia natans	"						"
Manicina areolata	!	!					
Montastaea annularis s. l.	$	#				!	#
Montastaea cavernosa	"			!			!
Stephanocoenia intersepta					"	!	
Scolymia wellsi	!						
Mussa angulosa		!					
Isophyllia rigida	!	!				!	!
Isophyllia sinuosa	!	!		!			!
Isophyllia rigida — I. sinuosa	!			!			!
Mycetophyllia danaana							!
Mycetophyllia lamarckiana	!	!					!
Mycetophyllia sp.	!	!		!			!
Dendrogyra cylindrus	"						!
Dichocoenia stokesi	!	!				!	
Eusmilia fastigiata	!	!					!
Agaricia agaricites	!	!				!	
Agaricia lamarcki	!					!	
Agaricia tenuifolia				#		#	
Agaricia sp.	!	!		!			!
Siderastraea radians	!				!	!	
Siderastraea siderea	!	!				!	!
Porites astreoides	!		!	!		!	!
Porites divaricata		!					
Porites porites — P. furcata	!	!	"	"		!	!
Millepora sp.	"	!	#				



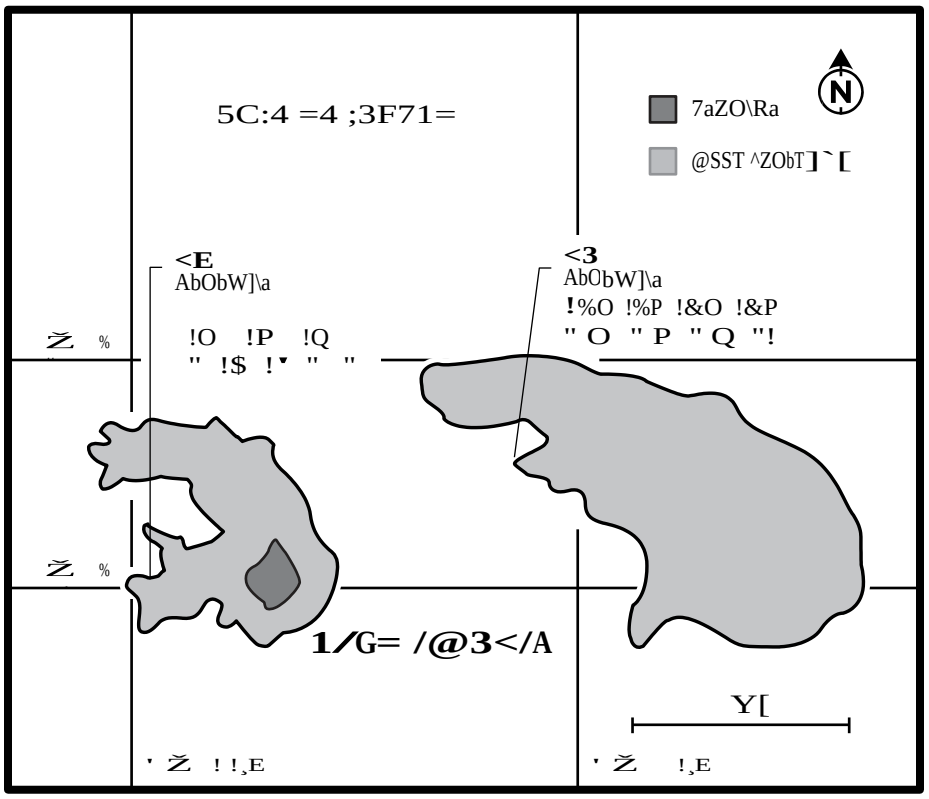
4WUc`S !# 1Og]a /`QOa



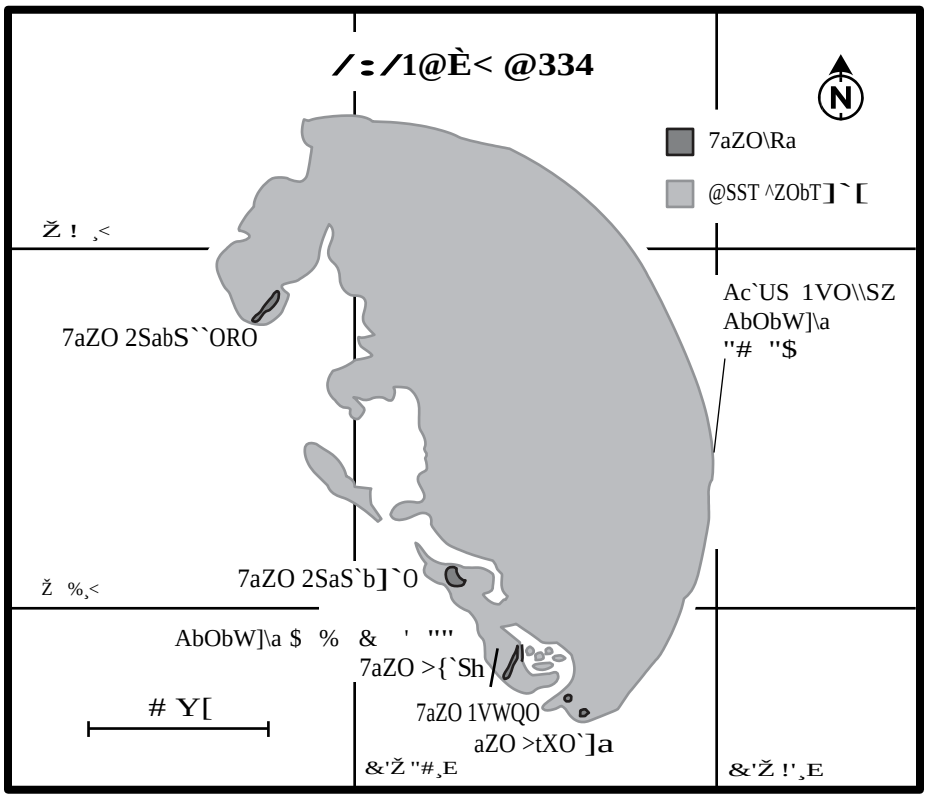
4WUc`S !$ B`Wt\UcZ] Ac` O\R B`Wt\UcZ] 3abS



