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An annotated bibliography of recent papers on corals and coral reefs

by

John D. Milliman

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AN ANNOTATED BIBLIOGRAPHY OF RECENT PAPERS ON CORALS AND CORAL REEFS*

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INTRODUCTION

The articles and books concerned with corals and coral reefs number well into the thousands. In order to bring these works to the attention of the scientific community, many bibliographies have been attempted. The most recent and most complete was compiled by Gilbert Ranson (1958. Coraux et récifs coralliens: Bull. Inst. Monaco, No. 1121: 80 pp.), largely borrowed from bibliographies published in papers by J. W. Wells. Ranson has cited over 1500 articles published prior to 1958. References to other bibliographies are made at the end of this paper.

The increasing number of recent articles published on corals and coral reefs requires the issuing of a new bibliography, which takes up where Ranson left off. Because the study of carbonate and carbonate-secreting organisms has reached a high degree of research effort, another compilation will undoubtedly be required in a few years.

A bibliography on corals and coral reefs might include everything written on the subject, but this compilation is prejudiced toward the geological aspects of the subject, dealing mostly with Madreporarian

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corals and modern reefs. Articles concerning other organisms are referred to only when the organisms affect the corals, their ecology, or their related sediments. Ancient reefs are cited only when they are associated with an area of present-day reef growth.

The papers are here categorized into specific subjects of certain technical or geographic problems. In cases where the paper cited deals with multiple subjects, the compiler has placed it in that category which seems most pertinent.

Over 80 percent of the citations have been annotated. Articles that were not read, either in complete or abstract form, are denoted by an asterisk (*). Annotations were excluded also from some citations in which the subject matter was explicit in the title.

ACKNOWLEDGEMENTS

The compiler is grateful to Dr. G. A. Rusnak, of The Marine Laboratory, University of Miami, for having initiated the project and for references, criticisms and support in organizing this bibliography, and to Dr. J. E. Hoffmeister, of The Marine Laboratory, University of Miami, for critical help with the compilation. The references have been collected as a part of associated studies carried out under various contracts with the National Science Foundation, and the Office of Naval Research, Contract No. Nonr-4008(02).

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I. GEOLOGICAL FEATURES -- REEFS, ATOLLS AND THEIR SEDIMENTS

1. General

BOOLOOTIAN, R. A.

1963 Biology of coral atolls: BSCS Pamphlet No. 10. Amer. Inst. Biol. Sci.; D. C. Heath and Co. 36 pp. (A simplified approach to the subject of atolls for pre-college students.)

CLOUD, P. E., Jr.

1953 A general explanation for the superficial characteristics of existing organic reefs: Science, Vol. 117: p. 466. (The eustatic fall in sea level has caused the truncation of pre-existing reefs, the development of new reefs, and the emergence of habitable, low islands.)

1957 Nature and origin of atolls: Proc. 8th Pac. Sci. Congr. 3A: pp. 1009-1036. (A general treatment of locations and origins of atolls.)

DANA, J. D.

1851 Forms and special features of coral islands: Amer. Jour. Sci., Vol. 12.*

DARWIN, C.

1962 Coral Islands (with introduction, map and remarks by D.R. Stoddart): Atolls Res. Bull., No. 88: 20 pp. (The Darwinian theory of coral atoll formation.)

FAIRBRIDGE, R. W.

1958 Dating the latest movements of the Quaternary sea level: Trans. N.Y. Acad. Sci., Series II, Vol. 20; pp. 471-482. (Eustatic sea-level changes and their relationship to atolls.)

1961 Eustatic changes in sea-level: Physics and Chemistry of the Earth. Vol. 4: pp. 99-185. (This article is included in the bibliography because it logically presents the different mechanisms which have been explained as sea-level changes. An integrated theory is presented, and is supported by evidence gathered by various investigators. An extensive bibliography is included.)

FOSBERG, F. R.

1957 Some geological processes at work on coral atolls: Trans. N. Y. Acad. Sci. Series II, Vol. 19: pp. 411-422. (The geological processes seen on a coral atoll are catagorized into constructive, stabilizing and destructive processes; each one is discussed. Different methods of islet formation are also discussed.)

FOSBERG, F. R. and M.-H. SACHET
1954 Handbook for atoll research (second preliminary edition): Atoll Res. Bull., No. 17: 129 pp. (Excellent reference for methods of studying coral reefs and atolls.)

HASS, H.
1962 Central subsidence. A new theory of atoll formation: Atoll Res. Bull., No. 91: 4 pp. (Also in: New Scientist, 1962, No. 311, pp. 266-268.) (The collapsing of branching coral results in the deepening of lagoons.)

LADD, H. S.
1961 Reef building. The growth of living breakwaters has kept pace with subsidence and wave erosion for 50 million years: Science, Vol. 134 (3481): pp. 703-715. (A general approach to coral reefs, their structure and origin.)

MA, T. Y. H.
1956 Coral-reefs and the problem of sial in oceanic areas: Oceanographica Sinica, Vol. 3: 4 pp. (Sial in oceanic areas may result from the granitization of reef material.)

MENARD, H. W. and H. S. LADD
1963 Ocean islands, seamounts, guyots and atolls: in Hill et al., The Sea, Vol. III: pp. 365-387. (Each of these features is discussed and then related to one another as evolutionary steps.)

NEWELL, N. D.
1959a The questions of coral reefs: Nat. Hist., Vol. 68(3): pp. 118-131. (A general look at coral reefs and their origins.)

1959b The biology of corals: Nat. Hist., Vol. 68(4): pp. 226-235. (A general discussion of the biology of corals. Relates Pacific coral reefs to West Indian reefs.)

RUSSELL, R. J., ed.
1961 Pacific Island terraces: Eustatic?: Zeit. Geomorph., Supplement 3: 106 pp. (Contains 12 articles on elevated shorelines and terraces around the world. Of particular interest are:
Eustatic shorelines of Pacific islands, by H. T. Stearns.
Mauritius: River-mouth terraces and present eustatic sea stand, by W. G. McIntire.

Recent terraces of tropical limestone shores, by N. D. Newell.)

SACHET, M.-H.
1955 Pumice and other extraneous volcanic materials on coral atolls: Atoll Res. Bull., No. 37: 27 pp. (Origins and methods of transport to atolls are discussed.)

SCHEER, G.
1959 Contributions to a German reef-terminology: Atoll Res. Bull., No. 69: 4 pp. (English atoll terms with German counterparts.)

SHEPARD, F. P.
1963 Submarine Geology: Harper Row, Publishers, New York. 557 pp. (A general review of coral reefs and atolls, with a section on the origin of atolls.)

STEERS, J. A.
1945 Coral reefs and air photography: Geog. Jour., Vol. 106: pp. 232-235. (Discusses different aspects of coral reefs which can be studied in greater detail and insight if aerial photography is used. These aspects include morphology, wave patterns, fringing reefs, etc.)

TEICHERT, C.
1958 Cold and deep-water coral banks: Bull. Amer. Asoc. Petrol Geol., Vol. 42(5): pp. 1064-1082. (Deep- and cold-water reefs can form "organic reefs" up to 200 feet thick and 1½ square miles in area. A few examples of modern and ancient reefs are given.)

WIENS, H. J.
1959 Atoll Development and morphology: Annals Assoc. Amer. Geogr., Vol. 49: pp. 31-54. (A theory of atoll development presented; linked to eustasy. Also discusses types of erosion, formation of groove-spur system, and the formation of beach rock.)

1961a The role of mechanical abrasion in the erosion of coral reefs and land areas: Proc. 9th Pac. Sci. Congr., 1957, No. 12: pp. 361-366. (Destructive agencies appear to play an extremely important role on the windward parts of coral reefs. Spurs and grooves are probably formed by mechanical erosion.)

1961b The evolution and destruction of atoll land: Proc. 9th Pac. Sci. Congr., 1957, No. 12: pp. 367-376. (The

effects of relative rises and falls of sea level on atoll origin and the evolution of atoll land are discussed. The text is mainly a review of previous workers, but personal observations are also added.)

1962 Atoll Environment and Ecology. Yale Univ. Press, New Haven. 532 pp. (A good basic reference, dealing mainly with the geography, ecology, geomorphology and meteorology of Pacific Atolls. In effect, it condenses American studies in the Pacific since 1945.)

YABE, H.

1942 Coral reef problem (in Japanese): Mem. Geol. Paleont. Inst. Tohoku Imp. Univ., Vol. 39: pp. 1-6. (Dominant growth is limited to the under-sea margin. Conclusions are reached from studies, made mainly by the author, on Pacific islands.)

1947 Coral reef problem: Science of the Earth, Vol. 2(3): pp. 41-42. (Discussion of the inter-relationship between Darwin's and Daly's hypotheses.)

YONGE, C. M.

1963 The biology of coral reefs; in Russell: Advances in Marine Biology. Academic Press Inc., London. pp. 209-260. (An excellent review of recent advances in the study of corals and coral reefs. The emphasis is on ecology.)

2 A. Indo-Pacific reefs and atolls

ALLDREDGE, L. R., F. KELLER, and W. J. DICHTEL

1954 Magnetic structure of Bikini Atoll: U. S. Geol. Surv. Prof. Paper 260-L: pp. 529-535. (Studies show a broad, negative anomally of 750 gammas over Bikini Atoll. A contour map shows the relative thickness to basement, interpreted from a model and field observations.)

ASAHINA, H.

1931 On the coral reefs of the South Seas: Jour, Geog. (Jap.), Vol. 43(508): pp. 337-349. (Average reef growth is about 4 centimeters/year.)

ASANO, K.

1940 Limestones of the South Sea Islands under the Japanese Mandate: Jap. Jour. Geol. and Geog., Vol. 17(58).*

ASANO, K. (cont'd)
1942 Coral reefs in Oceania: Mem. Geol. Paleont. Inst. Fac. Sci. Tohoku Imp. Univ., Vol. 39: pp. 27-45.*

AVIAS, J.
1959 Les récifs coralliens de la Nouvelle-Calédonie et quelques - uns de leur problèmes: Bull. Soc. Geol. France ser. 7, vol. 1: pp. 424-430. (The main reef is a barrier reef, but other reef types are present.)

BATES, M. and D. P. ABBOTT
1958 Coral Island. Portrait of an Atoll. Charles Scribner's Sons Co., New York. 254 pp. (A popularized treatment of the scientific investigation of Ifaluk Atoll.)

BATTISTINI, R.
1959 Observations sur les récifs coralliens du sud-ouest de Madagascar: Bull. Soc. Geol. France ser. 7, Vol. 1: pp. 341-346. (A description of small lagoons formed by the coalescing of corals in Ramanetaka Bay. The fringing reef on the S. W. coast of Madagascar is trending towards a barrier reef because of present day conditions.)

BOSCHOFF, P. H.
1958 Development and constitution of the coral reefs in McNae and Kalk; in A Natural History of Inhaca Island, Mozambique. Johannesburg. pp. 49-56.*

CATALA, R.
1955 Iles basses corralliens et organisms marins du Pacific: Bull. Soc. Zool. France, Vol. 80(4): pp. 225-227. (resume of a general talk on the Gilbert archipelago.)

