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## REFERENCES

- AGUAYO, C. G., and JAUME, M. L. (1939): *Moluscos semifósiles del Bosque de la Habana*. Mem. Soc. Cub. Hist. natur. 13, No. 4, 229-245.
- ALLEN, J. R. L. (1961): *Sandstone—plugged pipes in the Lower Old Red Sandstone of Shropshire, England*. J. Sed. Petrol., 31, 325-335.
- ALLEN, V. T. (1935-1936): *Terminology of Medium-grained Sediments*. Nat. Res. Council, Rept. Sediment. 1935-1936, 18-47.
- APPLIN, P. L., and APPLIN, E. R. (1944): *Regional Subsurface Stratigraphy and Structure of Florida and Southern Georgia*. Bull. Amer. Assoc. Petr. Geol. 28, 1673-1753.
- AYALA-CASTAÑARES, A. (1959): *Estudio de algunos microfósiles planktonicos de las calizas del Cretacico Superior de la República de Haiti*. Paleontol. mexic., No. 4.
- BANNER, F. T., and BLOW, W. H. (1959): *The classification and stratigraphical distribution of the Globigerinacea*. Paleontology 2, 1-27.
- BECKMANN, J. P. (1954): *Die Foraminiferen der Oceanic Formation (Eocaen-Oligocaen) von Barbados, Kl. Antillen*. Eclogae geol. Helv. 46, No. 2 (1953), 301-412.
- (1959): *Correlation of pelagic and reefal faunas from the Eocene and Paleocene of Cuba*. Eclogae geol. Helv. 51 (1958), 416-421.
- BERMÚDEZ, P. J. (1937): *Estudio Micropaleontológico de las Formaciones Eocénicas de las cercanías de la Habana*. Mem. Soc. Cub. Hist. natur. 11, 153-180.
- (1938): *Bibliografía Geológica Cubana*. Rev. Univ. La Habana.
- (1950): *Contribución al estudio del Cenozoico Cubano*. Mem. Soc. Cub. Hist. natur. 19, No. 3, 205-375.
- (1952): *Estudio sistemático de los Foraminíferos rotaliformes*. Bol. Geol., Min. Minas e Hidrocarburos, Caracas 2, No. 4.
- BERRYHILL, H. L., BRIGGS, R. P., and GLOVER, L., III (1959): *Stratigraphy, sedimentation and tectogenesis of rocks of Late Cretaceous age in eastern Puerto Rico*. Sec. Carib. Geol. Conf., Mayagüez, Puerto Rico, Progr., pp. 23-24.
- BERTHOIS, L. (1958): *Note sur la formation de structures cylindriques dans les grès*. Bull. Soc. géol. France [6e S.] 8, 315-324.
- BLOW, W. H. (1959): *Age, correlation, and biostratigraphy of the Upper Tocuyo (San Lorenzo) and Pozón formations, eastern Falcón, Venezuela*. Bull. Amer. Pal. 39, No. 178.
- BRAMLETTE, M. N. (1957): *Discoaster and some related microfossils in Geology of Saipan, Mariana Islands*. Part 3, Paleontology. Geol. Survey, Prof. Pap. 280-E-J, 247-253.
- (1960): *Age relations in Early Tertiary of Europe and America as indicated by Coccolithophorids and related microfossils*. Abstract, p. 64, Progr. Annual Meet. geol. Soc. Amer.
- BRAMLETTE, M. N., and RIEDEL, W. R. (1954): *Stratigraphic value of Discoasters and some other microfossils related to Recent Coccolithophores*. J. Pal. 28, No. 4, 385-403.
- BRAMLETTE, M. N., and SULLIVAN, F. R. (1961): *Coccolithophorids and related Nannoplankton of the early Tertiary in California*. Micropaleontology 7, 129-188.
- BRODERMANN, J. (1940): *Determinación geológica de la Cuenca de Vento*. Soc. Cub. Ing. Publ., Terc. Congr. Nac. Ing., La Habana.
- (1943): *Breve Reseña Geológica de Cuba*. Censo de la República de Cuba, 113-148.
- BRODERMANN, J., and BERMÚDEZ, P. J. (1942): *Contribución al Mapa Geológico de la Provincia de la Habana, Cuba*. Eighth Amer. sci. Congr., Washington, 4, geol. Sci. 627-637.
- BRÖNNIMANN, P. (1949): *Pflanzenbewohnende tropische Foraminiferen nebst Beschreibung von Cymbalopora tobagoensis, n. sp.* Abh. naturf. Ges. Basel, 60, 179-185.
- (1955): *Microfossils incertae sedis from the Upper Jurassic and Lower Cretaceous of Cuba*. Micropaleontology 1, 28-51.