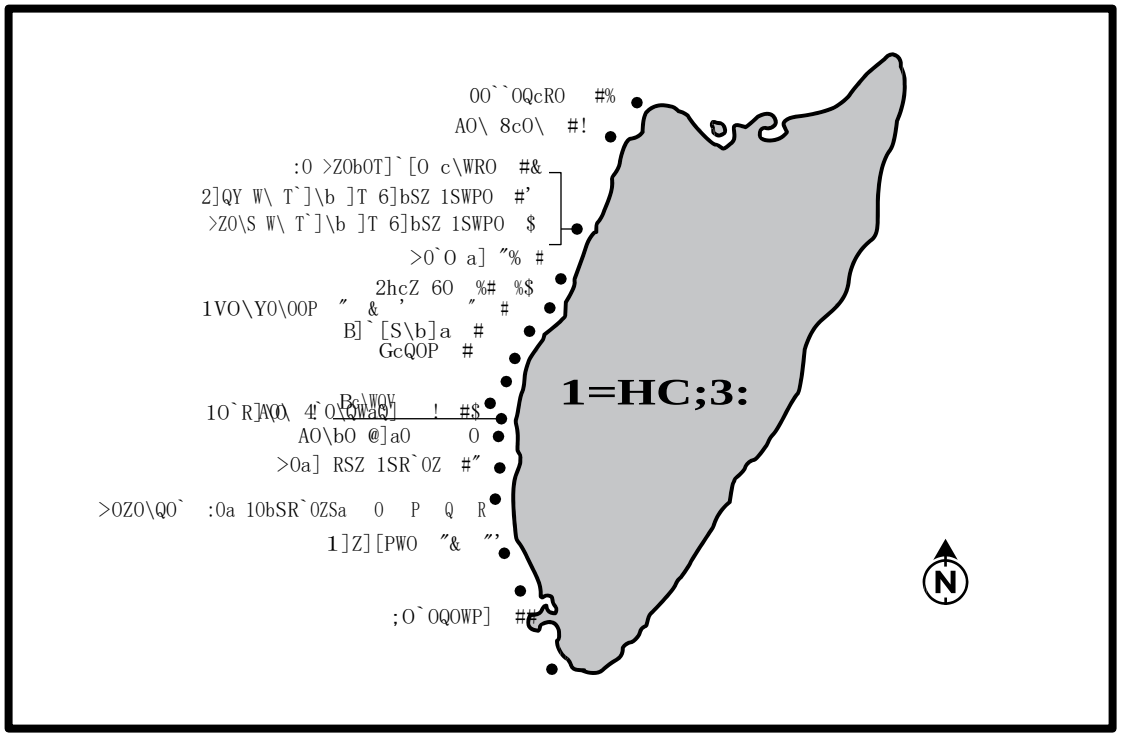
4WUc`S !% 1Og] B`Wt\UcZ] =SabS



4WUc`S !& 1Og] /`S\Oa



4WUc`S !' /ZOQ`t\ @SST



4WUc`S ″ 1]hc[SZ 7aZO\R

APPENDIX 2
TABLES

Table 1.

Station List.

No.	Name	Depth	Date(s)
1a.	Cozumel, Palancar, Las Catedrales	12–30m	26.11.1983, 19.04.1984, 30.05.84
1b.	Cozumel, Palancar	2–7m	19.04.1984
1c.	Cozumel, Palancar, Las Catedrales	40–60m	29.04.1984
1d.	Cozumel, Palancar, Las Catedrales	30–40m	29.04.1984
2.	Cozumel, Santa Rosa	13–50m	27.11.1983, 29.12.1983, 26.04.1984, 01.06.1984
2a.	Cozumel, Santa Rosa	7–11m	26.04.1984
3.	Cozumel, Cardona	7–11m	27.11.1983, 30.05.1984
4.	Cozumel, Laguna Chankanaab	0.3–2m	27.11.1983, 20.04.1984
5.	Puerto Morelos, Punta Cararraca	2m	28.11.1983, 30.01.1984
6.	Puerto Morelos, La Bocana	4–6m	28.11.1983, 30.01.1984, 29.05.1984, 30.08.1984, 09.09.1984, 10.09.1984, 11.09.1984, 12.09.1984, 13.09.1984
6a.	Puerto Morelos, near La Bocana	2–5m	30.01.1984
7.	Chicxulub	0–2.5m	04.12.1983
8.	Cozumel, reef Chankanaab	14–21m	27.12.1983
9.	Cozumel, reef Chankanaab	4–7m	27.12.1983
10.	Cozumel, Chankanaab, Cebrada	0–6m	27.12.1983
11.	Cozumel, Tunich	14–33m	28.12.1983
12.	Cozumel, cabezo in front of Tunich	12–17m	28.12.1983
13.	Cozumel, San Francisco	10–30m	29.12.1983
14.	Cozumel, cave Chankanaab	0–4.5m	01.01.1984, 03.06.1984
15.	Cozumel, Chankanaab cabezos	2–7m	01.01.1984, 20.04.1984, 01.05.1984, 03.05.1984, 02.06.1984
16.	Alacrán Reef, Isla Pérez	2–5m	16.01.1984
17.	Alacrán Reef, Isla Pérez	0.4–1.5m	16.01.1984
18.	Alacrán Reef, Isla Pérez	4–7m	16.01.1984
19.	Alacrán Reef, Isla Pérez	5–7m	16.01.1984
20.	Cayo Arenas — NW	0.4–4m	18.01.1984
21.	Cayo Arenas — NW	4–8m	18.01.1984
22.	Cayo Arenas — NW	13–17m	18.01.1984
23a.	Cayo Arenas — NW	0.4–1.5m	18.01.1984
23b.	Cayo Arenas — NW	1–5m	18.01.1984
23c.	Cayo Arenas — NW	0.4m	18.01.1984
24.	Cayo Arenas — NW	0.5–10m	18.01.1984
25a.	Cayos Arcas, SW of Cayo del Centro	1–4m	21.01.1984
25b.	Cayos Arcas, SW of Cayo del Centro	0.4–1.5m	21.01.1984

Table 1. Station List. Continued.

26.	Cayos Arcas, SW of Cayo del Centro	1.5–4m	22.01.1984
27.	Cayo Triángulo Oeste	2–23m	23.01.1984, 17.05.1984
28.	Cayo Triángulo Oeste	0.4–2m	23.01.1984, 17.05.1984
29.	Cayo Triángulo Oeste	1.5–18m	23.01.1984, 18.05.1984
30.	Cayo Triángulo Oeste	0.5–1.5m	23.01.1984, 18.05.1984
31.	Puerto Morelos, U.N.A.M.	1.0–1.2m	30.01.1984
32.	Puerto Morelos, U.N.A.M.	1.5–3m	30.01.1984
33.	Puerto Morelos, U.N.A.M.	3–7m	30.01.1984, 02.09.1984
34.	Puerto Morelos, Duque Alba	7m	03.03.1984
35.	Puerto Morelos, reef in front of Duque Alba	1–8m	03.03.1984
36.	Cayo Arenas—NW	26m	23.03.1984
37a.	Cayo Arenas—NE	6–11m	23.03.1984
37b.	Cayo Arenas—NE	11m	23.03.1984
38a.	Cayo Arenas—NE	1.5–6m	23.03.1984
38b.	Cayo Arenas—NE	0.4–1.5m	23.03.1984
39.	Cayo Arenas—NW	32m	24.03.1984
40a.	Cayo Arenas—NE	3–4m	24.03.1984
40b.	Cayo Arenas—NE	5(6)–14m	24.03.1984
40c.	Cayo Arenas—NE	6m	24.03.1984
41.	Cayo Arenas—NW	42m	25.03.1984
42.	Cayo Arenas—NW	0.5–4m	25.03.1984
43.	Cayo Arenas—NE	25m	25.03.1984
44.	Alacrán Reef, Isla Pérez	9–16m	26.03.1984
45.	Alacrán Reef	14–16m	27.03.1984
46.	Alacrán Reef, Surge channel	0.5–4m	27.03.1984
47.	Cozumel, Paraíso	3–7m	17.04.1984
48.	Cozumel, Colombia	15–22m	18.04.1984
49.	Cozumel, Colombia	4–7m	18.04.1984
50.	Cozumel, Yucab	12–15m	20.04.1984, 01.06.1984
51.	Cozumel, Paraíso	7–11m	20.04.1984
52.	Cozumel, Tormentos	10–20m	21.04.1984
53.	Cozumel, San Juan	12–14m	22.04.1984
54.	Cozumel, Paso del Cedral	12–13m	23.04.1984
55.	Cozumel, Maracaibo	28–40m	24.04.1984, 31.05.1984
56.	Cozumel, San Francisco	15–20m	24.04.1984
57.	Cozumel, Barracuda	20–40m	27.04.1984

Table 1.

Station List. Continued.