CHEVALIER, J.-P.
1964 Compte rendu des missions effectuées dans le Pacifique en 1960 et 1962, (Mission d'études des récifs coralliens de Nouvelle-Calendonie): Cahiers du Pacif., No. 6: pp. 171-175. (Review of the basic objectives of the coral reef studies in the New Caledonia area.)

CHRISTIANSEN, S.
1963 Morphology of some coral-cliffs, Bismark Archipelago: Geograf. Tidsskr., Vol. 62: pp. 1-23.*

CHUBB, L. J.
1957 The pattern of some Pacific island chains: Geol. Mag., Vol. 94(3): pp. 221-228. (Suggests a series of growth stages developing from the volcano to atoll stage, moving progressively along the chain.)

CLOUD, P. E., Jr.
1959 Geology of Saipan, Mariana Islands. Part 4. Submarine

Geology. U. S. Geol. Surv. Prof. Paper. 280-K: pp. 361-445. ("Description and interpretation of the submarine topography and of the sediments, biotas, and morphology of the reef complex adjacent to a geological diverse tropical island." The spurs and grooves seem to be erosional features.)

CLOUD, P. E., Jr., R. G. SCHMIDT, and H. W. BURKE
1956 Geology of Saipan, Mariana Islands. Part 1. General geology: U. S. Geol. Surv. Prof. Paper 280-A: pp. 1-126. (About 1500 feet of sediments, Miocene through Recent, overlie an andesitic volcano. Later limestones include reef complexes.)

COLE, W. S.
1957a Larger Foraminifera from Eniwetok Atoll drill holes: U. S. Geol. Surv. Prof. Paper 260-V: pp. 743-784. (62 species are identified; most were deposited in shallow water. Stratigraphic correlations are made between Eniwetok, Bikini, and Saipan.)

1957b Geology of Saipan, Mariana Islands. Part 3. Larger Foraminifera: U. S. Geol. Surv. Prof. Paper 280-I: pp. 321-360. (Tertiary fauna are listed and discussed.)

1963 Tertiary larger Foraminifera from Guam: U. S. Geol. Surv. Prof. Paper 403-E: 28 pp. (The distribution of diagnostic Tertiary species is given, along with their correlation to Saipan and the Eniwetok drill holes.)

COLE, W. S. and J. BRIDGE
1953 Geology and larger Foraminifera of Saipan Island: U. S. Geol. Surv. Prof. Paper 253: 45 pp. (A general study of Saipan Island; the oldest exposed rocks are Eocene lava flows. Some of the terraces on the island are uplifted reefs. A present-day fringing reef is, in places, quite healthy.)

CROSSLAND, C.
1911 Red Sea coral reefs: Jour. Linn. Soc. Zool., Vol. 31(208): pp. 265-286. (Regional uplift has affected the coral reefs as well as the physiography of the area. Modern reef distribution is related to currents and sediment movement.)

CUSHMAN, J. A.
1942 A report on the samples obtained by the boring at Heron Island, Great Barrier Reef, Australia: Great Barrier Reef Exped. Sci. Rept., Vol. 5: pp. 112-119.*

DORAN, E., Jr.
1960 Report on Tarawa Atoll, Gilbert Islands: Atoll Res. Bull., No. 72: 54 pp. (Includes a short discussion of the topography with a series of charts and aerial photos.)

DORBIN, M. B.
1950 Submarine geology of Bikini Lagoon as indicated by depression of water-borne explosive waves: Bull. Geol. Soc. Amer., Vol. 61: pp. 1091-1118. (Techniques and results of sound transmission and measures are given. A Halimeda facies change in the central portion of the lagoon explains the increase in sound velocity.)

DORBIN, M. B. and B. PERKINS, Jr.
1954 Seismic studies of Bikini Atoll: U. S. Geol. Surv. Prof. Paper 260-J: pp. 487-506. (Findings indicate a subsidence of between 3000 and 13,000 feet. The basement surface of the atoll seems to have more relief than guyots.)

DOUMENGE, F.
1961 Observations à propos des formations coralliennes de l'ile Wallis: Bull. Assoc. Geog. Franc.: pp. 186-196.*

EMERY, K. O.
1956 Sediments and water of Persian Gulf: Bull. Amer. Assoc. Petroleum Geol. Vol. 40(10): pp. 2354-2383. (Coral and oolite composes only a small amount of the sediment in the Persian Gulf. Reef locations are shown; charts also show distribution of salinity, temperature and sediment characteristics.)

1962 Marine geology of Guam: U. S. Geol. Surv. Prof. Paper 403-B: pp. B1-B76. (A detailed study of the reefs and sediments in the Guam area. Typhoon effects and beach studies are also included.)

FAIRBRIDGE, R. W.
1953 The Sahul Shelf, northern Australia; its structure and geological relationships: Jour. Roy. Soc. Western Aust., Vol. 37: pp. 1-33.*

FAIRBRIDGE, R. W. and C. TEICHERT
1948 Some coral reefs of the Sahul Shelf: Geog. Rev., Vol. 38(2): pp. 222-249. (Mainly an analysis of aerial photos of the reef area. Origins of the reef owed to subsidence with tilting, eustasy, and/or faulting.)

FAIRBRIDGE, R. W. and H. B. STEWART, Jr.
1960 Alexa Bank, a drowned atoll on the Melanesian Border

Plateau: Deep Sea Res., Vol. 7: pp. 100-116. (General trends of the area are described. Alexa Bank has some living pinnacles of reef coral, but most of the coral is dead. The raised rim feature surrounding a mild depression, and the generally steep outer slopes suggest a drowned atoll.)

FISCHER, P. H.

1961 Coup d'oeil sur la Grande-Barrière d'Australie et en particulier sur un récif du group du Capricorne: Cahiers Pacif., No. 3: pp. 52-74. ("...a brief glimpse at the Great Barrier Reef and its reefs." Mainly concerned with geomorphology and a review of the literature.)

FOSBERG, F. R., et al.

1956 Military geography of the Northern Marshalls: U. S. Army, Chief Eng. Intelligence Div.,Engineer Headqtrs. U. S. Army, Far East and Eighth U. S. Army. 320 pp. (Contains information that has not been published otherwise. Includes sections on the general geography, climate, geology and ecology, plus others. Most of the northern Marshalls are covered.)

GARDINER, J. S.

1900 The atoll of Minikoi: Proc. Camb. Phil. Soc., Vol. 11: pp. 22-26.*

GILLETT, K. and F. McNEILL

1959 The Great Barrier Reef and adjacent isles. Coral Press, Paddington, Sydney, Australia. 194 pp. (Mainly descriptive, but does contain some excellent pictures of coral reefs and corals. Also discusses some of the general geology of the area.)

GRESSITT, J. L.

1952 Description of Kayangel Atoll, Palau Islands: Atoll Res. Bull., No. 14: 6 pp. (A very general description of the atoll. Includes a bathymetric chart showing locations of coral heads.)

1953 Notes on Ngaruangl and Kayangel Atolls, Palau Islands: Atoll Res. Bull., No. 21: 5 pp. (A very brief description of the morphology of Ngaruangl Atoll.)

GROVER, J. C.

1960 The geology of Rennell and Bellona, the great uplifted atolls on the edge of the Coral Sea; in T. Wolff: The Natural History of Rennell Island, British Solomon Islands, Vol 3. Botany and Geology. pp. 103-119. (The rim of coral

limestone is 360 feet above sea level; fossil algae and Foraminifera are listed.)

GUILCHER, A.
1956 Etude géomorphologique des récifs coralliens du nordouest de Madagascar: Ann. Inst. Oceanog. (Paris), No. 33: pp. 65-136.*

1958 Mise au point la géomorphologie des récifs coralliens de Madagascar et dépendances. Mem. Inst. Sci. Madagascar, Ser. F - Oceanog., No. 2: pp 89-115. (Maximum growth was post-glacial; present growth is peripheral.)

1959 Les récifs coralliens à petits lagons multiples de la baie Ramanetaka (Côte nord-ouest de Madagascar): Bull. Soc. Geol. France. Ser. 7, Vol. 1: pp. 337-340. (A description of small lagoons formed by the coalescing of corals in Ramanetaka Bay.)

1963 Quelques caracteres des récifs-barrieres et de leurs lagons: Bull. Assoc. Geogr. France, Vol. 314-315: pp. 2-16. (Abstracted in Cahiers du Pacif., no. 6: p. 200). (The origin of double barrier reefs, faros and spurs and grooves are discussed. Algal ridges were not found on the barrier reefs of New Caledonia.)

GUILCHER, A. and L. BERTHOIS
1955 Les recifs coralliens du nord du Banc Farsan, Mer Rouge: Ann. Inst. Oceanog. (Paris), No. 30: pp. 1-100.*

GUILCHER, A. L., L. BERTHOIS, R. BATTISTINI and P. FOURMANOIR
1958 Les recifs coralliens des iles Radama et de la baie Ramanetaka (cote nord-ouest de Madagascar; etude géomorphologique et sedimentologique: Mem. Inst. Sci. Madagascar, Ser. F. - Oceanog., No. 2: pp. 117-199.*

HAEBERLE, F. R.
1952 The d'Entrecasteaux Reef group: Amer. Jour. Sci., Vol. 250: pp. 28-34. (It is probable that this reef group is an excellent example of an antecedent platform origin.)

HAMILTON, E. L.
1956 Sunken islands of the Mid-Pacific mountains: Geol. Soc. Amer. Memoir 64: 97 pp. (Cretaceous reef corals were dredged from the tops of guyots. This supports Darwin's Subsidence Theory for the formation of atolls.)

HAMILTON, E. L. and R. W. REX
1959 Lower Eocene phosphatized Globigerina ooze from Sylvania

Guyot: U. S. Geol. Surv. Prof. Paper 260-W: pp. 785-798. (Sylvania Guyot has a flat top at 705 fathoms. It is probable that Sylvania was eroded to a level bank and subsequently subsided.)

HANZAWA, S.

1940 On the problems of coral reefs of the South Sea Islands: Science of the Ocean,: pp. 470-485. (Among the problems discussed are the classification of reefs, the origin of spur-groove zones, the formation of islands on atolls, and the origins of beach rock by evaporation of sea water.)

JOHNSON, J. H.

1957 Geology of Saipan, Mariana Islands. Part 2. Petrography of the limestones: U. S. Geol. Surv. Prof. Paper 280-6: pp. 177-187. (The limestones are mainly algal-foraminiferal and coral-algal, indicative of old reefs. Excellent plates are included, to illustrate the different types of limestones.)

1957 Geology of Saipan, Mariana Islands. Part 3. Calcareous algae: U. S. Geol. Surv. Prof. Paper 280-E: pp. 209-246. (Includes recent algae.)

1962 Comparison of the calcareous algal floras of recent and fossil reefs: Proc. 9th Pac. Sci. Cong., 1957, Vol. 4: pp. 156-160. (Includes distribution charts of recent and Eocene coralline algae in the Pacific area as well as a chart showing the geologic range of recent coralline algae genera.)

1964 Fossil and recent calcareous algae from Guam: U. S. Geol. Surv. Prof. Paper 403-G: 40 pp. (68 species from 16 genera are described along with ecological and stratigraphic distributions. All formations are abundant in algae.)

KOHN, A. J.

1964a Notes on Indian Ocean atolls visited by the Yale Seychelles Expedition: Atoll Res. Bull., No. 101: 12 pp.