- (1955): *Upper Cretaceous Orbitoidal Foraminifera from Cuba*. Part III *Pseudorbitoides* H. DOUVILLÉ 1922. Contr. Cushman Found. 6, 57-76.
- (1958): *New Pseudorbitoididae from the Upper Cretaceous of Cuba, with remarks on encrusting foraminifera*. Micropaleontology 4, 165-185.

- BRÖNNIMANN, P., and BROWN, N. K., Jr. (1956): *Taxonomy of the Globotruncanidae*. *Eclogae geol. Helv.* 48, 503–561.
- BRÖNNIMANN, P., and NORTON, P. (1961): *On the classification of fossil fecal pellets and description of new forms from Cuba, Guatemala and Libya*. *Eclogae geol. Helv.* 53 (1960), 832–842.
- BRÖNNIMANN, P., and PARDO, G. (1956): *Jurassic–Cretaceous stratigraphy of the carbonate rocks of northern Las Villas Province, Cuba*. XX Congr. Geol. Intern., Mexico. Resúmenes trabajos presentados, p. 238.
- BRÖNNIMANN, P., and STRADNER, H. (1960): *Die Foraminiferen- und Discoasteridenzonen von Kuba und ihre interkontinentale Korrelation*. *Erdöl. Ztschr.* 76, 364–369.
- BROTZEN, F. (1948): *The Swedish Paleocene and its foraminiferal fauna*. *Sver. Geol. Unders., Årsbok* 42, No. 2.
- BUCHER, W. H. (1953): *Fossils in metamorphic rocks: a review*. *Bull. geol. Soc. Amer.* 64, 275–300 (Ref. to Cuba p. 285).
- (1955): *Deformation in Orogenic Belts*. *Geol. Soc. Amer. Spec. Paper* 62, 343–368.
  - (1956a): *Role of gravity in orogenesis*. *Bull. geol. Soc. Amer.* 67, 1295–1318.
  - (1956b): *Modellversuche und Gedanken über das Wesen der Orogenese*. *Geotektonisches Symposium zu Ehren von Hans Stille*, pp. 396–410. Stuttgart.
- BUTTERLIN, J. (1956): *La constitution géologique et la structure des Antilles*. *Centre Nat. Rech. Sci., Paris*.
- (1959): *A propósito de la edad de las Formaciones Escolin, Coatzacoahuila y Tuxpan de la Cuenca Sedimentaria de Tampico-Misantla*. *Bol. Asoc. Mex. Geol. Petrol.*, 10, 595–601.
- BUTTERLIN, J., and BONET, F. (1960): *Repartition stratigraphique de Operculina catenula CUSHMAN and JARVIS dans le Bassin des Caraïbes*. *C.R. Somm. Soc. géol. France, Séance du 18 Janvier 1960*, p. 14.
- BUTTERLIN, J., and BONET, F. (1960): *Microfauna del Eoceno Inferior de la Península de Yucatan*. *Univ. Nac. Aut. Mexico, Pal. Mex.* No. 7.
- CARL, J. D., and AMSTUTZ, G. C. (1958): *Three-dimensional Liesegang rings by diffusion in a colloidal matrix, and their significance for the interpretation of geological phenomena*. *Bull. Geol. Soc. Amer.* 69, 1467–1468.
- CARMAN, K. (1929): *Some Foraminifera from the Niobrara and Benton formations of Wyoming*. *J. Pal.* 3, 309–315.
- CHUBB, L. J. (1955): *The Cretaceous Succession in Jamaica*. *Geol. Mag.* 92, No. 3, 177–195.
- (1956): *Rudist Assemblages of the Antillean Upper Cretaceous*. *Bull. Amer. Pal.* 37, No. 161.
  - (1957): *The Pattern of some Pacific Island Chains*. *Geol. Mag.* 94, No. 13, 221–228.
  - (1959): *The Antillean Cretaceous Geosyncline*. *Sec. Carib. Geol. Conf., Mayagüez, Puerto Rico, Progr.*, pp. 15–16.
- CIZANCOURT, M. DE (1947): *Quelques Nummulitidés nouveaux ou non encore signalés de l'Eocène de Cuba*. *Bull. Soc. géol. France [5e S.]* 17, 513–522.
- (1948): *Nummulites de l'Ile de la Barbade (Petites Antilles)*. *Mém. Soc. géol. France [N.S.]*, *Mém. No.* 57.
- COOKE, C. W. (1919): *Tertiary Mollusks from the Leeward Islands and Cuba*. *Carnegie Inst., Publ. No.* 21, 103–156.
- (1945): *Geology of Florida*. *Florida geol. Surv., geol. Bull. No.* 29.