58.	Cozumel, La plataforma hundida	12–14m	27.04.1984
59.	Cozumel, dock in front of Hotel Ceiba	8m	29.04.1984
60.	Cozumel, plane in front of Hotel Ceiba	4m	29.04.1984
61.	Cayo Triángulo Oeste	12m	18.05.1984
62.	Cayo Triángulo Sur	2–4m	19.05.1984
63.	Cayo Triángulo Sur	0.5–3m	19.05.1984
64.	Cayo Triángulo Sur	16m	19.05.1984
65.	Bajo Obispo Norte	13–15m	20.05.1984
66a.	Cayos Arcas, NW of Cayo del Centro	33m	21.05.1984
66b.	Cayos Arcas, NW of Cayo del Centro	15m	21.05.1984
67.	Cayos Arcas, NW of Cayo del Centro	7m	21.05.1984
68.	Cayos Arcas, NW of Cayo del Centro	1–3.5m	21.05.1984
69.	Cayos Arcas, NW of Cayo del Centro	0.5–3m	21.05.1984
70a.	Cayos Arcas, NE of Cayo del Este	21m	22.05.1984
70b.	Cayos Arcas, NE of Cayo del Este	7m	22.05.1984
71.	Cayos Arcas, NE of Cayo del Este	4–5m	22.05.1984
72.	Cayos Arcas, W of Cayo del Este	2–12m	22.05.1984
72a.	Cayos Arcas, W of Cayo del Este	0.4–2m	22.05.1984
73a.	Cayo Nuevo	0.4–1.5m	23.05.1984
73b.	Cayo Nuevo	1.5–17m	23.05.1984
74.	Cayo Nuevo	0.6m	23.05.1984
75.	Cozumel, Dzul-Ha	1–1.5m	31.05.1984
76.	Cozumel, Dzul-Ha	3m	31.05.1984
77.	Chinchorro Sur, W of lighthouse Cayo Lobos	6m	18.06.1984
78.	Chinchorro Sur	31m	19.06.1984
79.	Chinchorro Sur	1.5–6m	19.06.1984
80.	Chinchorro Sur, reef channel	0.5–4m	19.06.1984
81.	Chinchorro Sur	31–32m	20.06.1984
82.	Chinchorro Sur	1–2.5m	20.06.1984
83.	Chinchorro Sur, NW of lighthouse Cayo Lobos	1–7m	20.06.1984
84.	Chinchorro Sur	12m	21.06.1984
85.	Chinchorro Sur	20m	21.06.1984
86a.	Chinchorro Sur	1–2m	21.06.1984
86b.	Chinchorro Sur	2–5m	21.06.1984
86c.	Chinchorro Sur	5–6m	21.06.1984
87.	Chinchorro Centro, East	22m	22.06.1984

Table 1.

Station List. Continued.

88a.	Chinchorro Centro, East	1–2.5m	22.06.1984
88b.	Chinchorro Centro, East	1(1.5)–7(8)m	22.06.1984
89.	Chinchorro Centro, East	1–1.5m	22.06.1984
90.	Chinchorro Centro, East	30m	23.06.1984
91.	Chinchorro Centro, East	2–4m	23.06.1984
92a.	Chinchorro Centro, East	4m	23.06.1984
92b.	Chinchorro Centro, East	1–4m	23.06.1984
93.	Chinchorro Centro, West	20–45m	24.06.1984
94.	Chinchorro Centro, West	15m	24.06.1984
95.	Chinchorro Centro, West	2m	24.06.1984
96.	Chinchorro Norte	30–45m	25.06.1984
97.	Chinchorro Norte	1.5–4m	25.06.1984
98.	Chinchorro Norte, El barco hundido	1–3m	25.06.1984
99.	Chinchorro Norte	9m	26.06.1984
100a.	Chinchorro Norte, *Thalassia*	1–3m	26.06.1984
100b.	Chinchorro Norte, cabezo	2–4m	26.06.1984
101.	Chinchorro Norte, new lighthouse	0.4–7m	27.06.1984
102.	Punta Petempich	1–2.5m	15.08.1984
103.	Punta Petempich	1–4m	15.08.1984
104.	Punta Petempich	< 1m	15.08.1984
105.	Puerto Morelos	20m	16.08.1984
106.	Puerto Morelos, U.N.A.M.	39m	17.08.1984
107.	Puerto Morelos, U.N.A.M.	15m	17.08.1984
108a.	Punta Petempich	27m	18.08.1984
108b.	Punta Petempich	25m	18.08.1984
109.	Puerto Morelos	0.4–2m	18.08.1984
110a.	Punta Brava	0.4–1.5m	19.08.1984
110b.	Punta Brava	1–1.5m	19.08.1984
111a.	Punta Brava	30m	19.08.1984
111b.	Punta Brava	9m	19.08.1984
112.	Punta Maroma	23m	23.08.1984
113.	Punta Maroma	4–6m	23.08.1984
114a.	Punta Maroma	2–4m	23.08.1984
114b.	Punta Maroma	1.5–2m	23.08.1984
115.	Punta Maroma	0.4–1.5m	23.08.1984
116.	Punta Maroma	0.4–1.5m	23.08.1984

Table 1.

Station List. Continued.

117a.	"Bajo" Finduvet	17m	24.08.1984
117b.	"Bajo" Finduvet	10–17m	24.08.1984
118.	"Bajo" Finduvet	1–2.5	24.08.1984
119a.	"Bajo" Finduvet	0.4–0.6m	24.08.1984
119b.	"Bajo" Finduvet	0.6–1.5m	24.08.1984
120.	Punta Nizuk	12–16m	25.08.1984
121.	Punta Nizuk	0.4–3m	25.08.1984
121a.	Punta Nizuk	0.4m	25.08.1984
122.	Punta Nizuk	1–5m	25.08.1984
122a.	Punta Nizuk	2m	25.08.1984
123.	Punta Nizuk	0.5–3m	25.08.1984
124.	Isla Mujeres, Los Manchones	2–7m	03.09.1984
125.	Isla Mujeres, El Garrafón	0.5–2m	04.09.1984
126.	Isla Mujeres, Roca la Bandera	4–9m	04.09.1984
127.	Isla Mujeres, Roca la Carbonera	0–4m	05.09.1984
128.	Isla Mujeres, El Manchón de Roca la Bandera	5–9m	05.09.1984
129.	Isla Mujeres, El Manchón de Chital	5–9m	06.09.1984
130.	Isla Che, S Isla Contoy	1–2.5m	07.09.1984
130a.	Isla Che, S Isla Contoy	0.5–1m	07.09.1984
131.	Isla Che, S Isla Contoy	1–2m	07.09.1984
131a.	Isla Che, S Isla Contoy	0.5–1m	07.09.1984
132.	Puerto Morelos, U.N.A.M.	3–4m	13.09.1984
133.	Mahahual	15–30m	15.09.1984
134.	Mahahual	8–13m	15.09.1984
135.	Mahahual	1–3m	15.09.1984
136.	Punta Allen	18–20m	18.09.1984
137a.	Punta Allen	5m	18.09.1984
137b.	Punta Allen	4–5m	18.09.1984
138.	Tulum	33m	19.09.1984
139.	Tulum	9m	19.09.1984
140.	Tulum	0.6–2m	19.09.1984
140a.	Tulum	0.4m	19.09.1984
141.	Playa between Champotón and Sabancuy		June 1984

Table 2.

Collected Scleractinia and *Millepora*.

TAXON	ZOOXANTHELLATE	COLLECTED SPECIMENS	IN NMNH SI
Acropora cervicornis	+	162	20
Acropora palmata	+	106	15
A. prolifera = A. cervicornis +A. palmata	+	10	3
Madracis auretenra	+	308	131
Madracis decactis	+	5	1
Madracis auretenra — M. decactis	+	23	13
Favia fragum	+	193	25
Diploria clivosa	+	153	20
Diploria labyrinthiformis	+	63	12
Diploria strigosa	+	108	15
Diploria clivosa — D. strigosa	+	31	8
Colpophyllia natans	+	88	15
Manicina areolata	+	62	15
Montastraea annularis s.l.	+	184	20
Montastraea cavernosa	+	170	20
Solenastraea hyades	+	4	1
Astrangia solitaria	-	28	8
Colangia immersa	-	2	2
Stephanocoenia intersepta	+	76	15
Oculina diffusa	+/-	1	0
Scolymia cubensis	+	1	0
Scolymia lacera	+	1	0
Scolymia wellsi	+	82	15
Mussa angulosa	+	24	8
Isophyllia rigida	+	34	10
Isophyllia sinuosa	+	91	15
Isophyllia rigida — I. sinuosa	+	74	15
Mycetophyllia aliciae	+	10	3
Mycetophyllia danaana	+	11	4
Mycetophyllia ferox	+	38	10
Mycetophyllia lamarckiana	+	142	20
Mycetophyllia sp.	+	103	20
Dendrogyra cylindrus	+	13	5
Dichocoenia stokesi	+	155	25

Table 2.