1964b Notes on reef habitats and gastropod molluscs of a lagoon island at North Male Atoll, Maldives: Atoll Res. Bull., No. 102: 5 pp. (Lagoon islands form from faros. Observations support this theory.)

KUENEN, P. H.

1954 Eniwetok drilling results: Deep-Sea Res., Vol. 1: pp. 187-189.*

1956 Coral reefs of Indonesia: Pac. Sci. Congr. 8th, Philippines, Vol. 2A: pp 851-853. (Summarizes research since 1947,

and current problems.)

LADD, H. S.
1956 Coral reef problems in the open Pacific: Pac. Sci. Congr. 8th, Philippines, Vol. 2A: pp. 833-848. (Discussion of work carried out on coral reefs since 1945.)

LADD, H. S. and S. O. SCHLANGER
1960 Drilling operations on Eniwetok Atoll: U. S. Geol. Surv. Prof. Paper: 260-Y: pp. 863-903. (A summary of the lithology of 21 shallow wells and 3 deep wells. Compares the subsurface geology of Eniwetok with drill holes data from other areas.)

MA, T. Y. H.
1957 Marine terraces in the western Pacific and the origin of coral reefs: Oceanographica Sinica, Vol. 5(2). (Marine terraces and reefs are related to the pauses in crustal movements.)

McKEE, E. D.
1958 Geology of Kapingamarangi Atoll, Caroline Islands: Bull. Geol. Soc. Amer., Vol. 69: pp. 241-278. (Includes descriptions of atoll framework, sediments, reef and lagoonal structures, soils, and ground water.)

McNEILL, F.
1955 Coral paradise of One Tree Island: Austral. Mus. Mag., No. 11: pp. 404-408.*

MASON, A. C., et al.
1956 Military geology of Palau Islands, Caroline Islands: U. S. Army, Chief Eng., Intelligence Div., Headqtrs. U.S. Army Forces Far East (Tokyo): 285 pp. (cf. Tracey et al., 1964.)

NESTEROFF, W. D.
1955 Quelques résultats géologiques de la campagne de la "Calypso" en Mer Rouge (1951-1952): Deep-Sea Res., Vol. 2(4): pp. 274-283. (Origin of the Red Sea and a discussion of the origin and structure of coral reefs in the Red Sea.)

NIERING, W. A.
1961 Observations on Puluwat and Gaferut, Caroline Islands: Atoll Res. Bull., No. 76: 10 pp. (A very brief discussion of the geology of the island, supplemented by an aerial photo.)

NUGENT, L. W.
1948 Elevated phosphate islands in Micronesia: Bull. Geol. Soc. Amer., Vol. 59(10): pp. 977-994. (Describes 8 elevated atolls. The general geology and morphology affords agreement with the Glacial Control Theory.)

PICHON, M.
1962 Note preliminaire sur la topographie et la géomorphologie des récifs coralliens de la région de Tulear (Madagascar): Rec. Trav. Stn. Mar. Endoume Suppl., No. 1: pp. 153-168.*

1963 Rôle de la subsidence dans la formation des récifs-barriere sur la côte sud-ouest de Madagascar (région de Tulear): C. R. Acad. Sci. Paris, Vol. 256(4): pp. 980-981.*

PIGGOTT, C. J.
1961 Notes on some of the Seychelles Islands, Indian Ocean: Atoll Res. Bull., No. 83: 10 pp. (Classifies the islands according to their morphology, and discusses the geology of several.)

POPE, E. C.
1962 New Caledonia, the coral-ringed island: Australian Nat. Hist., Vol. 14(1): pp. 3-11. (Regional coral geology is included.)

RAITT, R. W.
1954 Seismic refraction studies of Bikini and Kwajalein Atolls: U.S. Geol. Surv. Prof. Paper 260-K: pp. 507-528. (Seismic velocities beneath Bikini lagoon vary laterally as well as vertically. This gives an insight into the history of the atoll.)

1957 Seismic refraction studies of Eniwetok Atoll: U. S. Geol. Surv. Prof. Paper 260-S: pp. 685-698. (Six layers of rock were recorded. The first two are carbonate; the rest were non-sedimentary. The sixth layer, 16-17 kilometers below sea level, is probably just below the Mohorovicic discontinuity.)

RANSON, G.
1958 Coraux et récifs coralliens. Observations sur les îles coralliennes de l'archipel des Tuamotu (Océanie Française): Cahiers Pacif., No. 1: pp. 15-36. (Different theories of atoll formation are reviewed, followed by a description of the elevated and modern reefs in the Tuamotus. Lagoon formation and the history of the Tuamotus are also mentioned.)

1962 Missions dans le Pacifique. Récifs coralliens. Hûitres perlières. Paris, Ed. Lechevalier, pp. 1-99. (Reviewed in Cahiers Pacif., No. 5, p. 87, and in Atoll Res. Bull., No. 100, pp. 4-5.) (Appears to be similar to the above article.)

REVELLE, R., et al.
1953 Shipboard report, Capricorn Expedition: Scripps Inst. Ref. 53-15: 60 pp. (The general description of the reefs and atolls visited. Of special interest is a photo of the coral on Falcon Bank, which has only recently submerged under water.)

SACHET, M. H.
1962a Geography and land ecology of Clipperton Island: Atoll Res. Bull., No. 86: 115 pp. (Weather and ocean currents are mentioned. Description of the different zones on the atoll; the Lithothamnion ridge is absent, and the lagoon is fresh water.)

1962b Monographie physique et biologique de l'île Clipperton: Ann. Inst. Oceanogr. n.s., Vol. 40(1): 107 pp. (Basically this is a French translation of Sachet, 1962a. But it does include photos of this "almost atoll".)

SCHLANGER, S. O.
1963 Subsurface geology of Eniwetok Atoll: U. S. Geol. Surv. Prof. Paper 260 BB: pp. 991-1066. (Contains sections on the carbonate mineralogy, petrology of the basement basalt, and dating of the carbonate rocks. The subsurface geology is compared to similar areas that have been studied.)

1964 Petrology of the limestones of Guam: U.S. Geol. Surv. Prof. Paper 403-D: 52 pp. (The limestones of Guam were formed predominantly by reef growth. The components of the entire Tertiary reef facies are essentially the same. 21 plates of petrographic illustrations are included.)

SHIPEK, C. J.
1962 Photographic survey of sea floor on southwest slope of Eniwetok Atoll: Bull. Geol. Soc. Amer., Vol. 73(7): pp. 805-812. (The observed rippled sediments suggest strong water movements.)

SHOR, G. C., Jr.
1964 Thickness of coral at Midway Island: Nature, Vol. 201(4925): pp. 1207-1208. (The results of a brief seismic refraction survey show a thickness of coral rock of about 370 meters.)

SHOR, G. C., Jr. and D. D. POLLARD
1963 Seismic investigations of Seychelles and Saya de Malha Banks, northwest Indian Ocean: Science, Vol. 142(3588): pp. 48-49. (The two areas are underlain with granite, and are capped with coral.)

SQUIRES, D. F.
1959 Results of the Puritan-American Museum of Natural History expedition to western Mexico. 7. Corals and coral reefs in the Gulf of California: Bull. Amer. Nat. Hist., Vol. 118(7): pp. 367-432. (Ecology of the reefs discussed; the fauna resembles the panamic faunal types and, to a lesser extent, the Indo-Pacific fauna. Formations are young due to the tectonic activity of the area.)

SUGIYAMA, T.
1942 Reef-building corals of Yap island and its fringing reefs: Mem. Paleont. Inst. Fac. Sci. Tohoku Imp. Univ., Vol. 39: pp. 7-26. (Description of the coral reefs of Yap, including a list of 75 species of coral.)

SWARTZ, J. H.
1958 Geothermal measurements, Eniwetok and Bikini Atolls: U. S. Geol. Surv. Prof. Paper 260-U: pp. 711-741. (The thermal properties of the atolls are largely the result of cooling by the adjacent sea water. Only in one well did the temperature increase at depth; the rate was 20°C/kilometer.)

1962 Some physical constants for the Marshall Islands area: U. S. Geol. Surv. Prof. Paper 260-AA. (Gives some geophysical constants for different sediment types encountered.)

TAYAMA, R.
1951 Geology of Angaru Island: Tohoku Univ. Inst. Geol. and Paleont., Short Papers, No. 3: pp. 91-108. (A raised atoll that went through stages of atoll, barrier reef and fringing reef.)

TEICHERT, C.
1950 Late Quaternary changes in sea-level at Rottnest Island, Western Australia: Proc. Roy. Soc. Victoria, Vol. 59(2): pp. 62-79. (Pleistocene coral reefs are overlain with aeolian dune limestone.)

TODD, R.
1957 Geology of Saipan, Mariana Islands. Part 3. Smaller Foraminifera: U. S. Geol. Surv. Prof. Paper 280-H: pp. 265-313. (Includes recent lagoonal fauna.)

TODD, R. and D. LOW
1960 Smaller Foraminifera from Eniwetok drill holes: U. S. Geol. Surv. Prof. Paper 260-X: pp. 799-861. (265 species are identified. Stratigraphic correlations agree with Cole, 1957, who stated that Eniwetok's formations are correspondingly shallower than Bikini's.)

TRACEY, J. I., D. P. ABBOTT, and T. ARNOW
1961 Natural history of Ifaluk Atoll; Physical environment: Bull. B. P. Bishop Mus., No. 222: pp. 1-75. (A summary of geologic and other physical features of Ifaluk Atoll.)

TRACEY, J. I., S. O. SCHLANGER, J. T. STARK, D. B. DOAN, and H. G. MAY
1964 General geology of Guam: U. S. Geol. Surv. Prof. Paper 403-A: 104 pp. (A study of the stratigraphy and geologic history of Guam. Also includes a chapter on the modern reefs.)

TRACEY, J. I., et al.
1959 Military geology of Guam, Mariana Islands. Part I. Description of terrain and environment. Part II. Engineering aspects of geology and soils: U. S. Army, Chief Eng., Intelligence Div., Headqtrs. U. S. Army Pacific (Tokyo): 282 pp. (cf. Tracey et al., 1964.)

VERSTAPPEN, H. T.
1953 Early and recent research on the coral island in the Bay of Djakarta: Tijdschr. Konink. Nederland. Aardrijkskundig Genootschap, Amsterdam, Vol. 70: pp. 472-478.*

1960 On the geomorphology of raised coral reefs and its tectonic significance: Zeit. Geomorph., Vol. 4(1): pp. 1-28. (A study of raised reefs, primarily in the Moluccas. Tectonic uplift explains the thinness of the reefs as well as the terracing.)

WIENS, H. J.
1956 The geography of Kapingamarangi Atoll in the eastern Carolines: Atoll Res. Bull., No. 48: 86 pp. (Includes history, topography, currents, climate, and a description of the individual islands.)

1957 Field notes on atolls visited in the Marshalls, 1956: Atoll Res. Bull., No. 54: 23 pp. (Contains scattered, general descriptions of morphologic forms the author observed on various atolls.)

ZANEVELD, J. S. and H. T. VERSTAPPEN
1952 A recent investigation about the geomorphology and the flora of some coral islands in the Bay of Djakarta: Jour. Sci. Res. Djakarta, Vol. 1(2): pp. 38-43; Vol. 1(3): pp. 58-66.*

2B. Atlantic Reefs and Atolls

ALLEN, J. R. L. and J. W. WELLS
1962 Holocene coral banks and subsidence in the Niger Delta: Jour. Geol., Vol. 70(4): pp. 381-397. (Banks of dead ahermatypic corals are compared with other areas.)