- COLE, W. S. (1957): *Late Oligocene Larger Foraminifera from Barro Colorado Island, Panama, Canal Zone*. *Bull. Amer. Pal.* 37, No. 163.
- (1957): *Variation in American Oligocene species of Lepidocyclina*. *Bull. Amer. Pal.* 38, No. 166.
  - (1957): *Larger Foraminifera from Eniwetok Atoll Drill Holes*. *Geol. Surv. Prof. Paper* 260-V.
  - (1958): *Names of and variation in certain American larger Foraminifera*. *Bull. Amer. Pal.* 38, No. 170.
  - (1958): *Names of and variation in certain American larger Foraminifera, particularly the Camerinids*. *Bull. Amer. Pal.* 38, No. 173.

- COLE, W. S. (1958): *Names of and variation in certain American larger Foraminifera, particularly the Discocyclinids*. Bull. Amer. Pal., 38, No. 176.
- (1958): *Larger Foraminifera from Carriacou, British West Indies*. Bull. Amer. Pal. 38, No. 171.
  - (1959): *Names of and variation in certain Indo-Pacific Camerinids*. Bull. Amer. Pal. 39, No. 181.
  - (1959): *Faunal associations and the stratigraphic position of certain American Paleocene and Eocene larger Foraminifera*, Bull. Amer. Pal. 39, No. 182.
  - (1960): *The genus Camerina*. Bull. Amer. Pal. 41, No. 190.
- CORRAL, J. I. DEL (1944): *Terrazas Pleistocénicas Cubanas*. La Habana.
- CUSHMAN, J. A. (1919): *Fossil Foraminifera from the West Indies*. Carnegie Inst., Publ. No. 21, 21-72.
- (1921): *Foraminifera of the Philippines and adjacent seas*. U.S. Nat. Mus. Bull. 100.
- CUSHMAN, J. A., TODD, R., and POST, R. (1954): *Recent Foraminifera of the Marshall Islands*. U.S. geol. Surv. Prof. Paper 260-H.
- CUVILLIER, J. (1945): *La Micropaléontologie, ses méthodes, ses buts, ses résultats*. A.F.A.S., Congrès de Paris, 64e sess., pp. 30-31.
- (1951): *Corrélations stratigraphiques par microfaciès en Aquitaine occidentale*. E. J. Brill. Leiden.
  - (1952): *La notion de "microfaciès" et ses applications*. Atti VII Convegno Naz. Metano Petr.
- DAETWYLER, C. C., and KIDWELL, A. L. (1955): *The Gulf of Batabano, a modern carbonate basin*. Proc. Fifth World Petr. Congr., Sect. I, Paper 1, pp. 1-20.
- DEGOLYER, E. (1918): *The Geology of Cuban Petroleum Deposits*. Bull. Amer. Assoc. Petr. Geol. 2, 133-167.
- DIETRICH, R. V. (1952): *Conical and cylindrical structure in the Potsdam sandstone*. Bull. geol. Soc. Amer. 63, 12-44.
- DIZER, A. (1961): *Le genre Fabiania et quelques autres foraminifères l'accompagnant dans le nummulitique de Kizilcahamam (NW Ankara)*. Rev. micropal. 4, 80-84.
- DROOGER, C. W. (1951): *Foraminifera from the Tertiary of Anguilla, St. Martin and Tintamarre (Leeward Islands, West Indies)*. Proc. Kon. Ned. Akad. Wetensch. Amsterdam, [S. B] 54, 54-65.
- (1960): *Some Early Rotaliid Foraminifera I to III*. Proc. Kon. Nederl. Akad. Wetensch. Amsterdam [S. B] 63, 287-334.
- ELLIOTT, G. F. (1961): *More microproblematica from the Middle East*. Micropaleontology 8, 29-44.
- FLINT, D. E., ALBEAR, J. F. DE, GUILD, P. W. (1948): *Geology and chromite deposits of the Camagüey district, Camagüey Province, Cuba*. U.S. geol. Surv. Bull. 954, 39-63.
- GANSSEER, A. (1960): *Ausseralpine Ophiolitprobleme*. Eclogae geol. Helv. 52, No. 2 (1959), 659-679.
- GLAESSNER, M. F. (1960): *Upper Cretaceous Larger Foraminifera from New Guinea*. Sci. Repts. Tohoku Univ., Sendai, Spec. 4, 37-44.
- GRIMSDALE, T. F. (1951): *Correlation, age determination, and the Tertiary pelagic Foraminifera*. Proc. Third World Petr. Congr., The Hague, Section I.
