DESCRIPTIVE NOTES OF NEW GENERA AND SPECIES FROM THE LOWER CAMBRIAN OR OLENELLUS ZONE OF NORTH AMERICA.*

BY

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The types of the new genera and species described in this paper are in the collection of the National Museum, and may be identified by the Museum catalogue number given with the description of each species. The illustrations of the species will be published in the Tenth Annual Report of the Director of the U.S. Geological Survey for the year ending June 30, 1889.

CORALS.

It has been an open question for many years whether the forms referred to the genus Archæocyathus, Billings, were corals or sponges (see Bull. U. S. Geol. Survey, No. 30, 1886, p. 78-80). Dr. G. J. Hinde has recently reviewed the genera and species,† and concluded that "the Archæocyathinæ form a special family of the Zoantharia sclerodermata, in some features allied to the group of perforate corals." Although previously inclined to consider the forms under notice sponges, I am now of the opinion that Dr. Hinde is more nearly correct in referring them to the corals.

Protopharetra BORNEMANN.

See Geol. Zeitschr., 1883, p. 274.

Protopharetra sp. 7

This is a form related to *P. polymorpha* Bornemann.[‡] It varies in form of growth from round stems to flattened fronds, in which the structure is very irregular. It is an open question if Spirocyathus atlanticus is not generically identical with Protopharetra.

LOCALITY.-Silver Peak, Nevada.

Nat. Mus. Cat. Invt. Foss., No. 15303.

Spirocyathus HINDE.

See Quart. Jonr. Geol. Soc., London, 1889, vol. 35, p. 136.

This genus is proposed to include the original type of the genus Archaecyathus, Billings. As the change to another type was made

[†]Quart. Jour. Geol. Soc., London, vol. 45, 1889, pp. 125-148, pl. 5.

* Nova Acta Leop. Carol., Deutsche Acad. Naturforscher, vol. 51, pt. 1, 1886.

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