BOYD, D. W., L. S. KORNICKER and R. REZAK
1962 Recent algal bioherms near Cozumel Island, Mexico (abs.): Geol. Soc. Amer. Spec. Paper, No. 73: pp. 121-122. (Coralline algae are seen to build a series of microatolls, from 12 to 25 feet in diameter. Corals are not common. The species of algae are listed.)

BROOKS, H. K.
1962 Reefs and bioclastic sediments of the Dry Tortugas (abs.): Geol. Soc. Amer. Spec. Paper, No. 73: pp. 1-2. (Dry Tortugas is not an atoll, but rather a series of banks, shoals and reefs that rise from a limestone platform. Live coral is sparse.)

de ANDRADE, O.
1958 O recife anular das Rocas, um registro de recentes variacoes eustaticas no Atlantico equatorial: Comm. 13th Assembl. Assoc. Geog. Brazil.*

DE BUISONJE, P. H.
1964 Marine terraces and sub-aeric sediments on the Netherlands Leeward Islands, Curacao, Aruba and Bonaire, as indicators of Quaternary changes in sea level and climate. I and II: Proc. Koninkl. Nederl. Akad. Wetenschappen, Series B, Vol. 67(1): pp. 60-79. (Observations are made on four "Quaternary" terraces, ranging in elevation from 10 meters to nearly 200 meters. The terraces appear to be elevated coral reefs and lagoonal deposits.)

DE BUISONJE, P. H. and J. I. S. ZONNEVELD
1960 De Kustvormen van Curacao, Aruba en Bonaire: Natuurw. Werkgroep Nederl. Antillen, No. 11: pp. 121-144. ("The islands of Curacao, Aruba and Bonaire are surrounded by coasts that either have the character of cliffs cut in solid coral limestones, or built up of loose coral debris and coral sands." The different types of shoreline are discussed; some mention is given to present-day coral reefs.)

DORAN, E.
1954 Land forms of Grand Cayman Island, British West Indies: Texas Jour. Sci., Vol. 6: pp. 360-377. (Deals with the physiography, geology, and geologic history of Grand Cayman Island.)

1955 Land forms of the southeast Bahamas: Dept. Geog. Univ. Texas Publ., No. 5509: 38 pp. (Excellent charts made from aerial photographs and personal observations. Various geomorphic forms are discussed.)

EMERY, K. O.
1962 Coral reefs off Veracruz, Mexico: Geofisica Internacional, Vol. 3(1): pp. 11-17. (The reefs resemble patch reefs and are so classified. Sediment analyses are given; the percentage of coral detritus in the sediments of the area is greater than similar areas in the Pacific Ocean.)

FOSBERG, F. R.
1962 A brief study of the cays of Arrecife Alacran, a Mexican atoll: Atoll Res. Bull., No. 93: 25 pp. (Although most of this paper

concerns the vegetation of the area, there is mention of the physiography and climate. Also included is a comparison between Alacran and a Pacific atoll.)

GOREAU, T. F.

1958. Buttressed reefs in Jamaica, British West Indies: Proc. XVth Intern. Congr. Zool., p. 250. (Buttresses examined seem to indicate a formation by coral growth, not erosion. There appears to be no correlation between the prevailing winds and the lineation of the buttresses.)

1961 The structure of the Jamaican reef communities. Geological aspects: New York Zool. Soc., Dept. Marine Biochem. and Ecology. 14 pp. (A series of submarine terraces, drowned reefs and submarine canyons are reported. The modern reef is up to 35 feet thick.)

1964 Fore-reef slope: structure, sediment, and community relationships (abs.): Geol. Soc. Amer., Program, 1964 Ann. Meeting, p. 76. (Mostly reviews previous papers. Little sediment accumulates on the fore-reef slope; most is transported to deeper waters.)

HOFFMEISTER, J. E. and H. G. MULTER

1964 Growth-rate estimates of a Pleistocene coral reef of Florida: Bull. Geol. Soc. Amer., Vol. 75(4): pp. 353-358. (By using the rate of growth of Montastrea annularis, a 7-foot vertical section of the Key Largo limestone has been estimated to have taken 250 to 500 years to form.)

HOSKIN, C. M.

1963 Recent carbonate sedimentation on Alacran Reef, Yucatan, Mexico: Nat. Acad. Sci.-Nat. Res. Coun. Publ. 1089, 160 pp. (A rather complete study of the sedimentary characteristics of Alacran Reef. 19 biotopes are recognized on the basis of grain size and composition.)

JORDAN, G. F.

1952 Reef formation in the Gulf of Mexico off Apalachicola Bay, Florida: Bull. Geol. Soc. Amer., Vol. 63(7): pp. 741-744. (Banks have been found to be capped with coral.)

KAYE, C. A.

1959a Shoreline features and Quaternary shoreline changes, Puerto Rico: U. S. Geol. Surv. Prof. Paper 317-B: pp. 49-140. (The fringing coral reefs are typical Caribbean reefs; a brief description is included. The general chemical and physical features of the various types of beach rock are considered.)

KAYE, C. A. (cont'd)
1959b Geology of Isla Mona and the age of Mona Passage: U. S. Geol. Surv. Prof. Paper 317-C: pp. 141-178. (The limestone that composes Isla Mona is a Miocene reef-limestone. The elevated reefs are discussed.)

KORNICKER, L. S.
1963 The Bahama Banks: a "living" fossil environment: Jour. Geol. Education, Vol. 11(1): pp. 17-25. (A review of some literature and a general insight into the geology of the Bahamas.)

KORNICKER, L. S., F. BONET, R. CANN, and C. M. HOSKIN
1959 Alacran Reef, Campeche Bank, Mexico: Publ. Inst. Marine Sci., Univ. Texas, Port Aransas, Vol. 6: pp. 1-22. (Description of the reefs, sediment and fauna of this "shelf atoll".)

KORNICKER, L. S. and D. W. BOYD
1962a Shallow-water geology and environments of Alacran Reef complex, Campeche Bank, Mexico: Bull. Amer. Assoc. Petroleum Geol., Vol. 46(5): pp. 640-673. (The ecology of the reef is discussed, along with the ecologic zonations of the reef-building organisms. A discussion of the application to the study of fossil reefs follows.)

1962b Biogeology of a living coral reef complex on Campeche Bank: Guide Book to Field Trip to Peninsula of Yucatan. New Orleans Geol. Soc., Feb. 1-5, 1962. pp. 73-84. (The main contributors to the framework, sediment, and cementing agents are discussed. The general ecology and geology of the reef are also discussed.)

LeCONTE, J.
1883 The reefs, keys and peninsula of Florida: Science, Vol. 2: p. 764.*

LEWIS, J. B.
1960 The coral reefs and coral communities of Barbados, West Indies: Canadian Jour. Zool., Vol. 38(6): pp. 1133-1145. (Form, development and coral growth are discussed. Species are located in definite zones; the windward reefs are not actively growing.)

LOGAN, B. W.
1961 Coral reef and bank communities of the Campeche Shelf, Yucatan, Mexico (abs.): Geol. Soc. Amer. Spec. Paper, No. 68: p. 218. (Two communities have colonized rocky mounds on the shelf area: the primary reef corals are in shallow water, the ahermatypic corals in deeper water.)

LOGAN, B. W. (cont'd)
1962 Submarine topography of the Yucatan Platform: Guide Book to Field Trip to Peninsula of Yucatan. New Orleans Geol. Soc., Feb. 1-5, 1962. (A short discussion of the submarine terraces, shelf mounds, and the location of coral reefs and other banks.)

LUDWICK, J. C. and W. R. WALTON
1957 Shelf-edge, calcareous prominences in northeastern Gulf of Mexico: Bull. Amer. Assoc. Petroleum Geol., Vol. 41(9): pp. 2054-2101. ("Fossil" reefs, now in 40-55 fathoms of water, are related to pre-existing lower stands of sea level.)

MOORE, D. R.
1958 Notes on Blanquilla Reef, the most northerly coral formation in the western Gulf of Mexico: Publ. Inst. Marine Science, Univ. Texas, Port Aransas, Vol. 5: pp. 151-155. (Live coral is rare on the windward (east) side but is common on the leeward side; because of long-fetch, storm waves can cause great destruction.)

MOORE, D. R. and H. R. BULLIS, Jr.
1960 A deep-water coral reef in the Gulf of Mexico: Bull. Marine Sci. Gulf and Carib., Vol. 10(1): pp. 125-128. (The first deep-water reef reported in the West Indies, at a depth of 280-300 fathoms.)

NEWELL, N. D.
1958a American coral reefs: Trans. New York Acad. Sci., Ser. 2, Vol. 21(2): pp. 125-127. (Principal biotic zones, structures, and the functions of the reefs are discussed.)

1958b American coral seas: Proc. XVth Intern. Congr. Zool., pp. 251-252. (Coral growth in the Florida-Bahamas area first terminated on the Blake Plateau probably in the Miocene. Cooling waters caused a regression of the reefs to Florida and the Bahamas, until most all reefs were killed. Reefs have only recently been re-established.)

1959 West Atlantic coral reefs: Reprints Ist Intern. Ocean. Congr. pp. 286-287. (Abstracts work published previously.)

1960 Marine planation of tropical limestone islands: Science, Vol. 132: pp. 144-145. (Sea level in the Caribbean seems to be currently the highest since the Pleistocene; there has been no recent planation. The platforms, therefore, represent an equilibrium between the upper limits of carbonate deposition and the lower limits of intertidal erosion.)

NEWELL, N. D., J. IMBRIE, E. G. PURDY, and D. L. THURBER
1959 Organism communities and bottom facies, Great Bahama Bank: Bull. Amer. Mus. Nat. Hist., Vol. 117(4): pp. 177-228. (A general discussion of the bottom facies and communities. The coral zonations and dominant species are described, with insights into the reasons for limited growth.)

OTTMANN, F.
1963 "l'Atoll das Rocas" dans l'Atlantique sud tropical: Revue Geog. Phys. et Geol. Dynam., Vol. 5(2): pp. 101-107. (The atoll appears to be more algologic than coralline. Traces of the last transgressive period of the Quaternary can be seen at +2 meters.)

PARENZAN, P.
1957 Formazioni coralligene mediterranee e loro biologia: Boll. Zool., Vol. 24(2): pp. 287-312.*

PARKER, G. C., C. E. FERGUSON, S. K. LOVE, et al.
1955 Water resources of southeastern Florida: U. S. Geol. Surv. Water-Supply Paper, No. 1255: 965 pp. (Includes a rather extensive description of the Tertiary and Quaternary Formations in southeastern Florida.)

PURDY, E. G. and R. K. MATTHEWS
1964 Structural control of recent calcium carbonate deposition in British Honduras (abs.): Geol. Soc. Amer., Program, 1964 Ann. Meeting, p. 157. (The distribution of reefs is related to Pleistocene topographic highs, which in turn are related to the underlying structure. The Pleistocene topography has induced differential sedimentation rates, which have tended to accentuate the relief.)