- GRIMSDALE, T. F., and MORKHOVEN, F. P. C. M. VAN (1955): *The ratio between pelagic and benthonic Foraminifera as a means of estimating depth of deposition of sedimentary rocks*. Proc. Fourth World Petr. Congr., Rome, Section I/D, 473-491.
- HANZAWA, S. (1962): *Upper Cretaceous and Tertiary three-layered larger foraminifera and their allied forms*. Micropaleontology 8, 129-186.
- HAWLEY, J. E., and HART, R. C. (1934): *Cylindrical structures in sandstones*. Bull. geol. Soc. Amer. 45, 1017-1034.
- HAYES, W. C., VAUGHAN, W. T., and SPENCER, A. C. (1901): *Informe sobre un reconocimiento geológico de Cuba*. Traducido del inglés y anotado por Pablo Ortega y Ros (cuarta edición), 1938.
- HEIM, A. (1959): *Oceanic Sedimentation and Submarine Discontinuities*. Eclogae geol. Helv. 51, No. 3 (1958), 642-649.

- HEINRICH, W. E. (1956): *Microscopic Petrography*. McGraw-Hill Book Co., Inc., pp. 123-126.
- HENSON, F. R. S. (1950): *Cretaceous and Tertiary reef formations and associated sediments in Middle East*. Bull. Amer. Assoc. Petr. Geol. 34, 215-238.
- (1950): *Middle Eastern Tertiary Peneroplidae (Foraminifera), with remarks on the Phylogeny and Taxonomy of the Family*. Thesis, University of Leiden.
- HERMES, J. J. (1945): *Geology and Paleontology of East Camagüey and West Oriente, Cuba*. Thesis, Utrecht.
- HERSEY, J. E., and RUTSTEIN, M. S. (1958): *Reconnaissance survey of Oriente Deep (Caribbean Sea) with a precision echo sounder*. Bull. geol. Soc. Amer. 69, 1297-1304.
- HESS, H. H. (1955): *Serpentines, Orogeny, and Epeirogeny*. Geol. Soc. Amer. Spec. Paper No. 62, 391-408.
- (1959): *Outstanding problems of Caribbean geology*. Sec. Carib. Geol. Conf., Mayagüez, Puerto Rico, Progr., pp. 13-15.
- HIESSLEITNER, G. (1951/52): *Serpentin- und Chromerzgeologie der Balkanhalbinsel und eines Teiles von Kleinasien*. J. geol. Bundesanst. Srbd. 1 und 2, Wien.
- HILL, P. A. (1958): *Guaos area, Las Villas, Cuba*. Carleton Univ., Ottawa, Geol. Paper 58-1, pp. 1-8.
- HOFKER, I. (1959-1960): *Foraminifera from the Cretaceous of Southern Limburg, Netherlands*. Nos. 39-48. Natuurhist. Maandbl. 48 and 49 (in particular No. 39).
- (1960): *Le problème du Dano-Paléocène et le passage Crétacé-Tertiaire*. Rev. Micropal. 3, 119-130.
- (1960): *The Foraminifera of the lower boundary of the Danish Danian*. Medd. Dansk geol. For. 14, 212-242.
- (1960): *The genus Truncorotalia CUSHMAN and BERMUDEZ, 1949*. Micropaleontology 6, 111-115.
- HOSE, H. R., and VERSEY, H. R. (1956): *Paleontological and Lithological Divisions of the Lower Tertiary Limestones of Jamaica*. Col. Geol. Min. Res. 6, No. 1, 19-39.
- IMLAY, R. W. (1944): *Correlation of the Cretaceous Formations of the Greater Antilles, Central America, and Mexico*. Bull. geol. Soc. Amer. 55, 1005-1045.
- JACKSON, R. I. (1922): *Fossil echini from the West Indies*. Contr. Geol. Pal. West Indies, The Carnegie Inst., Washington.
- JEANNET, A. (1937): *Encore Lanieria lanieri (D'ORBIGNY) COTTEAU. Observations nouvelles*. Eclogae geol. Helv. 29 (1936), 581-598.
- JENKINS, D. G. (1960): *Planktonic foraminifera from the Lakes Entrance oil shaft, Victoria, Australia*. Micropaleontology 6, 345-372.
- JOHNSON, H. J. (1957): *Calcareous algae in Treatise on Marine Ecology and Paleoecology*. Hedgpeth, editor. Geol. Soc. Amer., Mem. 67, 2, 699-702.
- JOUKOWSKY, E. (1935): *Sur la présence, dans le glacio-lacustre genevois, d'organismes considérés jusqu'ici comme marins (Coccolithes et Actiniscus)*. Soc. Phys. Hist. natur. Genève, C.R. 52, No. 3, 261-264.