Collected Scleractinia and *Millepora*. Continued.

Meandrina meandrites	+	99	15
Meandrina meandrites — M. brasiliensis	+	11	4
Meandrina meandrites — M. memorialis	+	14	5
Thalamophyllia riisei	-	1	1
Rhizosmilia maculata	-	3	3
Eusmilia fastigiata	+	195	25
Gardineria minor	-	4	0
Agaricia agaricites	+	45	15
Agaricia lamarcki	+	118	16
Agaricia tenuifolia	+	186	20
Agaricia sp.	+	134	20
Helioseris cucullata	+	70	20
Siderastraea radians	+	51	14
Siderastraea radians "rolling stones"	+	11	4
Siderastraea siderea	+	182	21
Siderastraea siderea "rolling stones"	+	50	15
Porites astreoides	+	222	20
Porites divaricata	+	179	24
Porites porites — P. furcata	+	299	31
Millepora sp.	+	149	19

Table 3.

Taxa distribution in the study area.

TAXON	Yucatán Peninsula					Campeche Bank					Caribbean sector: E Coast					Caribbean sector: Cozumel					Caribbean sector: Chinchorro				
			Found					Found					Found					Found					Found		
			Collected / Observed					Collected / Observed					Collected / Observed					Collected / Observed					Collected / Observed		
	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant
Acropora cervicornis	57	61	42 / 12	2 / 2	2 / 1	19	21	13 / 3	2 / 2	1 /	22	24	18 / 4		1 / 1	6	6	2 / 4			10	10	9 / 1		
Acropora palmata	69	81	23 / 8	13 / 4	17 / 16	28	32	9 / 2	6 / 2	8 / 5	30	38	10 / 2	6 / 1	9 / 10	2	2	/ 2			9	9	4 / 2	1 / 1	/ 1
A. prolifera = A. cervicornis +A. palmata	9	10	6 / 3			4	4	2 / 2			5	6	4 / 1	/ 1											
Madracis auretenra	47	51	50 / 1			12	12	12 /			12	12	12 /			17	21	20 / 1			6	6	6 /		
Madracis decactis	8	9	5 / 4			2	2	1 / 1			1	1	1 /			2	3	/ 3			3	3	3 /		
Madracis auretenra — M. decactis	17	19	15 / 3	/ 1		7	7	7 /			2	2	2 /			6	8	5 / 2	/ 1		2	2	1 / 1		
Favia fragum	70	74	60 / 13	1 /		22	23	20 / 2	1 /		17	18	15 / 3			15	16	11 / 5			16	17	14 /3		
Diploria clivosa	68	71	66 / 4	1 /		29	30	27 / 2	1 /		25	27	26 / 1			4	4	4 /			10	10	9 / 1		
Diploria labyrinthiformis	51	52	35 / 17			22	22	18 / 4			8	8	5 / 3			15	16	7 / 9			6	6	5 / 1		
Diploria strigosa	57	60	55 / 4	/ 1		20	20	16 / 3	/ 1		20	21	20 / 1			5	7	7 /			12	12	12 /		
Diploria clivosa — D. strigosa	38	40	21 / 18	1 /		6	6	4 / 2			16	16	10 / 5	1 /		11	13	4 / 9			5	5	3 / 2		
Colpophyllia natans	57	61	35 / 24	2 /		21	22	16 / 5	1 /		13	14	3 / 10	1 /		12	14				11	11	6 / 5		
Manicina areolata	18	19	15 / 3	1 /		1	1	1 /			9	9	5 / 3	1 /		3	4	4 /			5	5	5 /		
Montastraea annularis s.l.	100	104	61 / 14	22 / 2	3 / 2	34	34	23 / 4	7 /		27	29	18 / 2	5 / 1	2 / 1	20	22	10 / 7	4 /	/ 1	19	19	10 / 1	6 / 1	1 /
Montastraea cavernosa	85	91	73 / 14	4 /		26	26	21 / 2	3 /		26	29	24 /5			18	21	17 / 4			15	15	11 / 3	1 /	
Solenastraea hyades	1	1	1 /			1	1	1 /																	
Astrangia solitaria	7	8	6 / 1	1 /							5	5	4 / 1			1	1	1 /			1	2	1 /	1 /	
Colangia immersa	1	1	1 /													1	1	1 /							
Stephanocoenia intersepta	61	62	40 / 21	/ 1		23	23	17 / 6			15	15	11 / 4			12	12	5 / 7			11	12	7 / 4	/ 1	

Table 3. Continued.

Taxa distribution in the study area.

TAXON	Yucatán Peninsula					Campeche Bank					E Coast					Caribbean sector Cozumel					Chinchorro				
	SITES	STATIONS	Found Collected / Observed Present	Dominant	Highly Dominant	SITES	STATIONS	Found Collected / Observed Present	Dominant	Highly Dominant	SITES	STATIONS	Found Collected / Observed Present	Dominant	Highly Dominant	SITES	STATIONS	Found Collected / Observed Present	Dominant	Highly Dominant	SITES	STATIONS	Found Collected / Observed Present	Dominant	Highly Dominant
Oculina diffusa	1	1	1 /			1	1	1 /																	
Scolymia cubensis	3	3	2 / 1								1	1	1 /			1	1	/ 1			1	1	1 /		
Scolymia lacera	2	2	1 / 1													2	2	1 / 1							
Scolymia wellsi	36	36	31 / 5			9	9	8 / 1			9	9	8 / 1			9	9	6 / 3			9	9	9 /		
Mussa angulosa	11	11	10 / 1			2	2	1 / 1			3	3	3 /			1	1	1 /			5	5	5 /		
Isophyllia rigida	34	37	19 / 18								12	14	7 / 7			12	13	4 / 9			10	10	8 / 2		
Isophyllia sinuosa	36	40	33 / 7			3	3	1 / 2			17	19	19 /			7	9	5 / 4			10	10	9 / 1		
Isophyllia rigida — I. sinuosa	30	34	34 /								10	12	12 /			14	15	15 /			6	6	6 /		
Mycetophyllia aliciae	8	9	10 /			2	2	2 /			3	3	3 /			3	4	4 /			1	1	1 /		
Mycetophyllia danaana	7	8	8 /								1	1	1 /			4	5	5 /			2	2	2 /		
Mycetophyllia ferox	19	19	19 /			18	18	18 /			1	1	1 /												
Mycetophyllia lamarckiana	52	55	53 / 2			13	13	13 /			12	12	11 / 1			15	18	17 / 1			12	12	12 /		
Mycetophyllia sp.	47	50	47 / 3			14	14	14 /			9	9	7 / 2			10	13	13 /			14	14	13 / 1		
Dendrogyra cylindrus	10	10	7 / 3								6	6	5 / 1			1	1	/ 1			3	3	2 / 1		
Dichocoenia stokesi	75	79	66 / 12	1 /		17	17	16 / 1			20	22	20 / 1	1 /		23	24	15 / 9			15	16	15 / 1		
Meandrina meandrites	52	57	53 / 4			9	9	7 / 2			16	17	17 /			20	24	22 / 2			7	7	7 /		
Meandrina meandrites — M. brasiliensis	9	9	9 /			1	1	1 /			5	5	5 /			1	1	1 /			2	2	2 /		
Meandrina meandrites — M. memorialis	14	14	12 / 2			3	3	2 / 1			2	2	2 /			6	6	5 / 1			3	3	3 /		
Thalamophyllia riisei	1	1	1 /													1	1	1 /							

Table 3. Continued.