PURI, H. S. and R. O. VERNON
1959 Summary of the geology of Florida and a guidebook to the classic exposures: Fla. State Geol. Surv. Spec. Publ., Vol. 5: 255 pp. (Descriptions of geologic formations in Florida, from Pre-Cambrian to the present; includes present-day reefs.)

SCHUSTER-DIETERICHS, O.
1956 Auf einer korallen-insel des Karribischen Meeres: Nature Volk., Vol. 86: pp. 376-380.*

SHINN, E. A.
1963 Spur and groove formation on the Florida Reef Tract: Jour. Sed. Pet., Vol. 33(2): pp. 291-303. (The ecologic zonations in the Florida Keys are considered. The origin of the spur-groove complex is related to biologic differentiation in the growth of wave-oriented Acropora palmata.)

SQUIRES, D. F.
1963 Calcareous shelf-edge prominences off the Orinoco River of South America (abs.): Geol. Soc. Amer. Spec. Paper, No. 76: p. 155. (Contrary to previous reports, "there is no evidence to indicate that the wall or prominences were once a coral reef, and reef corals presently make no contribution to their growth.")

STEERS, J. A.
1940 The cays and Palisadoes, Port Royal, Jamaica: Geog. Rev., Vol. 30: pp. 279-296. (Coral, although abundant, has not fused together to form massive reefs; Halimeda is a prominent component of the sediment. Significant changes may occur due to storms.)

STEERS, J. A., V. J. CHAPMAN, and J. A. LOFTHOUSE
1940 Sand cays and mangroves in Jamaica: Geog. Jour., Vol. 96: pp. 305-328. (Formation of the cays, the beach rock and various other structures are discussed. Sediments are anchored on the cays by vegetation.)

STETSON, T. R., D. F. SQUIRES, and R. M. PRATT
1962 Coral banks occurring in deep water on the Blake Plateau: Amer. Mus. Novitates, No. 2114: 39 pp. (Studies were carried out by PDR tracings, bottom photography and bottom sampling; the "reefs" are compared with similar studies.)

STEWART, H. B., Jr., A. D. RAFF, and E. L. JONES
1961 Explorer Bank - a new discovery in the Caribbean: Bull. Geol. Soc. Amer., Vol. 72(8): pp. 1271-1274. (The bank rises 1000 fathoms to a depth of 15 fathoms. Magnetic surveys indicate a possible origin similar to Pacific atolls.)

STODDART, D. R.
1962 Three Caribbean atolls: Turneffe Islands, Lighthouse Reef, and Glovers Reef, British Honduras: Atoll Res. Bull., No. 87: 149 pp. (Each atoll is described in detail. Sediments types, coral fauna, and ecologic zonations are discussed. Author presents a theory on the formation of the atoll cays, and other general structures.)

THORPE, J. E., and D. R. STODDART
1962 A summary of reef work of the Cambridge Expedition to British Honduras of 1959-1960: Geog. Jour. Vol. 128: pp. 158-173. (Most of the article is by Stoddart, who condenses his 1962 Atoll Res. Bull. article into this brief paper. An interesting discussion follows, primarily concerned with beach rock formation.)

VERMEER, D. E.
1959 The Cays of British Honduras: Dept. Geog., Univ. Calif., Berkeley.*

WILSON, R. L., R. E. BERGENBACK, and C. P. FINLAYSON
1961 Fossil coral reefs, Fresh Creek, Andros Island, Bahamas (abs.): Geol. Soc. Amer. Spec. Paper, No. 68: p. 82. (Fossil patch reefs, overlain by oolitic limestone, extend at least 1/2 mile from the present shoreline.)

ZANEVELD, J. S.
1957 Micro-atolls in the Netherlands Antilles: Rept. on Inter-Island Marine Biol. Conf., Inst. Marine Biol., Univ. Puerto Rico. pp. 18-19. (Sedimentation, not exposure to air, causes micro-atolls.)

1958 A lithothamnion bank at Bonaire (Netherland Antilles): Blumea (Supplement), Vol. 4: pp. 206-219.*

ZANS, V. A.
1958a Recent coral reefs and reef environments of Jamaica: Geo Notes (Kingston), Vol. 1: pp. 18-25. (Abstracted in Trans. 2nd Geol. Congr. Mayaguez. p. 58.) (Discusses the different ecologic zones of Jamaica, and their relative locations. The reefs are poorly developed because of their comparative youth - Post-Pleistocene.)

1958b The Pedro Cays and Pedro Bank: Rept. on the Survey of the Cays. 1955-57; Kingston Geol. Surv. Dept. Bull., Vol. 3: pp. 1-47. (It is hypothesized that Pedro Bank is a slightly tilted block upon which reef development has been added. Rampart zones, probably hurricane formed, are prominent on the seaward portions of the reef cay complexes. Petrology of the Pedro rocks, and a list of the coral fauna are given.)

1960 The distribution and structural features of recent coral reefs of Jamaica (abs.): Ass'n. of Island Marine laboratories, 3rd Meeting, 1960, pp. 17-18. (Similar in content to 1958a article.)

3. Sediments in atolls, reefs and related areas.

BAARS, D. L.
1963 Petrology of carbonate rocks: Shelf carbonates of the Paradox Basin, A Symposium, Fourth Field Conference 1963; Four Corners Geol. Soc. pp. 101-129. (A discussion of different carbonate

sources and deposits; the chief area mentioned is the Florida Keys. The author concludes that most geologic reefs were mound-like bioherms, rather than actual coral reefs.)

BANKS, J. E.
1959 Limestone conglomerates (Recent and Cretaceous) in southern Florida: Bull. Amer. Assoc. Petroleum Geol., Vol. 43(9): pp. 2237-2242. (Also in Proc. Gulf Coast Assoc. Geol. Soc., 1958,) (Compares the gravel and sand banks in the Florida Keys to the Summit Conglomerate. The gravel-sand banks might be the result of sea-level regression.)

BARDACH, J. E.
1961 Transport of calcareous fragments by reef fishes: Science, Vol. 133 (3446): pp. 98-99. (At least 2300 kilograms of calcareous fragments were ingested and redeposited per hectare in one year. Discussion follows.)

BRAMLETTE, M. N., J. L. FAUGHAN, and R. J. HURLEY
1959 Anomalous sediment deposition on the flank of Eniwetok Atoll: Bull. Geol. Soc. Amer., Vol. 70: pp. 1549-1552. (Short cores penetrated Pliocene deposits with little or no sediment cover. The Tertiary deposits are pelagic; Quaternary deposits are mainly reef debris. Present-day deep currents and the absence of pre-Quaternary tsunamis are given as explanations.)

CAROLL, D.
1957 Beach sands from the northern Marshall Islands (abs.): Soc. Econ. Paleont. and Miner., 31st Ann. Meeting, St. Louis, Program, pp. 55-57. (Largest fragments are coral; smaller ones are coral and shells; the smallest are algae, foraminifera and unidentified fragments. Median grain size is finer and better sorted on the leeward side.)

CLOUD, P. E., Jr.
1962 Environment of calcium carbonate deposition west of Andros Islands, Bahamas: U. S. Geol. Surv. Prof. Paper 350: 138 pp. (About 75% of the calcium carbonate sediment west of Andros results from chemical precipitation. A review of other schools of thought and other workers is quite complete.)

CROZIER, W. J.
1918 The amount of bottom material ingested by Holothurians (Stichopus): Jour. Exp. Zool., Vol. 26(2): pp. 379-389. (Approximately 6 to 7 kilograms of sediment/square meter annually pass through Stichopus' intestines. The chemical and geological alterations, however, do not appear too great.)

DAVIS, J. H.
1940 The ecology and geologic role of mangroves in Florida: Papers Tortugas Lab., Carn. Inst. Wash., Vol. 32: pp. 302-412. (The mangrove community and its ecologic requirements are discussed. Mangroves have been seen to increase the area of the Florida Keys. It is assumed that the mangroves have only been important since the last glacial period.)

FOLK, R. L.
1962 Sorting in some carbonate beaches of Mexico: Trans. N. Y. Acad. Sci., Ser. 2, Vol. 25: pp. 222-244. (Discusses and compares Alacran Reef, Isla del Carmen and Isla Mujeres. Although mean grain size varies greatly, the sorting coefficient remains relatively constant and similar to that of terrigenous beaches.)

FOLK, R. L., M. O. HAYES and R. SHOJI
1962 Carbonate sediments of Isla Mujeres, Quintana Roo, Mexico and vicinity: Guide Book to Field Trip to Peninsula of Yucatan. New Orleans Geol. Soc., Feb. 1-5, 1962. (Sorting on carbonate beaches is similar to terrigenous beaches; rounding varies with wave intensity. The sediment composition of bay, windward and leeward beaches is discussed. Oolite dunes make up most of the island, but ooids are not being formed presently.)

FOLK, R. L. and R. ROBLES
1964 Carbonate sands of Isla Perez, Alacran Reef Complex, Yucatan: Jour. Geol., Vol. 72(3): pp. 255-292. (A rather complete discussion of the sediments and their producers in the littoral zone. Conclusions are similar to those of Folk, 1962 and Folk, et al., 1962.)

FOSBERG, F. R.
1957 Description and occurrence of atoll phosphate rock in Micronesia: Amer. Jour. Sci., Vol. 255: pp. 584-592. (Rock, found in many Micronesian atolls, has a high phosphate content, and resulting apatite crystals. The origin of the phosphate rock is owed to bird guano.)

GAMBINI, A.
1959 Sur la composition de quelques sables coquilliers á Foraminifères des lagons de la Nouvelle-Calédonie: Bull. Soc. Geol. France, Ser. 7(1): pp. 431-434. (Mollusk fragments are the most numerous constituent, followed by Foraminifera. Species of Foraminifera are listed.)

GARMAN, R. K. and H. G. GOODELL
1961 Geochemistry and petrography of the Superior Oil Company test well on Andros Island, B. W. I., as compared to recent Bahaman

sediments (abs.): Geol. Soc. Amer. Spec. Paper, No. 68: p. 71. ("... the subsurface carbonates closely resemble sediments presently being deposited in the back-reef lagoons, the bights, or on the leeward sides of the present islands of the Bahama platform.")

GEORGE, T. N.
1956 Sedimentary environments of organic reefs: Sci. Prog., Vol. 44: pp. 415-434. (No new data is presented, but this paper is an excellent and concise review of work done on recent and ancient reefs.)

GINSBURG, R. N.
1957 Early diagenesis and lithification of shallow-water carbonate sediments in south Florida: Regional Aspects of Carbonate Deposition, Soc. Econ. Paleont. and Miner., Spec. Publ. No. 5: pp. 80-100. (Processes affecting diagenesis and lithification can be divided into three classes: organic, physiochemical and biochemical. These produce recognizable textural, structural and compositional changes. Examples are given.)

GINSBURG, R. N., L. B. ISHAM, S. J. BEIN and J. KUPERBERG
1954 Laminated algal sediments of south Florida and their recognition in the fossil record. Unpublished manuscript. Marine Lab, Univ. Miami, Rept. No. 54-20. 33 pp. (Discusses the various types of algae mats and their physical characteristics, and the different criteria observed in their formation.)

