

had an imperfect hexagonal structure, and that accidental fractures must produce the shapes found in 'Eoliths'.

Mr. Dawson was a most versatile student, and during the beginning of his last illness was investigating a case of the development of incipient horns in a cart-horse. He had a restless mind, ever alert to note anything unusual; and he was never satisfied until he had exhausted all means to solve and understand any problem which presented itself. He was a delightful colleague in scientific research, always cheerful, hopeful, and overflowing with enthusiasm. The premature loss of his inspiring and genial presence is indeed a great sorrow to his large circle of devoted friends. A. S. W.

ROBERT JOHN LECHMERE GUPPY,

Corresponding Member of the Zoological Society of London and of the New York and Philadelphia Academies of Science.

BORN AUGUST 15, 1836.

DIED AUGUST 5, 1916.

WE deeply regret to announce the death of Robert John Lechmere Guppy, in the Island of Trinidad, on August 5, 1916, who was within a few days of completing the 80th year of his age. The deceased was born in London in 1836, his father being the Hon. R. Guppy, M.A., Barrister-at-law, and for many years the Mayor of San Fernando, Trinidad. He qualified for a Civil Engineer, and afterwards travelled through Australia, Tasmania, and New Zealand. On returning he joined his family at Trinidad and became engaged in the construction of the Ciperó Railway, subsequently entering the Colonial Secretary's office, and in 1868 was appointed to the important position of Chief Inspector of Schools, which he held until retirement in 1891. He was an ardent student of natural history and foremost in supporting the scientific societies of his island home, having been president of the Scientific Association of Trinidad and the first elected presiding officer of the Royal Victoria Institute Board. He was particularly interested in the Marine Mollusca, and was instrumental in obtaining for the British Museum the second largest example of a living species of *Pleurotomaria* known to conchologists, having a height of 150 millimetres. The shell was obtained from off the Island of Tobago, and was described by Guppy in a locally published journal.

Mr. Guppy's scientific labours will always be associated with his investigations on the geology and palæontology of Trinidad and other regions of the West Indies. Until his researches began the only information on the geology of Trinidad was obtainable from Wall and Sawkins' "Report" of 1860, published by the Geological Survey of England, the palæontological portion of which was furnished by the late R. Etheridge, F.R.S., who regarded the Tertiary fossils as belonging probably to the Miocene period. Guppy's first papers referred to the Foraminiferal beds of San Fernando, containing numerous *Orbitoides* and other forms, as well as Brachiopods, Echinoids, and Crustacea, which were described and figured and assigned to the older Miocene. It was found that these fossils bore resemblances to those from the Farallon rock which enabled both sets

of beds to be regarded as of contemporaneous origin and belonging to the older Miocene. At a later date, however, a similar fauna was reported from beds in the Island of St. Bartholomew, associated with corals of a pre-Miocene facies, described by Duncan, which resulted in the Farallon Rock, the San Fernando, and St. Bartholomew Beds being correlated together and recognized as of Eocene age or Lower Oligocene of later authors. So far as is known at present, the oldest Tertiary beds at Trinidad occur in the Soldado Islet, where the lowest fossiliferous deposits have yielded, according to Miss C. J. Maury's monograph on the Palæontology of Trinidad (Journ. Acad. Nat. Sci. Philadelphia, ser. II, vol. xv, 1912), *Venericardia planicosta*, a well-known Eocene Pelecypod of Alabama and Europe.

It is possible, therefore, that the Tertiary fossils from other districts of Trinidad, many of which have been described and figured by Guppy, are younger than those found in the Soldado, Farallon, or San Fernando deposits, although their horizons as given by Guppy are not always in agreement with the views of Miss Maury, an instance of which may be quoted in respect of the Manzanilla Beds, which the latter regards as Lower Oligocene, whereas Guppy and Dall schedule them as Eocene. Further studies are required in this direction before a more accurate correlation of these rocks can be attained. Guppy wrote several memoirs on the geology of other West Indian islands and Venezuela, and studied other Tertiary material, especially from Jamaica, San Domingo (Hayti), Antigua, Tobago, etc., some of his type Mollusca from Jamaica and San Domingo being preserved in the Geological Department of the British Museum. He was of opinion that the Caribbean Miocene fauna resembled that of Bordeaux, Dax, etc. (these French beds now being regarded as Oligocene or uppermost Eocene), rather than the American Miocene (Quart. Journ. Geol. Soc., vol. xxii, p. 285, 1866). Mr. Guppy was a prolific writer on his subject, some of his best memoirs having been published by the Geological Society of London, to which he was elected a Fellow in 1866, but he resigned in 1882. Although his views on "the existence of an Atlantis in the early Tertiary period" have not been generally accepted by geologists, such a fact should in no way minimize the great importance and value of his palæontological researches on the West Indies, which will always form the basis of similar work that may be undertaken by any future investigators. Mr. Guppy has contributed no fewer than fifty-one papers to various scientific journals, and with one exception (a paper on Australian geology) the whole series deals exclusively with the geology and palæontology of the West Indies. From 1864 to 1900 he contributed fifteen papers to the *GEOLOGICAL MAGAZINE*. Having known Mr. Guppy personally for many years we would wish to offer our sympathy to the widow and family in their bereavement.

R. B. N.

ERRATUM.—Dr. C. A. Cotton desires to correct an error in his paper, "On the Geological Structure of New Zealand" (see *GEOLOGICAL MAGAZINE*, June, 1916). On p. 247, line 36, for 'left' read 'continuously' above water.—Ed. *GEOLOGICAL MAGAZINE*.