- KEIJZER, F. G. (1945): *Outline of the geology of the eastern part of the Province of Oriente, Cuba (E of 76° WL), with notes on the geology of other parts of the island*. Thesis, Utrecht.
- KLAUS, J. (1960): *Le "Complexe schisteux intermédiaire" dans le synclinal de la Gruyère (Préalpes médianes)*. Eclogae geol. Helv. 52, No. 2 (1959), 753-851.
- KRÖMMELBEIN, K. (1963): *Beiträge zur geologischen Kenntnis der Sierra de los Organos (Cuba)*. Ztschr. Deutsch. Geol. Ges., 114 (1962), 92-120.
- KUENEN, P. H. (1959): *Turbidity currents a major factor in flysch deposition*. Eclogae geol. Helv. 51, No. 3 (1958), 1009-1021.
- KUENDIG, E. (1959): *Eu-Geosynclines as Potential Oil Habitats*. Fifth World Petr. Congr., Sect. I, Geology, Geophysics.
- LAUGHTON, A. S. (1959): *Photography of the ocean floor*. Endeavour 18, No. 72, 178-185.
- LEWIS, J. W. (1932): *Geology of Cuba*. Bull. Amer. Assoc. Petr. Geol. 16, No. 6, 533-555.

- LEWIS, G. E., and STRACZEK, J. A. (1955): *Geology of south-central Oriente Province, Cuba*. U.S. geol. Surv. Bull. 975-D, 171-336.
- LOEBLICH, A., et al. (1958): *Studies in Foraminifera*. U.S. Nat. Museum, Bull. 215.
- LOEBLICH, A. R., and TAPPAN, H. (1957): *Correlation of the Gulf and Atlantic Coastal Plain Paleocene and Lower Eocene formations by means of planktonic foraminifera*. J. Pal. 31, 1109-1137.
- LEMOINE, M. (1960): *Comparaison de Distichoplax biserialis et des Rhabdopleura fossiles et actuels*. Rev. Micropal. 3, 95-102.
- MANGIN, J. P. (1957): *La limite Crétacé-Tertiaire sur le versant Sud des Pyrénées occidentales*. C.R. Acad. Sci. 244, 1227-1229, Séance du 25 février 1957.
- (1957): *Remarques sur le terme Paléocène et sur la limite Crétacé-Tertiaire*. C.R. Somm. Sod. géol. France, No. 14, Séance du 18 novembre 1957, p. 319.
- MATLEY, C. A. (1929): *The Basal complex of Jamaica, with special reference to the Kingston district*. Quart. J. geol. Soc. London 85, 440-492.
- (1951): *Geology and physiography of the Kingston district*. Inst. Jamaica, Kingston.
- MATTHEW, W. D. (1920): *Status and limits of the Paleocene*. Bull. geol. Soc. Amer. 31, 221.
- MATTSON, P. H. (1960): *Geology of the Mayagüez area, Puerto Rico*. Bull. geol. Soc. Amer. 71, 319-362.
- MEYERHOFF, H. A. (1933): *Geology of Puerto Rico*. Univ. Puerto Rico Monographs, [S. B] No. 1, 306.
- MITCHELL, R. C. (1953): *New data regarding the dioritic rocks of the West Indies*. Geol. Mijnbouw, [N.S.] 15, 285-295.
- (1955): *The age of the serpentized peridotites of the West Indies*. Med. Kon. Nederl. Akad. Wetensch., No. 3, 194-212 (parts I and II).
- MOORE, D. G. (1961): *Submarine slumps*. J. Sed. Petrol. 31, 343-357.
- MOORE, W. E. (1957): *Ecology of Recent Foraminifera in northern Florida Keys*. Bull. Amer. Assoc. Petr. Geol. 41, 727-741.
- MOORE, R. C. (1955): *Invertebrates and Geologic Time Scale in Crust of the Earth*. Poldervaart, editor. Geol. Soc. Amer., Spec. Pap. 62, 547-574.
- MYERS, E. H. (1942): *Ecologic relationship of some recent and fossil Foraminifera*. Nat. Res. Council, Washington, pp. 31-36.
- (1943): *Ecologic relationship of larger Foraminifera*. Nat. Res. Council, Washington, pp. 26-30.
- MACGILLAVRY, H. J. (1937): *Geology of the Province of Camagüey, Cuba, with revisional studies in Rudist Paleontology (mainly based upon collection from Cuba)*. Thesis, Utrecht.
- MCNEAL, R. P. (1959): *Lithologic analysis of sedimentary rocks*. Bull. Amer. Assoc. Petr. Geol. 43, 854-879.
- NAGAPPA, Y. (1959): *Note on Operculinoides Hanzawa 1935*. Paleontology 2, 156-160.