Taxa distribution in the study area.

	Yucatán Peninsula					Campeche Bank					E Coast					Caribbean sector: Cozumel					Chinchorro				
			Found					Found					Found					Found					Found			
			Collected / Observed					Collected / Observed					Collected / Observed					Collected / Observed					Collected / Observed			
TAXON	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant	SITES	STATIONS	Present	Dominant	Highly Dominant
Rhizosmilia maculata	1	1	1 /													1	1	1 /							
Eusmilia fastigiata	58	61	52 / 9			8	8	7 / 1			13	14	11 / 3			24	26	21 / 5			13	13	13 /		
Gardineria minor	4	4	3 / 1													3	3	2 / 1			1	1	1 /		
Agaricia agaricites	43	45	32 / 13			14	14	10 / 4			11	12	9 / 3			6	7	3 / 4			12	12	10 / 2		
Agaricia lamarcki	65	70	53 / 10	4 / 3		18	18	14 / 3	1 /		16	19	17 / 2			13	15	8 / 2	2 / 3		18	18	14 / 3	1 /	
Agaricia tenuifolia	59	62	27 / 13	18 / 4		2	2	1 / 1			20	22	13 / 4	5 /		22	23	6 / 5	9 / 3		15	15	7 / 3	4 / 1	
Agaricia sp.	63	65	63 / 2			16	16	15 / 1			26	27	26 / 1			6	7	7 /			15	15	15 /		
Helioseris cucullata	25	28	26 / 1	1 /		2	2	2 /			5	5	5 /			11	14	12 / 1	1 /		7	7	7 /		
Siderastraea radians	48	50	33 / 17			13	13	11 / 2			17	18	11 / 7			13	14	7 / 7			5	5	4 / 1		
Siderastraea radians "rolling stones"	1	1	1 /								1	1	1 /												
Siderastraea siderea	92	96	85 / 11			25	25	23 / 2			32	32	29 / 3			19	23	18 / 5			16	16	15 / 1		
Siderastraea siderea "rolling stones"	3	3	2 / 1								2	2	2 /			1	1	/ 1							
Porites astreoides	117	121	108 / 10	3 /		35	35	33 / 1	1 /		39	40	37 / 2	1 /		25	26	19 / 6	1 /		18	20	19 / 1		
Porites divaricata	39	43	40 / 3			5	5	5 /			16	19	17 / 2			12	13	13 /			6	6	5 / 1		
Porites porites — P. furcata	87	94	78 / 12	2 / 1	1 /	16	16	13 / 2	1 /		35	38	33 / 3	1 / 1		19	21	16 /4		1 /	17	19	16 / 3		
Millepora sp.	89	94	69 / 15	5 /2	2 / 1	31	33	28 / 3	1 / 1		32	32	26 / 3	3 /		15	17	8 / 7	/ 1	/ 1	11	12	7 / 2	1 /	2 /

Table 4. Continued.
Taxa distribution in Campeche Bank.

KEY

COLLECTED
Present
'' Dominant
% Highly Dominant

OBSERVED
! Present
$ Dominant
& Highly Dominant

	Cayos Arcas					Playa between Champoton & Sabancuy	Cayos Arcas							Bajo Obispo Norte	Cayo Triángulo Sur			Cayo Triángulo Oeste					Cayo Nuevo		
	W of Cayo del Este		NE of Cayo del Este				SW of Cayo del Centro			NW of Cayo del Centro															
TAXON \ **STATION**	**72**	**72a**	**71**	**70b**	**70a**	**141**	**26**	**25b**	**25a**	**69**	**68**	**67**	**66b**	**66a**	**65**	**64**	**62**	**63**	**29**	**30**	**27**	**28**	**61**	**74**	**73a**	**73b**
Acropora cervicornis				!						''			#		#		#		#		#	#			!	#
Acropora palmata		&	$	#			''	''		!	#	%	''		%		&	#	#	''		''	#		&	!
A. prolifera = A. cervicornis + A. palmata										!																
Madracis auretenra	#												#		#	#					#					#
Madracis auretenra — M. decactis	#																		#		#					#
Favia fragum	#		#	#			#	''		#	#					#		#		#		#		#	!	#
Diploria clivosa	#		#				#	#		#	#	#	#	#	#	#	#	#	#	#		#	#			
Diploria labyrinthiformis	#		#	#			#					#	#		#	#			!		#	#				#
Diploria strigosa	#		!	#			#					#				#		!				#				#
Diploria clivosa — D. strigosa				#								#	#										!			
Colpophyllia natans	#		!	#			!			#			#		''	#		#	#	!	#				#	#
Manicina areolata																										#
Montastraea annularis s.l.			#	!			#	#		#	#	!	#		!	#	#	#	''	#	#	#				''
Montastraea cavernosa				#			#					#	#		#	#	#		#		#		#			#
Stephanocoenia intersepta	#						!	!					#		#	#		!			#					#
Oculina diffusa						#																				
Scolymia wellsi																					#					#
Mussa angulosa																					!					
Isophyllia sinuosa										!																

Table 4. Continued.
Taxa distribution in Campeche Bank.

KEY

COLLECTED	OBSERVED
# Present	! Present
'' Dominant	$ Dominant
% Highly Dominant	& Highly Dominant

	Cayos Arcas						Cayos Arcas																		
	W of Cayo del Este		NE of Cayo del Este			Playa between Champoton & Sabancuy	SW of Cayo del Centro			NW of Cayo del Centro				Bajo Obispo Norte	Cayo Triángulo Sur			Cayo Triángulo Oeste					Cayo Nuevo		
TAXON \ **STATION**	**72**	**72a**	**71**	**70b**	**70a**	**141**	**26**	**25b**	**25a**	**69**	**68**	**67**	**66b**	**66a**	**65**	**64**	**62**	**63**	**29**	**30**	**27**	**28**	**61**	**74**	**73a**	**73b**
Mycetophyllia ferox							#	#		#						#		#	#							#
Mycetophyllia lamarckiana										#			#			#			#		#					#
Mycetophyllia sp.							#			#					#			#	#		#					#
Dichocoenia stokesi	#			#									#		#	#							#			
Meandrina meandrites													#		!	#										#
Meandrina meandrites — M. brasiliensis																			#							
Eusmilia fastigiata																					#					#
Agaricia agaricites	#						#	#			!								#							#
Agaricia lamarcki							!	!		#		#				!			#		''					#
Agaricia tenuifolia							#																			
Agaricia sp.	#							#		#						!		#				#				#
Helioseris cucullata																					#					#
Siderastraea radians							#	#								!			#		#					#
Sideratraea siderea	#		#	#				#					#		#	#	#		#		#		!			#
Porites astreoides			#	#			#	#		#	#	#	#		#	#	#	#	#	#	#	#	#	#		#
Porites divaricata	#																									#
Porites porites — P. furcata	#									#			#					#						!		#
Millepora sp.	!		#	#			#	#		#	#	#			#	#		#	#	#		#	#			#

Table 4. Continued.
Taxa distribution in Campeche Bank.

