INTRODUCTION
INTRODUCTION

The development of the lateral line canal system was first studied by Bodenstein (1882) in *Cottus gobio*. After that the association of certain dermal bones with the system gave a new turn to the problem. Since then the morphology, development, disposition of the lateral line canal system and the associated neuromast sense organs and bones in the head region have been the subject of study by a number of authors in various groups of fishes.

The morphology, course and disposition of the lateral line canal system have been studied by a number of authors in various groups of fishes. In the Chondrichthyes the works of Mac Donnel (1884) on fishes in general, Garman (1888) on Selachians and Holocephali, Johnson (1917) on Selachians, Save-soderberg (1933) on *Osteolepis*, Disler (1949) on Plagiostomians and (1961) on sharks and rays, Nils Holmgren (1940-41) on *Squalus acanthias*, *Etmopterus spinan*, *Scyllium*
canicula, Mustelus laevis and Galeorhina smanazo sharks and Raja clavata. Torpedo orcellata and Urolophus halleri rays deserve special mention. Some work on Ganoids also came in light in 1894 and 1949 by Collinge. In Holocephali, Leydig (1895) studied Chimaera. In Dipnoi the works of Holmgren (1942 and 1949) and Pehrson (1949) on Prototerus and Neoceratodus may be specially mentioned.

Similarly in Teleostei the works of Dercum (1879), Guitei (1891) on Lophius, Collinge (1893, 1895) on Polypeterus Cole (1898) on Gadus, Clapp (1898) on Batrachus tau, Pollard (1892) on siluroids e.g. Trichomycterus, Callichthyes Claris, Chaetostomus and Auchenaspis, Wilson and Mattock (1897) on Salmon, Allis (1900, 1901) on Polypeterus bichir and Mustelus laevis respectively, Herrick (1899 and 1901) on Menidia and North American Siluroids, Wladykov (1920) on Salmoniden, Regnart (1928) on Plotosus deserve special mention.

Among the more recent works the investigations of Manigk (1933) on Phoxinus, Deny (1937) on Fundulus heteroclistus, Tschemavin (1940) on Microcyprini, Devillers (1944) on Leuciscus, Pehrson (1945) on Gymnarchus niloticus, Yih (1948) on Monopterus javaensis, Gosline (1949) on Fundulus, Bhatti (1952) on Rasa rita, Moor (1956) on Lepomis humilis and Moor and Burries (1956) on Aphredoderus sayanus, Sato (1959) on Cobitis,

The development of canals, however, has been followed by the following authors — Wilson (1889) in Serranus, Allis (1889 and 1904) in Amia, Perca fluviatilis, Micropterus dolomien, Pomatomus, Archosargus probatocephalus, Cottus geneus, C. octodecimspinoxy, Silurus, Lekander (1949) in Ostariophysl like Amiurus, Silurus, Cobitis, Leuciscus, Plotosus, Alburnus, Abramis, Tinca, Phoxinus and Nemachilus, Disler (1939 and 1952) in Acepenser stellatus and Perch (Perca fluviatilis), Omarkhan (1949) and Kapoor (1964) in Notopterus, Kapoor (1961 and 1963) in Ophicephalus punctatus and Wallago attu.
The study of the development of the dermal bones associated with the latero-sensory canals in the head region of Teleostei has been made by the following workers:


Thus from the above account it is clear that a sufficient amount of information embracing the various aspects of the system has accumulated about the various groups of fishes. Nevertheless, the development of the lateral line canals and associated bones in the head of many groups remains to investigate and the order perciformes is one of them.

Berg (1940) in his system of classification of fishes has divided the order perciformes into eighteen sub-orders. Of these, the sub-order Percoidei includes thirteen superfamilies — Percidae, Cepoloidae, Embiotocoidae, Pomacentrioidae, Laboridae, Gadepsoidae, Cirrhitoideae, Trichodontoidae,
Trachinoidae, Uranoscopoidae, Champsodontoidae, Chiasmodontoidae and Notothenioidae. He has further divided the supper family Percoidae into fiftynine families, and *Ambassius ranga* Cuv. and Val. (*Chanda ranga* Hamilton) which is selected for the study is included in the family Centropomidae (*Ambassidae* (= Chandidae auct.)).

In the order perciformes, the studies on the lateral line system have been made out in *Perca* (Allia, 1904; Bisler, 1937; Jakubowski, 1967), *Mullus*, *Spicara smaris* and *Leucioperca* (Jakubowski, 1966 a & b), *Acerina cornua* (Jakubowski, 1963), *Lenomis* and *Aphredoderus* (Moor, 1956; Moor and Burries, 1956).

The present work has been undertaken to extend our knowledge in the order. An abstract of the preliminary work on *Ambassius ranga* (*Chanda ranga*) has been published by the author (Proc. Indian Sci. Cong., 1973).

In the present work, the author has made studies on the development of the neuromast sense organs, the latero-sensory canals and their associated bones in the head region of *Ambassius ranga* (*Chanda ranga*), in embryos ranging in size from 4.5 mm length to 34.00 mm length. He has selected a regular series of twelve stages i.e. in embryos of 4.5 mm, 5.0 mm, 6.0 mm, 8.0 mm, 10.0 mm, 12.0 mm, 14.0 mm, 16.0 mm, 18.00 mm, 22.0 mm, 28.0 mm and 34.0 mm in length and in the adult fish.

The observations are followed by a discussion, a brief summary of the entire work and supplemented by a bibliography.