- NEWELL, N. D. (1960): *Marine Planation of Tropical Limestone Islands*. Sci. 132, No. 3420, 144-145.
- NORTON, R. D. (1930): *Ecologic relations of some foraminifera*. Bull. Scripps Inst. Oceanogr., [Tech. ser.] 2, No. 9.
- ÖPIK, A. A. (1959): *Tumblagooda sandstone trails and their age*. Rep. No. 38, Pap. Western Australia Strat., Pal. Bur. Min. Res., Geol., Geophysics, Dept. Nat. Development, Australia.
- PALMER, D. K. (1934): *The Upper Cretaceous age of the orbitoidal genus Gallowayina Ellis*. J. Pal. 8, 68-70.
- (1934): *The Foraminiferal Genus Gümbelina in the Tertiary of Cuba*. Mem. Soc. Cub. Hist. natur. 8, 73-76.
- (1934): *The Occurrence of Fossil Radiolaria in Cuba*. Mem. Soc. Cub. Hist. natur. 8, 77-82.
- (1940-41): *Foraminifera of the Upper Oligocene Cojímar formation of Cuba*. Mem. Soc. Cub. Hist. natur. 14, Nos. 1, 2, 4: 15, Nos. 2, 3.
- PALMER, D. K., and BERMÚDEZ, P. J. (1936): *An Oligocene Foraminiferal Fauna from Cuba*. Mem. Soc. Cub. Hist. natur. 10, Nos. 4 and 5.

- PALMER, R. H. (1933): *Nuevos Rudistes de Cuba*. Rev. Agricultura 14, Nos. 15 and 16, 95–125, La Habana.
- (1934): *The Geology of Habana, Cuba, and vicinity*. J. Geol. 42, No. 2, 123–145.
  - (1938): *Field Guide to Geological Excursion in Cuba*. Secret. Agricult., Rep. de Cuba, La Habana (no pagination).
  - (1941): *An active syncline*. J. Geol. 49, No. 7, 772–775.
  - (1942): *Geology and oil prospects of Cuba*. Proc. Eighth Amer. sci. Congr., Washington, 4, Geol. Sci., 627–637.
  - (1948): *List of Palmer Cuban Fossil Localities*. Bull. Amer. Paleont. 31, No. 128.
- PARKER, F. L. (1962): *Planktonic Foraminiferal species in Pacific sediments*. Micropaleontology 8, 219–254.
- PESAGNO, E. A. (1960): *Thin-sectioning and photographing smaller Foraminifera*. Micropaleontology 6, 419–423.
- (1961): *The micropaleontology and biostratigraphy of the middle Eocene Jacaguas group, Puerto Rico*. Micropaleontology 7, 351–358.
  - (1960): *Stratigraphy and micropaleontology of the Cretaceous and lower Tertiary of Puerto Rico*. Micropaleontology 6, 87–110.
- PHOENIX, D. A. (1958): *Sandstone cylinders as possible guides to paleomovement of ground water*, in ANDERSON, R. E., and HARSHBERGER, J. W., eds., Guidebook of the Black Mesa basin. New Mexico geol. Soc., Ninth Field Conf., 194–196.
- PURI, H. S. (1953): *Contribution to the study of the Miocene of the Florida Panhandle*. Florida geol. Surv., geol. Bull. No. 36.
- REISS, A., and MERLING, P. (1958): *Structure of some Rotaliidea*. Israel geol. Survey, Bull. No. 21.
- RIGASSI, D. (1960): *Quelques problèmes de Géologie géométrique*. Bull. Ver. schweiz. Petr. Geol. Ing. 26, No. 71, 75–82.
- (1961): *Quelques vues nouvelles sur la Géologie Cubaine*. Chron. Mines Rech. Minière, No. 302, 3–7.
- ROBERTS, R. J., and IRVING, E. M. (1957): *The mineral resources of Central America with a section on manganese deposits of Panamá*. U.S. geol. Surv. Bull. 1034, 205 pp.
- RUTSCH, R. F. (1940): *Die Abtrennung des Paleocaens vom Eocaen*. Eclogae geol. Helv. 32, No. 2 (1939), 211–214.
- RUTTEN, L. (1935): *Alte Land- und Meeresverbindungen in West-Indien und Zentralamerika*. Geol. Rdsch. 26, 65–94.
- (1939): *Los límites de nuestro conocimiento de la Geología de Cuba*. Anales Acad. Cien. Habana, pp. 485–494 (session of April 6, 1939).
  - (1940): *On the age of the serpentines in Cuba*. Proc. Kon. Nederl. Akad. Wetensch. 43, No. 5, 1–8.