KEY

COLLECTED
- ■ Present
- ◨ Dominant
- ■ Highly Dominant

OBSERVED
- ⦿ Present
- ◑ Dominant
- ● Highly Dominant

TAXON \ STATION	Bajo Obispo Norte	Cayo Arenas—NW										Cayo Arenas—NE								Alacrán Reef, Isla Pérez				Alacrán Reef, Surge Channel	Chicxulub
	24	42	21	20	23c	23a	23b	22	36	39	41	37b	37a	38a	38b	40a	40b	40c	43	44	19	17	18	16	46	45	7
Acropora cervicornis		''	#		$							%		#		#		$		#	!	#		#			
Acropora palmata	#	%	#	%	$	&							#	%	&	%		%				%		#	''		
A. prolifera = A. cervicornis + A. palmata		#														#						!					
Madracis auretenra								#	#	#							#		#							#	
Madracis decactis									#	!																	
Madracis auretenra — M. decactis									#											#						#	
Favia fragum	#		#	#									#	!							#	#		#	#		
Diploria clivosa	''	#	#	#				#	#				!	!						#		#	#	#		#	
Diploria labyrinthiformis			#					#	#	!			!	#			#			#			#			!	
Diploria strigosa	$		#						#	#			!				#				#	#	#		#	#	
Diploria clivosa — D. strigosa		#																		!							
Colpophyllia natans			#					!	#	!							#			#					#	#	
Manicina areolata																											
Montastraea annularis s.l.	#	#	''	#				''	''	#				#			#		#	''	''	#	#	#	#	!	
Montastraea cavernosa	#		#					#	''	#	''		!	#			#		''	#	#		#	#		!	
Solenastraea hyades																											#
Stephanocoenia intersepta	!	!						#	#	#	#						#		#	#	#		#	#	!	#	
Oculina diffusa																											
Scolymia wellsi			#					!	#	#	#									#		#				
Mussa angulosa										#																	
Isophyllia sinuosa													!							#							

Table 4. Continued.
Taxa distribution in Campeche Bank.

KEY

COLLECTED	OBSERVED
■ Present	⦿ Present
◨ Dominant	◑ Dominant
■ Highly Dominant	● Highly Dominant

	Cayo Arenas—NW											Cayo Arenas—NE							Alacrán Reef, Isla Pérez				Alacrán Reef, Surge Channel		Chicxulub
TAXON / STATION	24	42	21	20	23c	23a	23b	22	36	39	41	37b	37a	38a	38b	40a	40b	40c	43	44	19	17	18	16	46	45	7
Mycetophyllia aliciae											#								#								
Mycetophyllia ferox	#							#	#	#			#	#			#			#	#		#		#		
Mycetophyllia lamarckiana			#					#		#									#	#	#					#	
Mycetophyllia sp.	#							#		#	#						#			#			#				
Dichocoenia stokesi	#		!						#	#	#						#		#	#	#		#			#	
Meandrina meandrites			#						!		#									#						#	
Meandrina meandrites — M. memorialis									#											!							
Eusmilia fastigiata								#					!	#						#	#					#	
Agaricia agaricites	!		#					#						#						#		!	#			!	
Agaricia lamarcki	#		#					#	#		#			#			#			#				#	#		
Agaricia tenuifolia																									!		
Agaricia sp.		#						#	#								#					#	#	#	#	#	
Siderastraea radians	#	#	#						!												#		#	#			
Sideratraea siderea		#	#					#	#	#			!	#					#	#	#		#	#		#	
Porites astreoides	#	#	#	#				#	#	#			#				#		#	#	#	!	#	#	''		
Porites divaricata								#		#										#							
Porites porites — P. furcata		#						#					!	#			#			#		#	#	#	''		
Millepora sp.		#	#	#				#					#	#	$		#		#	#		#	#	#	''	#	

Table 5.
Taxa distribution in the east coast of the Yucatán Peninsula

KEY

COLLECTED	OBSERVED
! Present	# Present
& Dominant	% Dominant
'' Highly Dominant	$ Highly Dominant

		Isla Che, S Isla Contoy				Isla Mujeres						Punta Nizuk				"Bajo" Finduvet					Punta Petempich				
						Roca la Carbonera	Los Manchones	El Garrafón	Roca la Bandera	El Manchón de Roca la Bandera	El Manchón de Chital														
TAXON	**STATION**	130	130a	131a	131	127	124	125	126	128	129	122	122a	123	121	121a	120	119b	119a	118	117b	117a	104	103	102	108b	108a
Acropora cervicornis					!		!				!		''				!	!		!	!				#		
Acropora palmata		!	$	$		!	''	$		$	''			''	#	$	!	&	$	''	!			&	&		
A. prolifera = A. cervicornis + A. palmata					%		!																				
Madracis auretenra							!										!				!						
Favia fragum		!			!	!		#	!		!			!			!				!		!				
Diploria clivosa		!			!							!			!			!		!	#			!	!		
Diploria labyrinthiformis							!														#						
Diploria strigosa		#				!					!				!		!			!	!					!	
Diploria clivosa — D. strigosa				#	!									#												!	
Colpophyllia natans				#		!	#					#			!						#						
Manicina areolata								#															!			!	
Montastraea annularis s.l.					!	!	&	#		!	!			&	&		!				&						
Montastraea cavernosa		#					!		!					#			!				!					!	
Astrangia solitaria						#			!		!																
Stephanocoenia intersepta							#								!												
Scolymia wellsi							#														!					!	
Isophyllia rigida						#	!				#			!							!						
Isophyllia sinuosa						!	!		!		!							!							!	!	
Isophyllia rigida — I. sinuosa							!							!	!												

Table 5. Continued.
Taxa distribution in the east coast of the Yucatán Peninsula

KEY

COLLECTED	OBSERVED
! Present	# Present
& Dominant	% Dominant
'' Highly Dominant	$ Highly Dominant

TAXON \ STATION	Isla Che, S Isla Contoy			Isla Mujeres						Punta Nizuk					"Bajo" Finduvet					Punta Petempich				
	130	130a	131a	131	127 Roca la Carbonera	124 Los Manchones	125 El Garrafón	126 Roca la Bandera	128 El Manchón de Roca la Bandera	129 El Manchón de Chital	122	122a	123	121	121a	120	119b	119a	118	117b	117a	104	103	102	108b	108a
Mycetophyllia lamarckiana						#							!							!						
Dendrogyra cylindrus								!	#				!													
Dichocoenia stokesi				!		!		!						!		!				!				!	&	
Meandrina meandrites						!		!	!							!				!				!	!	
Meandrina meandrites — M. brasiliensis																									!	
Eusmilia fastigiata						!										#	!			!						
Agaricia agaricites					!											!	!									
Agaricia lamarcki					!	!			!	!			!							!					!	
Agaricia tenuifolia					#								#	!			!			!					!	
Agaricia sp.				!	!	!		!	!	!			!	!		!	!			!				!	!	
Helioseris cucullata																										
Siderastraea radians	#			!	#	!	#		!		!		#									!			!	
Siderastraea radians "rolling stones"																						!				
Siderastraea siderea	!			!	!	!		!			!			!		!			!	!				!	!	
Porites astreoides	!			!	!	!	#	!	!	!	!			!			!		!	!		!				
Porites divaricata					!									!			!		!	!		!				
Porites porites — P. furcata				!	!	!	#	#	!	!				!	%		&		!	!		!	!	!		
Millepora sp.	!			!	!	#	#	!		!		!	!			!			!	!		!		!&	!	