GINSBURG, R. N., R. M. LLOYD, K. W. STOCKMAN and J. S. McCALLUM
1960 Shallow-water carbonate sediments: Shell Devel. Co. Publ. No. 246: 31 pp. (Also in Hill, 1963, The Seas, Vol. 3: pp. 554-582.) (The constituents of carbonate particles in a sediment tend to show what physical environment produced the sediment. Examples are given.)

GINSBURG, R. N., and H. A. LOWENSTAM
1958 The influence of marine bottom communities on the depositional environment of sediments: Jour. Geol., Vol. 66(3): pp. 310-318. (Certain bottom communities are capable of affecting the physical environments and therefore the sedimentation pattern. Examples given are the blue-green algae, turtle grass baffles, and reefs.)

GOREAU, T. F. and W. D. HARTMAN
1963 Boring sponges as controlling factors in the formation and maintenance of coral reefs; in: Mechanics of Hard Tissue Destruction, Publ. 75, Amer. Assoc. Adv. Sci.: pp. 25-54. (Boring sponges mechanically bore into the non-living skeleton of corals. The process is more apparent in deep

water where calcification of the coral is less. Flakes eroded from the coral by the sponges help to form a lime mud in deep water. An extremely interesting discussion of the deep "fore-reef slope" is augmented with photographs.)

GORSLINE, D. L.
1963 Environments of carbonate deposition, Florida Bay and the Florida Straits: Shelf Carbonates of the Paradox Basin, A Symposium, Fourth Field Conference, 1963; Four Corners Geol. Soc.: pp. 130-143. (A review of work in Florida Bay and Florida Straits. The author concludes that most of the material produced on the shelf areas is ultimately transported to the deep sea.)

GRAF, D. L.
1960 Geochemistry of carbonate sediments and sedimentary carbonate rocks: Div. Ill. State Geol. Surv. Circ. 297: Parts I-V. (A review of the literature. Of particular interest is the discussion of beach deposits, reefs and the Bahama platform, in Part I.)

GROSS, M. G.
1964 Variations in the O^{18}/O^{16} and C^{13}/C^{12} ratios of diagenetically altered limestones in the Bermuda Islands: Jour. Geol., Vol. 72(2): pp. 170-194. ("Recent carbonate sediments and major sediment-contributing organisms (except Halimeda) have similar O^{18}/O^{16} and C^{13}/C^{12} ratios which are distinctly different from the O^{18}/O^{16} and C^{13}/C^{12} observed in the stalactites, soil bases and secondary calcites from the limestones. Mechanisms are discussed.)

HAM, W. E. (ed.)
1962 Classification of Carbonate rocks: Amer. Assoc. Petroleum Geol. Mem. 1: 279 pp. (Contains ten papers dealing with content and classification of carbonate rocks. Of particular interest:
Modern concepts of classification of carbonate rocks, by W. C. Ham and L. C. Pray.
Biological, genetic and utilitarian aspects of limestone classification, by D. E. Feray, E. Heuer, and W. G. Hewatt.
Skeletal limestone classification, by H. F. Nelson, W. Brown, and J. H. Brineman.
Classification of modern carbonate sediments, by J. Imbrie and E. G. Purdy.)

HAYES, M. O.
1962 Sedimentology of Desaparecida Bar, Alacran Reef, Mexico (abs.): Texas Jour. Sci., Vol. 14(4): p. 415. (The bar builds up as a result of storm action and is typical of storm-derived sediments. Halimeda and mollusk fragments are the most abundant grains, but large coral blocks are present.)

ILLING, L. S.
1954 Bahaman calcareous sands: Bull. Amer. Assoc. Petroleum Geol., Vol. 38(1): pp. 1-95. (Bahaman oolite sands are considered to be mainly primary in origin, created by physio-chemical processes. The structure and origin of the oolites are discussed in great detail; the relationship between the present-day sediments and oolite rocks is also discussed.)

INGERSON, E.
1962 Problems of the geochemistry of sedimentary carbonate rocks: Geochim. et Cosmochim. Acta, Vol. 26: pp. 815-847. (Problems and significant contributions to the geochemistry of carbonates are discussed. Reefs are included.)

INMAN, D. L., W. R. GAYMAN, and D. C. COX
1963 Littoral sedimentary processes on Kauai, a subtropical high island: Pac. Sci., Vol. 17(1): pp. 106-130. (Beach sediments, composed of terrigenous and biogenic grains, appear to be less well-sorted than continental beaches. Sediment from the fringing reef moves landward and along the beach; between the reefs, sediment appears to move seaward.)

JOHNSON, J. H.
1951 An introduction to the study of organic limestones: Colo. School Mines Quart., Vol. 46(2): 185 pp. (Includes sections concerning coral and algal limestone, both recent and ancient.)

1954a Reefs and the petroleum geologist. Part 2. Reef-building animals; Part 3. Reef-building plants; Part 4. Reef limestones: Mines Mag., Vol. 44: pp. 15-19, 48; 19-20; 20-23; 60-61.*

1954b An introduction to the study of rock-building algae and algal limestones: Colo. School Mines Quart., Vol. 49(2): 117 pp.*

KORNICKER, L. S.
1958 Bahamian limestone crusts: Trans. Gulf Coast Assoc. Soc., Vol. 8: pp. 167-170. (Induration is caused by recrystallization and cementation, probably formed above the intertidal zone. The crusts protect the underlying, less resistant rock from erosion.)

KORNICKER, L. S. and E. G. PURDY
1957 A Bahamian fecal-pellet sediment: Jour. Sed. Pet., Vol. 27: pp. 126-128. (The gastropod Batillaris minima was seen to produce fecal pellets which comprise a major fraction of the sediment in the Bimini area of the Bahamas. Preservation of the pellets is possible.)

KORNICKER, L. S. and D. F. SQUIRES
1962 Floating corals: A possible source of erroneous distribution data: Limn. and Ocean., Vol. 7(4): pp. 447-452. (Some corals are capable of floating; they may float as long as 8 months. This may give considerable error in a sedimentary and ecologic investigation.)

KRAUSS, R. W. and R. A. GALLOWAY
1960 The role of algae in the formation of beach-rock in certain islands of the Caribbean: Carib. Beach Studies Tech. Rept. No. 11(E), Coastal Studies Inst., L. S. U., 49 pp. (Algae play no direct role in the formation of beach-rock.)

MacNEIL, F. S.
1954 Organic reefs and banks associated with detrital sediments: Amer. Jour. Sci., Vol. 252: pp. 385-401. (Actual coral reef rock may comprise only a small fraction of the sediment in a coral reef complex. In classifying coral reefs, the author adds the term "table reef".)

McKEE, E. D.
1959 Storm sediments on a Pacific atoll: Jour. Sed. Pet., Vol. 29: pp. 354-364. (Storm deposits include coarse gravel ridges on the reef ridge, new or augmented beach ridges of gravel, gravel sheets on the islands, and sediment in the lagoon which is coarser than usual. Using these characteristics, storm deposits can be recognized in earlier reef deposits.)

McKEE, E. D., J. CHRONIC, and E. B. LEOPOLD
1959 Sedimentary belts in the lagoon of Kapingamarangi Atoll: Bull. Amer. Assoc. Petroleum Geol., Vol. 43(3): pp. 501-562. (Six sedimentary zones are recognized: the coarsest sediments are near shore, the finest in the deepest parts of the lagoon. Comparisons are made with ancient reefs.)

MANNING, R. B. and H. E. KUMPF
1959 Preliminary investigation of the fecal pellets of certain invertebrates of the south Florida area: Bull. Mar. Sci. Gulf and Carib., Vol. 9(3): pp. 291-309. (The fecal pellets of various invertebrates are described and diagrammed.)

MATTHEWS, R. K.
1964 Mineralogy and constituent particle composition of recent carbonate muds of British Honduras (abs.): Geol. Soc. Amer., Program, 1964 Ann. Meeting, p. 128. (High-magnesium calcite is primarily Foraminifera debris. High-strontium aragonite content, primarily from coral and Halimeda debris, decreases with increasing distance from the shoals.)

Barrier Reef: Jour. Sed. Pet., Vol. 31(2): pp. 215-230. (Close relationships exist between textural variation and physiography and currents. Most sediment is skeletal material; 95% is $CaCO_3$.)

MAXWELL, W. G. H., J. S. JELL, and R. G. McKELLAR
1963 A preliminary note on the mechanical and organic factors influencing carbonate differentiation, Heron Island, Australia: Jour. Sed. Pet., Vol. 33(4): pp. 962-964. (Mechanical, textural and chemical distributions of sediments in the reef area of Heron Island are related to biologic differentiation.)

1964 Differentiation of carbonate sediments in the Heron Island reef: Jour. Sed. Pet., Vol. 34(2): pp. 294-308. (The distribution of sediments is partially related to the stability of the components, which in turn is dependent on whether the components are calcitic or aragonitic. Sedimentary parameters are examined.)

NESTEROFF, W. D.
1956 Le substratum organique dans les dépôts calcaires, sa signification: Bull. Soc. Geol. France, Ser. 6, Vol. 6: pp. 381-390.*

NEUMAN, A. C.
1963 Processes of recent carbonate sedimentation in Harrington Sound, Bermuda: Marine Science Center, Lehigh University, Bethlehem, Penn. 130 pp. (Abstracted in Geol. Soc. Amer., Program, 1964 Ann. Meeting, p. 142.)(Includes bathymetric, hydrographic, ecologic, and geologic studies of the surface sediments. Sediment sources, diagenesis and erosion are discussed.)

NEWELL, N. D., J. IMBRIE and E. G. PURDY
1957 Carbonate facies and biotic communities of northwestern Great Bahama Bank (abs.): Bull. Geol. Soc. Amer., Vol. 68: pp. 1774-1775. (Trade winds have a marked effect on the sediments. Influences of depth and turbulence are seen near the bank margins. Oolites repeatedly exposed to air show a high luster.)

NIINO, H.
1946 An example of reef sediment: Sigenkagaku Kenkyusyo Iho, Vol. 9: pp. 29-35.*

PURDY, E. G.
1961 Bahamian oolite shoals: Geometry of Sandstone Bodies; Amer. Assoc. Petroleum Geol., Spec. Vol., pp. 53-62. (Most shoals of the Great Bahama Bank appear to be drowned aeolian dunes.)

PURDY, E. G. (cont'd)
1963a Recent calcium carbonate facies of the Great Bahama Bank. 1. Petrography and reaction groups: Jour. Geol., Vol. 71(3): pp. 334-335. (Sediment samples were impregnated with a polyester-resin and thin sectioned. By a point-count method, percentages of various constituents could be estimated. Reaction group is defined as a group of sedimentary constituents that will similarly react in a similar environmental condition.)

1963b Recent calcium carbonate facies of the Great Bahama Bank. 2. Sedimentary facies: Jour. Geol., Vol. 71(4): pp. 472-497. (The distribution of the five sedimentary facies, coralgal, oolitic, grapestone, pellet-mud, and mud facies,is related to local current conditions created by the karst topography.)

PURDY, E. G. and L. S. KORNICKER
1958 Algal disintegration of Bahamian limestone coasts: Jour. Geol., Vol. 66(1): pp. 96-99. (Boring blue-green algae are among the most important agents in the destruction of the coast limestone.)

PUSEY, W.
1963 Recent carbonate shoal complexes in Northern British Honduras (abs.): Bull. Amer. Assoc. Petrol. Geol., Vol. 47(2): p. 367. (Discusses the mud mounds on the shoals in northern British Honduras.)

