and 18 species, but because there are few metamorphic individuals in the collection which would show both larval and juvenile characters and which would therefore undoubtedly lead to definitive identifications, the majority of the nine genera have not been finally determined although the possible identity of most is suggested. Furthermore, ophichthid species are largely unknown for vertebral counts, a major distinguishing feature of eel species now accepted to be important in other families and thus specific identification generally has also not been possible here. Identification to genus in the Ophichthidae is made all the more difficult by the close similarity externally of ophichthid genera which are at present distinguished from one another by such characters as the presence or absence of papillae on the lips, the presence or absence of a pectoral, the structure of the nostrils, the nature of the teeth, and the position of the branchial apertures. All of these are characters which would not be expected to make their distinctive appearance until late in larval development or perhaps not until after metamorphosis. The relatively inconspicuous nature of generic differences within the Ophichthidae points to the essential monotony of these eels and it is therefore easy to understand why there has always been confusion and difficulty in placing isolated specimens, even of adults, in the group. The number of genera described in this family is very large, but a brief survey of recent literature on the group (Smith, 1962; Schultz *et al.*, 1953; Gosline, 1951 and others) shows that probably about 15–20 genera should be recognised, with more than 50 species in the Indo-Pacific area.

Problems of generic identification of leptocephali also occur in the Muraenidae, in which the genera are distinguished by features most readily recognisable in the juvenile or adult. But at least in this family the position of origin of the dorsal fin is useful in the separation of three groups of genera, while in the Ophichthidae the dorsal origin (with one notable exception) is always near the level of the branchial aperture and therefore cannot be used in any broad division of the family as far as the leptocephali are concerned. The pectoral fin is more usually present in ophichthid genera (although sometimes greatly reduced) but it may be absent entirely. However, if the ophichthid leptocephali examined in the present collection are any indication, the pectoral remains obvious throughout larval life, probably even in those ophichthids which show loss of the pectoral in the juvenile and adult. This loss probably does not occur until late in metamorphosis. This condition contrasts with that in the Muraenidae in which the pectoral is always absent in the metamorphosed eel and is in fact lost long before metamorphosis, often before the leptocephalus is half-grown.

Because of the difficulties indicated above, final identifications of most ophichthid larvae to the generic level cannot be achieved at the present time. Nevertheless, the 124 larvae in the present collection can be grouped into nine divisions using the single character of the amount and distribution of pigment, as has already been shown to be a reasonable basis for distinguishing broad groups of leptocephali in other families. Although the differences in pigmentation appear to be a little more subtle than in, say the Muraenidae or Congridae, I am confident that these nine divisions will, when sufficient metamorphic forms are collected to show continuity of larvae and juveniles, prove to indicate actual generic categories, but for the reasons discussed, these are unable to be named here.

As is also the case in the Muraenidae, a broad survey of Indo-Pacific sand-dwelling ophichthid eels for vertebral counts has yet to be undertaken and consequently specific identifications of leptocephali, which are dependent upon detailed knowledge of vertebral counts in the adults, are at the moment as difficult as the determination of the genera. Records of vertebral counts in eels are scattered and difficult to trace in the literature, but I am aware of the following counts for Indo-Pacific species as set out as follows:—