  - (1941): *Enkele morfologische opmerkingen over Cuba*. Tijdschr. Nederl. Aardrijksk. Genootsch., Deel 58, No. 6, 992–1001.
- RUTTEN, M. G. (1936): *Geology of the northern part of the Province of Santa Clara, Cuba*. Thesis, Utrecht.
- SACHS, K. N., Jr. (1957): *Restudy of some Cuban Larger Foraminifera*. Contr. Cushman Found. Foram. Res. 3, 106–120.
- (1959): *Puerto Rican Upper Oligocene Larger Foraminifera*. Bull. Amer. Pal. 39, No. 183.
- SÁNCHEZ ROIG, M. (1926): *Contribución a la Paleontología Cubana "Los Equinodermos Fósiles de Cuba"*. Bol. Minas, No. 10, pp. 1–134.
- (1942): *Evolución Histórica y Juicio Crítico de los trabajos geológicos de la Provincia de la Habana*. Eighth Amer. Scient. Congr., Washington 4, Geol. Sci., 593–594.
  - (1949): *Los Equinodermos fósiles de Cuba*. Paleontología Cubana 1, La Habana.
  - (1952): *Nuevos géneros y especies de Equinoideos Fósiles Cubanos*. Torreia, No. 17, 5–18, La Habana.
  - (1953): *Algunos Equinoideos Fósiles Cubanos*. Rev. Agricultura, pp. 53–67, La Habana.
  - (1953): *Dos nuevos géneros de Equinoideos Cubanos*. Mem. Soc. Cub. Hist. natur. 21, No. 3, 257–262.

- SAPPER, K. (1937): *Mittelamerika*. Handb. Reg. Geol. 8, pt. 4a, No. 29.
- SCHUERMAN, H. M. E. (1935): *Massengesteine aus Cuba*. N. Jb. Geol. Mineral. etc., Beil-Bd. 70, Abt. A, 335–355.
- SEIGLIE, G. A. (1959): *Notas sobre algunas especies de Heterohelicidae del Cretacico superior de Cuba*. Bol. Asoc. Mex. Geol. Petr. 11, 51–62.
- SEILACHER, A. (1959): *Zur ökologischen Charakteristik von Flysch und Molasse*. Eclogae geol. Helv. 51, No. 3 (1958), 1062–1078.
- SMOUT, A. H., and EAMES, F. E. (1958): *The genus Archaias (foraminifera) and its Stratigraphical Distribution*. Paleontology 1, 207–225.
- STAINFORTH, R. M. (1945): *The Foraminifera of the Ciperó Marl Formation of Trinidad, British West Indies*. Cushman Lab. For. Res., Spec. Publ. No. 14.
- (1948): *Description, correlation, and paleontology of Tertiary Ciperó Marl formation, Trinidad, B.W.I.* Bull. Amer. Assoc. Petr. Geol. 32, 1292–1330.
- STEINMANN, G. (1905): *Geologische Beobachtungen in den Alpen*. Ber. naturf. Ges., Freiburg i. Br., 16, 44–65.
- SUBBOTINA, N. N. (1953): *Globigerinidae, Hantkeninidae and Globorotaliidae*. Fossil Foraminifera U.S.S.R., Moscow, Inst. Vingri, [N. s.], ed. 76.
- SUJKOWSKY, Zb. L. (1957): *Flysch sedimentation*. Bull. geol. Soc. Amer. 68, No. 5, 543–554.
- TABER, ST. (1931): *The structure of the Sierra Maestra near Santiago de Cuba*. J. Geol. 39, 532–557.
- (1931): *The problem of the Bartlett Trough*. J. Geol. 39, 558–563.
- (1934): *Sierra Maestra of Cuba, part of the northern rim of the Bartlett Trough*. Bull. geol. Soc. Amer. 45, 567–619.
- TAN SIN HOK (1927): *Over de samenstelling en het ontstaan van krijt—en mergelgesteenten van de Molukken* (Thesis, Delft.)
- TERCIER, J. (1948): *Le Flysch dans la sédimentation alpine*. Eclogae geol. Helv. 40, No. 2 (1947), 163–198.
- THALMANN, H. E., and AYALA-CASTAÑARES, A. (1959): *Evidencias micropaleontológicas sobre la edad Cretacico Superior de las “Pizarras Necoxtla”*. Paleontologia mex. No. 5.
- THAYER, T. P., and GUILD, P. W. (1947): *Thrustfaults and related structures in eastern Cuba*. Trans. Amer. geophys. Union 28, 919–930.
- THIADENS, A. A. (1937): *Geology of the southern part of the Province Santa Clara, Cuba*. Thesis, Utrecht.
- (1937): *Cretaceous and Tertiary Foraminifera from Southern Santa Clara Province, Cuba*. J. Pal. 11, 91–109.