RANSON, G.
1955 Observations sur des facteurs biologiques de la dissolution du calcaire d'origine récifale dans les Tuamotu: Proc. 8th Pac. Sci. Cong. 3A: pp. 979-988. (Activities of organisms are chiefly responsible for erosion on Tuamotu. Wave erosion is only significant at the reef's edge.)

REVELLE, R. and K. O. EMERY
1957 Chemical erosion of beach rock and exposed reef rock: U. S. Geol. Surv. Prof. Paper 260-T: pp. 699-709. (The marked diurnal changes of the properties of the water probably cause a gradual erosion of the beach rock. Data are given to support the hypothesis.)

REVELLE, R. and R. W. FAIRBRIDGE
1957 Carbonates and carbon dioxide: in Hedgpeth, Treatise on Marine Ecology and Paleoecology: Geol. Soc. Amer. Memoir 67(1): pp. 239-296. (An excellent review of the biogeochemical aspects of carbonate deposition in sea water. Includes a discussion of the different biologic contributors to carbonate detritus.)

RODGERS, J.
1957 The distribution of marine carbonate sediments, a review: Regional Aspects of Carbonate Deposition, Soc. Econ. Paleont. and Miner., Spec. Publ. No. 5: pp. 2-14. (Marine carbonate sediments can be divided into deep sea sediments, organic reefs and continental lime muds, and associated limestones. A general discussion follows.)

RUSSELL, R. J.
1959 Caribbean beachrock observations: Zeit. Geomorph., Vol. 3: pp. 227-236.*

1962 Origin of beach rock: Zeit. Geomorph., Vol. 6(1): pp. 1-16. (The cement for beach rock originates in the ground water, not sea water. Beach rock is thickest where seasonal variations in sea level are greatest. Many Caribbean examples are cited.)

RUSSELL, R. J. and W. G. McINTIRE
1965 Southern hemisphere beach rock: Geog. Review, Vol. 55(1): pp. 17-45. (The cementation by calcite is in the zone of water-table migration, and is not related to the perculation of sea water. Beach rock is generally only visible on retreating shorelines. Southern hemisphere examples are given.)

SCHLANGER, S. O.
1957 Dolomite growth in coralline algae: Jour. Sed. Pet., Vol. 27(2): pp. 181-186. (Algae were the main dolomitized sedimentary constituents found in the subsurface Eocene limestone on Eniwetok. The magnesium content of the algae is suggested to be insufficient to account for such complete dolomitization.)

SIEGEL, F. R.
1960 The effect of strontium on aragonite-calcite ratios of Pleistocene corals: Jour. Sed. Pet., Vol. 30(2): pp. 297-304. (High Sr content seems to inhibit the aragonite to calcite process.)

STODDART, D. R.
1964 Carbonate sediments of Half Moon Cay, British Honduras: Atoll Res. Bull., No. 104: 16 pp. (A quantitative study of the size distribution of the sediments. Different type sediments are sharply defined by size and shape, which are related to the organic derivation of the sediments.)

STUBBINGS, H. G.
1938 Marine sediments from the islands and reefs of the Great Barrier Reef: Great Barrier Reef Exped. Sci. Rept., Vol. 4(3): pp. 97-104.*

STUBBINGS, H. G. (cont'd)
1939 The marine deposits of the Arabian Sea: John Murray Exped. Sci. Repts., Vol. 3(2): pp. 32-158. (Some coral is found in shallower depths; species are listed.)

TRENCHMANN, C. T.
1951 Note on a Pleistocene coral-rock in Jamaica, altered into material resembling bauxite or laterite: Quart. Jour. Geol. Soc. London, Vol. 107: pp. 443-444. (This phenomenon can possibly be explained by washing with sea water or the growth of algae.)

VAN ANDEL, T. H., J. R. CURRAY and J. V. VEEVERS
1961 Recent carbonate sediments of the Sahul Shelf northwestern Australia: Coastal and Shallow-water Res. Conf., 1961. pp. 564-567. (Includes a sediment map of the area. Corals are absent on the banks.)

Van OVERBEEK, J. and R. E. CHRIST
1947 The role of a tropical alga in beach sand formation: Amer. Jour. Bot., Vol. 34: pp. 299-300. (Halimeda may not only cement, but may also be an important component in some beach rocks.)

WOLF, K. H.
1962 The importance of calcareous algae in limestone genesis and sedimentation: Nues Jahrbuch Geol. Paleont. Monatshefte: pp. 245-261. (Reviews the types of algal structures found in limestones and their importance as sedimentary contributors.)

WOOD, E. J. F.
1962 The microbiology of coral reefs: Proc. 9th Pac. Sci. Cong., 1957, Vol. 4: pp. 171-173. (A brief discussion of organic precipitation of calcium carbonate on coral reefs.)

WRIGHT, T. and L. S. KORNICKER
1962 Sand transport of marine shells by birds on Perez Island, Alacran Reef, Campeche Bank, Mexico: Jour. Geol., Vol. 70 (5): pp. 616-618. (The Brown Noddy Tern lines its nest with marine shells (mostly pelecypods) and other debris. This causes an accumulation of shells on the beach which may lead to a misinterpretation of the area.)

II ECOLOGY

1. General Conditions

BLUMENSTOCK, D. I.
1961 A report on typhoon effects upon Jaluit Atoll: Atoll Res. Bull. 75: 105 pp. (Living coral on the reef side was uprooted and deposited on the reef to form offshore bars; there was little erosive action on the coral in the lagoon. The general tone is one of cataclysmic erosion and sedimentation.)

BLUMENSTOCK, D. I., F. R. FOSBERG, and C. G. JOHNSON
1961 The re-survey of the typhoon effects on Jaluit Atoll in the Marshall Islands: Nature Vol. 189: pp. 618-620. (Rubble bar on the reef moved landward. Other effects of the typhoon were modified by normal activity.)

BURKHOLDER, P. R. and L. M. BURKHOLDER
1960 Photosynthesis in some Alcyonacean corals: Amer. Jour. Bot., Vol. 47(10): pp. 866-872. (Also gives oxygen production rates for Porites porites and turtle grass, Thalassia testudinum.)

FOSBERG, F. R.
1961 Qualitative description of the coral atoll ecosystem: Atoll Res. Bull., No. 81: 11 pp. (Discussion of the general"... physical and 'physiological' framework of the coral atoll ecosystem" and the equilibrium that is achieved.)

GERLACH, S. A.
1961 The tropical coral reef as a biotope: Atoll Res. Bull., No. 80, 6 pp. (The tropical coral reef corresponds to the sublittoral algal region of temperature zones. Different feeding types are more common in dead coral than live coral; this may be related to the mucus that living coral secretes.)

GORDON, M. S. and H. M. KELLY
1962 Primary productivity of an Hawaiian coral reef: a critique of flow respirometry in turbulent waters: Ecology, Vol. 43(3): pp. 473-480. (Points out some of the errors in methods of measuring productivity that have been used by other workers; some corrective insights are offered. A coral reef appears to be non-autotrophic.)

GOREAU, T. F.
1959 The ecology of Jamaican coral reefs. I. Species composition and zonation: Ecology, Vol. 40(1): pp. 67-89. (A listing of species present, and the ecologic zonations. Ecologic factors affecting the reef growth are mentioned. Buttresses may be growth forms, not erosional.)

GOREAU, T. F. (cont'd)
1960 On the physiological ecology of the coral Meandrina brasiliensis (Milne-Edwards and Haime) in Jamaica (abs.) Assoc. of Island Marine Laboratories, 3rd meeting, 1960, pp. 17-18. (Zooxanthellae produce very little oxygen, and therefore are probably heterotrophic. The great increase in Meandrina's surface area with increased size appears to be an adaptation for life on unstable, muddy substrates.)

1964 Mass expulsion of zooxanthellae from Jamaican reef communities after Hurricane Flora: Science, Vol. 145(3630): pp. 383-386. ("It is believed that expulsion of the zooxanthellae was induced by contact with water of lowered osmotic pressure on the surface of the sea, rather than by sedimentation or fouling.")

GOREAU, T. F., V. T. LLAUGER, E. L. MAS, and E. R. SEDA
1960 On the community structure, standing crop and oxygen balance of the lagoon at Cayo Turrumote (abs.): Ass'n.of Island Marine Laboratories, 3rd Meeting, 1960, pp. 8-9. (The faunal and floral components of the lagoon community consume about 50 percent more oxygen than they produce. The additional oxygen and food is brought in from the outside.)

GRIPP, K.
1958 Ecologie de quelques Madréporaires de la Mediterranée: Vie et Milieu, Vol. 9(4): pp. 379-411. (Deals with solitary corals from deeper waters. Describes different species and the general modes of life, distribution and biotope formation.)

HIATT, R. W.
1957 Factors influencing the distribution of corals on the reef of Arno Atoll, Marshall Islands: Proc. 8th Pac. Sci. Congr. 3A: pp. 929-970. (Ecologic zonations of corals are described, and influencing factors are assessed. Due to a lack of variable environmental factors, there is no clear-cut zonation in the lagoon.)

KINSMAN, D. J. J.
1964 Reef coral tolerance of high temperatures and salinities: Nature, Vol. 202(4939): pp. 1280-1282. (Temperatures in the Persian Gulf reef tracts vary as much as 10°C diurnally and 20°C annually. Large masses of Porites are seen in water having salinities up to 48 o/oo.)

KOHN, A. J.
1961 The biology of atolls: Bios, Vol. 32(3): pp. 113-126.*

KOHN, A. J. and P. HELFRICH
1957 Primary organic production of a Hawaiian coral reef: Limn. and Ocean., Vol. 2(3): pp. 241-251. (Productivity was measured

by measuring changes in oxygen content of the water flowing over Kapaa Reef, Kauai. The very high productivity, 2900 grams of organic carbon/meter^2/year, of this reef and other tropical coral reefs is due to photosynthesis by benthic algae on the reef platforms.)

MOTODA, S.
1940 Environment and life of the massive coral Goniastrea aspera Verrill, inhabiting the reef flat in Palao: Palao Trop. Biol. Sta. Studies, Vol. 2(1): pp. 61-104. (Measurements of air and water temperatures, tides, water depth, pH, light intensity, specific gravity of the water, oxygen saturation, oxygen exchange by corals, sediment in the water, and exposure to air. Comparisons are made with the findings of other workers.)

ODUM, H. T., P. R. BURKHOLDER, and J. RIVERO
1959 Measurements of productivity of turtle grass flats, reefs and the Bahia Fosforescente of southern Puerto Rico: Publ. Inst. Marine Sci., Univ. Texas, Port Aransas, Vol. 6: pp. 159-170. (Comparisons are made between reefs and other ecologic environments. Organic production on the reef was high.)

RANSON, G.
1964 Biologie des coraux: III. Rapports des coraux avec leur milieu: Cahiers du Pacif., No. 6: pp. 51-70. (Ecologic relationships of coral with water depth, salinity, light, temperature and currents. A good review of past workers.)

SALVAT, B.
1964 Prospections faunistiques en Nouvelle-Calédonie dans le Cadre de la Mission d'études des récifs coralliens: Cahiers du Pacif., No. 6: pp. 77-120. (Includes ecologic and sedimentologic descriptions of lagoonal areas where biologic collections were made.)

