INTRODUCTION.

All the Cyprinodontidae and Atherinidae of the Lerma System appear to have evolved therein, in all probability each from a single prototype.

Of the fourteen species of Chirostoma, at least eleven, and probably all the fourteen, occur together in Lake Chapala; several of these species are very closely related and it is by no means easy to distinguish between them; some of the specific characters appear to be adaptive—e.g., the lower jaw is short in C. promelas and strongly projecting in C. ocolona, whilst C. sphyraena is remarkable for its strong dentition; such characters may have arisen during physiological isolation.

The Neotropical Region.

The families Lepidosirenidae, Characinidae, Cichlidae, and Polycentridae are either almost or entirely restricted to the Neotropical and Ethiopian Regions, as are the Siluridae of the groups Pimelodinae and Doradinae.

The Neotropical Region is especially characterized by the great development of the Characinidae and Siluridae, and by the presence of endemic families derived from them. The Characinidae are represented by an extraordinary variety of endemic types, and they have given rise to the Gymnotidae; the neotropical Siluridae include several sub-families peculiar to this region, and from them the endemic families Loricariidae and Aspredinidae have evolved.

The Neotropical Region may be held to include three principal divisions, which may be termed the Patagonian, Brazilian, and Central-American Sub-regions. The fish-fauna of Chili and Patagonia is chiefly remarkable for the scarcity of true neotropical types; in Southern Mexico and Central America several South-American groups are absent, but this sub-region is characterized also by the presence of a few neartic fishes and by the development of a number of peculiar Cichlidae and Cyprinodontidae.

Our knowledge of the fresh-water fishes of the Central-American Sub-region is so incomplete that any division of this area into provinces can only be provisional. The Rio Balsas with its tributaries forms a province defined by the presence of some neartic types (Goodea, Amiurus, Notropis) and by the scarcity or absence of typical Central-American groups (Cichlidae represented by a single species; Pimelodinae, Belonesox and Xiphophorus absent).

The Rio San Juan, with Lakes Managua and Nicaragua, may perhaps be regarded as a province (San Juan Province) characterized by the peculiar Cichlid fauna; the region to the north of these right up to and including the Papaloapam System forms another province, defined by the presence of three neartic fishes (viz. one species each of Amiurus, Ictiobus, and Lepidosteus), by numerous Cichlidae of the genus Cichlosoma,