Table 5. Continued.
Taxa distribution in the east coast

KEY

COLLECTED
! Present
'' Highly Dominant

OBSERVED
Present
% Present
$ Highly Dominant

TAXON / STATIO	Puerto Morelos, U.N.A.M.								Puerto Morelos					Punta Brava				Punta Maroma					Tulum			Punta Allen			Mahahual		
	132	32	31	109	33	107	105	106	5	6	6a	34	35	110a	110b	111b	111a	116	115	114b	114a	113	112	140a	140	139	138	137b	137a	136	135	134	133
Acropora cervicornis		!		!	!				#	!	!					!				#	#					!			!	!	$%	!	!
Acropora palmata		&	''	''	!				!&	!	!		''	$	!			$	"&	''	&			$ %				!	$	!		#	
A. prolifera = A. cervicornis + A. palmata				!																!	!								#				
Madracis auretenra						!	!	!														!				!	!			!		!	!
Madracis decactis																											!						
Madracis auretenra — M. decactis																										!				!			
Favia fragum					!				!			#	#							!	!	!									!		
Diploria clivosa		!	!	!	!	!			!	!	!			!	!	!				!	!				!	!			!			!	!
Diploria labyrinthiformis						!				#			!													!				#		!	
Diploria strigosa		!	!		!					!	!		!			!									!	!			!		!	!	!
Diploria clivosa — D. strigosa		!	!		!				#	!		#						#							&			!	!	!	!	
Colpophyllia natans							#			#	&	#	!										#						#			#
Manicina areolata	#	!					!		!			#			&																		
Montastraea annularis s.l.		!		!		!			&	''	''		!	!	$	#		%				!				!	!		!	!	!	!	!
Montastraea cavernosa		!			!	!	!	!		!	!		!	#		!	#			!	!		#		!	!	!		!	!	!	!	!
Astrangia solitaria												!														!							
Stephanocoenia intersepta		!			!	!	!	!		!		#	!		#							!				!			#			!	
Scolymia cubensis																											!						
Scolymia wellsi							!	!			!															!				!			!
Mussa angulosa						!	!																							!			
Isophyllia rigida										!	#		!							#	#	!				#			#			!	
Isophyllia sinuosa		!		!	!				!	!	!		!							!	!					!			!		!		
Isophyllia rigida — I. sinuosa					!					!	!		!			!				!	!	!				!							
Mycetophyllia aliciae						!	!																				!						

Table 5. Continued.
Taxa distribution in the east coast of the Yucatán Peninsula

KEY

COLLECTED	OBSERVED
! Present	# Present
& Dominant	% Dominant
'' Highly Dominant	$ Highly Dominant

	Puerto Morelos, U.N.A.M.								Puerto Morelos					Punta Brava				Punta Maroma						Tulum				Punta Allen			Mahahual		
TAXON \ **STATION**	132	32	31	109	33	107	105	106	5	6	6a	34	35	110a	110b	111b	111a	116	115	114b	114a	113	112	140a	140	139	138	137b	137a	136	135	134	133
Mycetophyllia danaana													!																				
Mycetophyllia ferox																														!			
Mycetophyllia lamarckiana					!	!	!						!													!			!	!		!	!
Mycetophyllia sp.						!	!			!			!														!					!	!
Dendrogyra cylindrus																!										!						!	
Dichocoenia stokesi					!	!	!			!	!	#				!				!	!	!				!			!			!	!
Meandrina meandrites						!	!			!	!		!			!										!	!			!		!	
Meandrina meandrites — M. brasiliensis						!	!	!																									!
Meandrina meandrites — M. memorialis																										!						!	
Eusmilia fastigiata						!			!	!	!	#	!			!										!					!	#	
Agaricia agaricites			!			!				!	!					#										!	#		#			!	
Agaricia lamarcki						!		!		!	!		!								!	!					#		!	!		#	!
Agaricia tenuifolia		&	!	#					&	!	&		!		!		#	!		&	!								!	!	&	!	
Agaricia sp.				!	!	!		!		!	!	#	!			!						!				!	!		!				!
Helioseris cucullata						!	!						!														!						!
Siderastraea radians									!	!			!	!	!	#						#									#		
Siderastraea radians "rolling stones"																																	
Siderastraea siderea		!	!		!	!	!	!	#	!	!		!	!		!						!	#			!	!		!		!	#	!
Siderastraea siderea "rolling stones"					!																				!								
Porites astreoides		!	!		!	!	!	!	!	!	!	#	!	!		!		!	&	!	!	!			!	!	!		!	!	!	!	!	!
Porites divaricata		!			!		!	#	!	!	!			!				!				#			!	!			!					
Porites porites — P. furcata		!		!	!		!		!	!	!	#	!	!	!	!		!		!	!	!			!	!			!	!	!	!	!	!
Millepora sp.			!	!	!	!	!		!	!		#	!	!		!			&						&	!			!		!	!	

Table 6.
Taxa distribution in Cozumel Island.

KEY

COLLECTED
■ Present
◨ Dominant
■ Highly Dominant

OBSERVED
⦿ Present
◑ Dominant
● Highly Dominant

Chankanaab

TAXON \ STATION	Barracuda 57	San Juan 53	La plataforma undida 58	Dock in front of Hotel Ceiba 59	Plane in front of Hotel Ceiba 60	Paraíso 51	Paraíso 47	Dzul-Ha 76	Dzul-Ha 75	Reef 8	Reef 9	Cabezos 15	Laguna 4	Cave 14	Cebrada 10	Tormentos 52	Yucab 50	Tunich 11	Tunich 12	Cardona 3	San Francisco 13	San Francisco 56	Santa Rosa 2	Santa Rosa 2a	Paso del Cedral 54	Palancar — Las Catedrales 1c	Palancar — Las Catedrales 1d	Palancar — Las Catedrales 1a	Palancar — Las Catedrales 1b	Colombia 48	Colombia 49	Maracaibo 55
Acropora cervicornis							!				!	''	''							''									''			
Acropora palmata												''	''																			
Madracis auretenra	!					!	!			!	!	''				!	!	!	!		!	!	!	!	!	!	!	!	!	!		!
Madracis decactis						''																	''	''								
Madracis auretenra — M. decactis	!				#		!												!							''		''	!		!	
Favia fragum			''			!	!	''	''			''					!	!			!	!	!	!	!				!	''	!	
Diploria clivosa							!																!						!	!		
Diploria labyrinthiformis			''				!	''	''	!	!	''	''			''	!	!		''				!				''	''			!
Diploria strigosa										!	!						!						!	!					!			!
Diploria clivosa — D. strigosa			''	''		!		''				''	''		''	''		!		''		!						''	!			
Colpophyllia natans							!			!	!	''				''	''		!	''			!	!				!	!		!	!
Manicina areolata																							!	!	!							!
Montastraea annularis s.l.	!		''			!	$	''	''	$	$	%	''		''	!	''	!	!	''		!	!	!				!	!		$	
Montastraea cavernosa	!		''			!	!	''								!	!	!	!	''	!	!	!	!	!	!		''	!	!	!	!
Astrangia solitaria														!																		
Colangia immersa														!																		
Stephanocoenia intersepta			''			!	''					''					''			''	!			!	''				!		''	!
Scolymia cubensis												''																				
Scolymia lacera												''																!				
Scolymia wellsi										!		''					''					!	!		!			!			!	
Mussa angulosa																												!				

Table 6. Continued.
Taxa distribution in Cozumel Island.

KEY

COLLECTED
- ■ Present
- ◨ Dominant
- ■ Highly Dominant

OBSERVED
- ⦿ Present
- ◑ Dominant
- ● Highly Dominant

TAXON \ STATION	57	53	58	59	60	51	47	76	75	8	9	15	4	14	10	52	50	11	12	3	13	56	2	2a	54	1c	1d	1a	1b	48	49	55
	Barracuda	San Juan	La plataforma undida	Dock in front of Hotel Ceiba	Plane in front of Hotel Ceiba	Paraíso		Dzul-Ha		Reef	Reef	Cabezos	Laguna	Cave	Cebrada	Tormentos	Yucab	Tunich		Cardona	San Francisco		Santa Rosa		Paso del Cedral	Palancar — Las Catedrales				Colombia		Maracaibo
								Chankanaab																								
Isophyllia rigida		⦿				■	⦿	⦿	⦿			⦿					⦿				⦿		■		⦿			⦿	■		■	
Isophyllia sinuosa							■				■	⦿									⦿		⦿	■	■				⦿		■	
Isophyllia rigida — I. sinuosa	■	■				■	■				■						■	■			■	■	■	■	■			■	■		■	
Mycetophyllia aliciae																	■						■	■				■				
Mycetophyllia danaana										■													■					■	■		■	
Mycetophyllia lamarckiana	■					■	■			■		⦿				■	■	■	■			■	■	■	■	■		■	■	■	■	
Mycetophyllia sp.						■				■							■					■	■	■	■		■	■	■	■	■	
Dendrogyra cylindrus												⦿																				
Dichocoenia stokesi		⦿	⦿			■	■	⦿	⦿	■	■	⦿	⦿		⦿	■	⦿	■		⦿	■	■	■	■	■				■	■	■	
Meandrina meandrites	■	■				■	■			■	■	⦿				■	■	■	■	⦿	■	■	■	■	■	■	■	■	■	■	■	
Meandrina meandrites — M. brasiliensis																■																
Meandrina meandrites — M. memorialis							■			⦿	■											■			■		■					
Thalamophyllia riisei														■																		
Rhizosmilia maculata														■																		
Eusmilia fastigiata	■		⦿	⦿		■	■	■		■	■	⦿	⦿		⦿	■	■	■	■	■	■	■	■	■	■				■	■	■	
Gardineria minor														■									⦿					■				
Agaricia agaricites											■	⦿	⦿							⦿		■						⦿	■			

Table 6. Continued.
Taxa distribution in Cozumel Island.