SLACK-SMITH, R. J.
1959 An investigation of coral deaths at Peel Island, Moreton Bay, in early 1956: Univ. Queensland Zool. Papers, Vol. 1(7): pp. 211-222.*

SQUIRES, D. F.
1958 Stony corals from the vicinity of Bimini, Bahamas, British West Indies: Bull. Amer. Mus. Nat. Hist., Vol. 115(4): pp. 219-262. (Coral fauna and ecologic conditions were noted at 15 stations. Faunal assemblages show 2 ecologic zones; bank margin fauna, and bank and lagoon fauna.)

SQUIRES, D. F. (cont'd)
1962 Corals at the mouth of the Rewa River, Viti Levu, Fiji: Nature, No. 4839: pp. 361-362. (Coral increased in number and species away from the river, as salinity increased and turbidity decreased.)

STEPHENSON, T. A.
1958 Coral reefs regarded as seashores: Proc. XVth Intern. Congr. Zool., pp. 244-246. (..."a coral reef is a growth which replaces, in the tropics, certain other low-level growths characteristic of colder regions.")

STEPHENSON, T. A. and A. STEPHENSON
1950 Life between tide marks in North America. I. The Florida Keys: Jour. Ecol., Vol. 38: pp. 354-402. (Ecologic distributions discussed are mainly confined to intertidal flora and fauna.)

STEPHENSON, W. R. E., R. ENDEAN, and I. BENNET
1958 An ecological survey of the marine fauna of Low Isles, Queensland: Australian Jour. Marine and Freshwater Res., Vol. 9 (2): pp. 261-318. (Effects of a cyclone on the reef. General ecology investigated; death of corals owed to heavy swell and sediment. Massive corals are cyclone-resistant; branching corals are not.)

STODDART, D. R.
1962 A short account on catastrophic storm effects on the British Honduras reefs and cays: Nature, Vol. 196(4854): pp. 512-515. (Up to 80% of the reef coral was destroyed in the area of the storm center.)

1963 Effects of hurricane Hattie on the British Honduras reefs and cays, October 30-31, 1961: Atoll Res. Bull., No. 95: 142 pp. (The effects on the reefs were most disasterous in those areas exposed to the full force of the hurricane. Most affected was the slender branching coral Acropora cervicornis; least affected were the massive heads of Monastrea annularis. Most of the cays were partially eroded; some of the smaller ones had vanished after the storm.)

STORR, J. F.
1955 Ecology and oceanography of the coral-reef tract, Abaco Island, Bahamas. Geol. Soc. Amer. Spec. Paper 79: 98 pp. (abs. in Dissertation Abs., Vol. 16(2): p. 412.) (Ecologic transects of the Abaco coral reefs. Coral growth and structures are related to different ecologic factors, including waves, light, currents, etc. Many quantitative measurements are given, including population counts.)

TANDY, G. and J. COLMAN
1931 Superficial structure of coral reefs. Animal and plant successions on prepared substrata: Carn. Inst. Wash. Year Book, Vol. 30: pp. 395-396.*

VERMEER, D. E.
1963 Effects of hurricane Hattie, 1961, on the cays of British Honduras: Zeit. Geomorph., Vol. 7(4): pp. 332-354. (The waxing phase of the hurricane was destructive; the wanning phase was dominantly reconstructuve. The unstable sand bores were often completely washed away; no stable cay was completely removed.)

VOSS, G. L. and N. A. VOSS
1955 An ecological survey of Soldier Key, Biscayne Bay, Florida: Bull. Mar. Sci. Gulf and Carib., Vol. 5(3): pp. 203-229. (Porites, the only common coral, is found only east of Soldier Key, where sedimentation is slight enough to allow a minimal growth.)

WHITFIELD, R. P.
1901 Notice of a remarkable case of combination between two different genera of living corals: Bull. Amer. Mus. Nat. Hist., Vol. 14 (17): pp. 221-222. (Ctenophyllia sp. was found growing in the middle of a massive specimen of Meandrina labyrinthica.)

YONGE, C. M.
1958 Ecology and physiology of reef-building corals; in Buzzati-Traverso, Perspectives in Marine Biology: Univ. Calif. Press, Berkeley. pp. 117-135. (A good review of past literature and suggestions for future investigations of reef ecology and the biology of the coral.)

2. Communities (with emphasis on organisms other than corals)

ABBOTT, I. A.
1961 A check list of marine algae from Ifaluk Atoll, Caroline Islands: Atoll Res. Bull., No. 77: 5 pp. (85 species; relative abundances are given.)

BARDACH, J. E.
1959 The summer standing crop of fish on a shallow Bermuda Reef: Limn. and Ocean., Vol. 4(1): pp. 77-85. (490 kilograms of fish per hectare, estimated by visual count.)

BONHAM, K. and E. E. HELD
1963 Ecological observations on the sea cucumbers Holothuria atra and H. leucospilota at Rongelap Atoll: Pac. Sci., Vol. 17(3): pp. 305-314. (The ecology of the animals is discussed. It is estimated that the Holothuria population, of 5 x 10^6 individuals, ingests and egests 2 x 10^8 kg. of sand yearly.)

CUSHMAN, J. A., R. TODD and R. J. POST
1954 Recent Foraminifera of the Marshall Islands: U.S. Geol. Surv. Prof. Paper 260-H: pp. 319-384. (331 species and varieties are listed; ecologic distribution and abundances are given. Depth and access to the open ocean seem to be the limiting factors affecting distribution.)

DANIEL, C.
1949 Encrusting Foraminifera of Krusadi Island: Jour. Madras Univ., 18(B): pp. 27-37.*

DAWSON, E. Y.
1955 An annotated list of marine algae from Eniwetok Atoll, Marshall Islands: Pac. Sci., Vol. 11(1): pp. 92-132. (Includes a key to the genera.)

1956 Some algae from Canton Atoll: Atoll Res. Bull., No. 65: 6 pp. (A list of the species and ecologic distribution.)

1961 The rim of the reef. Calcareous algae occupy a major role in the growth of atolls: Nat. Hist., Vol. 70(6): pp. 8-17.*

DOTY, M. S.
1957 An enumeration of the hypothetical roles of algae in coral atolls: Proc. 8th Pac. Sci. Congr. 3A: pp. 923-928. (Coralline algae absorb the nutrient salts that are used in the atoll complex. Algae also are the major decomposers and sediment formers.)

1962 Functions of the algae in the central Pacific: Proc. 9th Pac. Sci. Cong., 1957, Vol. 4: pp. 148-155. (The roles of algae in productivity, and "construction and destruction of shores, islands, and reefs" are reviewed.)

GOHAR, H. A. F. and G. N. SOLIMAN
1963a On three mytilid species boring in living corals: Publ. Mar. Biol. Sta. Al-Ghardaqa (Red Sea), No. 12: pp. 65-98. (Different species of boring mollusks appear to bore in different species of coral. The mechanism of boring is discussed.)

GOHAR, H. A. F. and G. N. SOLIMAN (cont'd)
1963b On the biology of three Coralliophilids boring in living coral: Publ. Mar. Biol. Sta. Al-Ghardaqa (Red Sea), No. 12: pp. 99-126. (The general taxonomy, biology and boring mechanism are discussed.)

1963c On the rock-boring lamellibranch Rocellaria ruppelli (Deshayes): Publ. Mar. Biol. Sta. Al-Ghardaqa (Red Sea), No. 12: pp. 145-158. (The general taxonomy, biology and boring mechanism are discussed.)

1963d On two mytilids boring in dead coral: Publ. Mar. Biol. Sta. Al-Ghardaqa (Red Sea), No. 12: pp. 205-218. (The general taxonomy, biology and boring mechanisms are discussed.)

HARTMAN, O.
1954 Marine Annelids from the northern Marshall Islands: U. S. Geol. Surv. Prof. Paper 260-Q: pp. 619-644. (Over 100 species of marine annelids are identified, including some that are destructive to coral.)

HIATT, R. W. and D. W. STRASBURG
1960 Ecological relationships of the fish fauna on coral reefs of the Marshall Islands: Ecol. Monog., Vol. 30(1): pp. 65-127. (The feeding habits of 233 species of reef fish are described. A surprisingly large number ingest coral polyps. Some relationships of the fish to their habitat are also considered.)

JOHNSON, M. W.
1954 Plankton of Northern Marshall Islands: U. S. Geol. Surv. Prof. Paper 260-F: pp. 301-314. (The plankton fauna are characterized by some species which are endemic to the lagoon. Plankton in the lagoon are about four times more abundant than in the windward portion of the reef, and twice as concentrated as the leeward areas. Vertical and diurnal distributions are also discussed.)

MARSDEN, J. R.
1962 A coral-eating Polychaete: Nature, Vol. 193: p. 598. (Hermodice carunculata was observed on ten occasions to eat portions of the coral Porites porites. Nematocysts were found in the worms' fecal pellets.)

MARSHALL, S. M.
1933 The production of microplankton in the Great Barrier Reef region: Great Barrier Reef Exped. Sci. Rept., Vol. 2(5): pp. 111-157. (Diatoms dominate and are more abundant on the reef than in the open ocean. Abundance varies with the season.)

MOUL, E. T.
1957 Preliminary report on the flora on Onotoa Atoll, Gilbert Islands: Atoll Res. Bull., No. 57: 48 pp. (The taxonomy and the distribution of the marine algae are discussed.)

1964 New records of Halimeda and Udotea for the Pacific area: Atoll Res. Bull., No. 106: 10 pp.

PALUMBO, R. F.
1962 The relationships between atolls and benthic algae: Proc. 9th Pac. Sci. Cong., 1957, Vol. 4: pp. 168-170. (The occurrence of algae in the atoll system is dependent upon the physical and chemical factors of the water, the form of the alga, and the "biologic factors imposed by the other organisms in the vicinity.")

RUSSELL, F. S. and J. S. COLMAN
1934 The composition of the zooplankton of the barrier reef lagoon: Great Barrier Reef Exped. Sci. Rept., Vol. 2(6): pp. 159-175. (Mainly descriptive; based on vertical hauls.)

SPRINGER, V. G. and A. J. McERLEAN
1962 A study of the behavior of some tagged South Florida coral reef fishes: Amer. Mid. Nat., Vol. 67(2): pp. 386-397. (Several larger species of reef fish may occupy quasi-permanent homes on the reef.)

TSUDA, R. T.
1964 Floristic report on the marine algae of selected islands in the Gilbert group: Atoll Res. Bull., No. 105: 13 pp.

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III. CORAL - THE ANIMAL

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1962 The extant scleractinian corals of New Zealand: Zool. Publ. Victoria Univ., Wellington, No. 29: pp. 1-19. (There have been no hermatypic corals in New Zealand since the Miocene; present fauna distributions are poorly known.)

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2. Biology of Corals

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1959 Assimilatory pigments from colonial coelenterates of the coral reefs and their ecological meaning: Invest. Pesquera, Vol. 15: pp. 81-101. (Assimilatory pigments from zooxanthellae may be useful ecologic and physiological indicators.)

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1960 Uptake of glucose from solution by the solitary coral Fungia: Science, Vol. 131(3412): p. 1532. (Uptake is sufficient to maintain the coral's metabolism.)

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2. B. Reproduction and embryology

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2. C. Growth rate and colony formation

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