- (1961): *Geology and mineral deposits of Jamaica*. Geol. Survey Dept., Publ. No. 72,
- THORP, E. M. (1931): *Descriptions of deep-sea bottom samples from the North Atlantic and Caribbean Sea*. Bull. Scripps Inst. Oceanogr., [Tech. s.] 3, No. 1.
- (1935): *Calcareous Shallow-water Marine Deposits of Florida and the Bahamas*. Carnegie Inst., Washington, Publ. 452, pp. 37–143.
- TOBLER, A. (1927): *Meandropsina im Tertiaer von Ostborneo*. Eclogae geol. Helv. 20, 321–323.
- TODD, R., CLOUD, P. E., JR., LOW, D., and SCHMIDT, R. G. (1954): *Probable Occurrence of Oligocene on Saipan*. Amer. J. Sci. 252, 673–682.
- TODD, R., and POST, R. (1954): *Smaller Foraminifera from Bikini drill holes*. U.S. geol. Surv. Prof. Paper 260-N.
- TRAUTH, F. (1936): *Über Aptychenfunde auf Cuba*. Proc. Kon. Akad. Wetensch. Amsterdam, 39, No. 1, 66–76.
- TWENHOFEL, W. H. (1926): *Treatise on sedimentation*.
- VAUGHAN, T. W. (1922): *Stratigraphic significance of the species of West Indian fossil echini*. Contr. Geol. Pal. West Indies, Carnegie Inst., Washington.
- (1927): *Notes on the types of Lepidocyclina mantelli (MORTON) GÜMBEL and on topotypes of Nummulites floridanus CONRAD*. Proc. Acad. Nat. Sci. Philadelphia, 79, 299–303.

- VAUGHAN, T. W. (1933): *Report on species of corals and larger Foraminifera collected in Cuba by O. E. MEINZER*. J. Washington Acad. Sci. 23, No. 7, 352-355.
- VERMUNT, L. W. J. (1937): *Geology of the Province of Pinar del Rio, Cuba*. Thesis, Utrecht.
- VLETTER, D. R. DE (1946): *Geology of the western part of Middle Oriente, Cuba (West of Holguin)*. Thesis, Utrecht.
- WASSALL, H. (1956): *The relationship of oil and serpentine in Cuba*. Presented at the XX Internat. geol. Congr. in Mexico (Printed in Habana).
- WEISBORD, N. E. (1934): *Some Cretaceous and Tertiary Echinoids from Cuba*. Bull. Amer. Pal. 20, No. 70 C.
- WELLS, J. W. (1934): *Eocene Corals. Part I: From Cuba, Part II: A New Species of Madracis from Texas*. Bull. Amer. Pal. 20, No. 70 B.
- (1941): *Upper Cretaceous Corals from Cuba*. Bull. Amer. Pal. 26, No. 97.
  - (1957): *Coral reefs in Treatise on Marine Ecology and Paleoecology*. Hedgepeth, editor. Geol. Soc. Amer., Mem. 67, 1, 609-631.
- WESSEM, A. VAN (1943): *Geology and Paleontology of Central Camagüey, Cuba*. Thesis, Utrecht.
- WEYL, R. (1941): *Bau und Geschichte der Cordillera Central von Santo Domingo (Westindien)*. Veröff. Deutsch-Dominikanisches Tropenforschungsinstitut Hamburg.
- (1953): *Geologische Streifzüge durch Westindien und Mittelamerika*. Senckenberg. naturf. Ges., Frankfurt am Main.
- WILLIAMS, H., TURNER, F. J., and GILBERT, C. M. (1954): *Petrography*. San Francisco, W. H. Freeman and Co.
- WILLIAMS, J. B. (1959): *The Structure, Scenery and Stratigraphy of the Central Inlier*. Geonotes, Quart. J. Jamaica Group geol. Assoc. 2, 7-15.
- WOODRING, W. P. (1954): *Caribbean Land and Sea through the ages*. Bull. geol. Soc. Amer. 65, 719-732.
- (1958): *Geology of Barro Colorado Island, Canal Zone*. Smithsonian Misc. Col. 135, No. 3.
  - (1959): *Oligocene and Miocene in the Caribbean region*. Sec. Carib. Geol. Conf., Mayagüez, Puerto Rico, Progr., 16-17.
- WOODRING, W. P., BROWN, J. S., and BURBANK, W. S. (1924): *Geology of the Republic of Haiti*. Dept. Publ. Works, Port-au-Prince, geol. Survey Rep. Haiti.
- ZANS, V. A. (1953): *Geology and mineral deposits of Jamaica*. Geol. Survey Dept., Publ., No. 1.

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