KEY

COLLECTED
■ Present
◨ Dominant
■ Highly Dominant

OBSERVED
⦿ Present
◑ Dominant
● Highly Dominant

TAXON \ STATION	Barracuda	San Juan	La plataforma undida	Dock in front of Hotel Ceiba	Plane in front of Hotel Ceiba	Paraíso	Chankanaab: Dzul-Ha	Chankanaab: Reef	Chankanaab: Reef	Chankanaab: Cabezos	Chankanaab: Laguna	Chankanaab: Cave	Chankanaab: Cebrada	Chankanaab: Tormentos	Yucab	Tunich	Cardona	San Francisco	Santa Rosa	Paso del Cedral	Palancar — Las Catedrales				Colombia	Maracaibo
	57	53	58	59	60	51 47	76	75	8	9	15	4	14	10	52	50	11	12	3	13	56	2	2a	54	1c	1d	1a	1b	48	49	55
Agaricia lamarcki						■			■							■	◨	◨	●	■		■	⦿	⦿	⦿		■		■	■	●
Agaricia tenuifolia		◨				◨ ◨	⦿		■	■	●			●	⦿	◨	◨	◨	●	■	■	■	■	◨			●	■	● ⦿	◨	●
Agaricia sp.		■				■			■	■					■					■		■	■								
Helioseris cucullata	■															■	■			■	■	■	■	■	◨	■	●	■	■	■	■
Siderastraea radians			●			■	●		●	■				●	●			■				●	●	■				■		■	
Siderastraea siderea						■	●		■	■	●	●		●	■	■	■			■	■	■	■	■	■	■	●	■	■	■	■
Siderastraea siderea "rolling stones"																															
Porites astreoides	■	■	●			■	●	◨	■	■	●	●		●	■	■	■	■	●			■	■	■		■	■	■	■	■	■
Porites divaricata	■	■		■												■	■			■		■	■	■			■		■	■	■
Porites porites — P. furcata	■	◐				■			■	■	●		■	■	■	●			●	■	■	■	■	●			■	■	■	■	■
Millepora sp.				◑	◐	■	●	◨	■	■	●			●	■	●			●	●		■	■				■	■			

Table 7.
Taxa distribution in Chinchorro Bank.

KEY

COLLECTED	OBSERVED
! Present	'' Present
% Dominant	$ Dominant
& Highly Dominant	# Highly Dominant

	Chinchorro Norte							Chínchorro Centro, East			Chínchorro Centro, East			Chínchorro Centro, West		Chínchorro Sur					Chínchorro Sur, W of the Lighthouse of Cayo Lobos						
TAXON \ **STATION**	**101**	**100b**	**100a**	**99**	**98**	**97**	**96**	**92b**	**92a**	**91**	**90**	**89**	**88a**	**88b**	**87**	**93**	**94**	**95**	**81**	**78**	**85**	**84**	**82**	**77**	**83**	**86a**	**86b**	**86c**	**80**	**79**
Acropora cervicornis				!	!	''	!								!			!						!	!				!	!
Acropora palmata					!	#								$					!				!		''	''		%	!
Madracis auretenra				!											!		!		!	!	!								
Madracis decactis																	!		!			!							
Madracis auretenra — M. decactis																''				!									
Favia fragum	!	!			!	!		!			!	!		!				''			!		!	!	!	''	''		!	!
Diploria clivosa				!							!	''		!				!			!			!	!				!	!
Diploria labyrinthiformis				!											''			!						!	!					!
Diploria strigosa		!					!	!			!	!		!	!			!						!	!				!	!
Diploria clivosa — D. strigosa					''					''													!				!			!
Colpophyllia natans				!			!	!		!	!						''		!	''		''		''						''
Manicina areolata	!										!											!		!	!					
Montastraea annularis s.l.		!		%	!	''		$		%				!	!		!	!	!	!	!	%	%	&	%				!	%
Montastraea cavernosa		!		!			!				!				!	!%	''	''	!	!	!	!		''			!			!
Astrangia solitaria													%	!																
Stephanocoenia intersepta					''	''	!	''	$		!							!	!	!	!	!						''	!	
Scolymia cubensis															!															
Scolymia wellsi	!			!			!			!	!						!		!			!		!						
Mussa angulosa				!											!		!				!				!					
Isophyllia rigida					!	''	!			!								''			!			!	!				!	!
Isophyllia sinuosa				''	!	!				!				!	!									!	!		!			!
Isophyllia rigida — I. sinuosa				!	!													!						!			!			!

Table 7. Continued.
Taxa distribution in Chinchorro Bank.

KEY

COLLECTED	OBSERVED
! Present	'' Present
% Dominant	$ Dominant
& Highly Dominant	# Highly Dominant

TAXON \ STATION	101	100b	100a	99	98	97	96	92b	92a	91	90	89	88a	88b	87	93	94	95	81	78	85	84	82	77	83	86a	86b	86c	80	79
	Chinchorro Norte							Chínchorro Centro, East				Chínchorro Centro, East				Chínchorro Centro, West		Chínchorro Sur						Chínchorro Sur, W of the Lighthouse of Cayo Lobos					
Mycetophyllia aliciae																!														
Mycetophyllia danaana																	!													!
Mycetophyllia lamarckiana				!	!		!				!				!		!			!	!	!		!	!					!
Mycetophyllia sp.						!	!			''	!				!	!	!		!		!	!		!	!		!			!
Dendrogyra cylindrus																					!			''						!
Dichocoenia stokesi		!		!	!	''		!	!		!				!		!	!	!		!	!		!	!				!	
Meandrina meandrites							!				!			!	!	!	!				!									
Meandrina meandrites — M. brasiliensis											!						!													
Meandrina meandrites — M. memorialis											!						!		!											
Eusmilia fastigiata		!		!				!		!	!				!	!	!				!	!		!	!					!
Gardineria minor																	!													
Agaricia agaricites				!		!		!		!					!		!	''		''		!		!	!				!	
Agaricia lamarcki		''		!	!	''	!	!		!	!			!		%!	!	''	!	!	!		!	!					!	
Agaricia tenuifolia		!			!	$	!	''		!	!	!		%	!	''		''					%			%			%	
Agaricia sp.		!		!	!			!		!					!	!	!		!	!			!	!	!		!			!
Helioseris cucullata							!				!				!	!	!	!	!											
Siderastraea radians						''		!																!				!	!	
Sideratraea siderea		!		!	!		!	!		!				!		!		''		!	!	!		!	!				!	!
Porites astreoides	!	!		!		!	!	!	!	!	!	!		!	!			''				!	!	!		!	!		!	!
Porites divaricata	!	!			''										!		!								!					
Porites porites — P. furcata	!	!		!	''			!		!		!		!	!		!	!				!	!	!	!	''	''		!	!
Millepora sp.		!		!	!	!						!	&	&							!				!	%				