

1. INTRODUCTION

This catalogue includes taxonomic references to all the known species of clupeoid fishes (four families, 80 genera, more than 300 species), regardless of their importance or not to fisheries. Their classification is shown in Fig. 1. The exact totals are not yet certain, but it is more than a century since Günther attempted in his Catalogue of fishes in the British Museum (Vol. 7, 1868) to list all the valid species; Fowler's Catalog of world fishes (clupeoid part 1973), also tried to list all known clupeoid fishes, but the names and synonymies are nowadays merely confusing. The present attempt is more an expression of the 'state of the art' than a definitive statement, but it may serve to pin-point those areas requiring more taxonomic treatment and it summarizes the many taxonomic and nomenclatural changes that have been made in recent years.

In a group such as the clupeoids, with numerous and often closely similar species, it is inevitable that some true species have long been concealed in the synonymies of others, while very many more names have been proposed than are actually needed. As a result, much of our biological knowledge, except in the case of a few well-known species of mainly the cooler waters, is tied to identifications and names which may not be correct, thus seriously limiting the credibility of many biological studies. There is often little that can be done in retrospect; specimens were not kept and modern diagnostic features were not mentioned in the publication. For this reason, many apparently useful references have been omitted here and the synonymies are often confined to the original proposal of a synonym.

The clupeoid fishes are of prime importance to fisheries. In fact, they represent the largest suborder of non-domesticated vertebrates harvested by man. Half the world catch of fishes comes from about sixty species of various groups, but a third of those prime species are clupeoids. Unfortunately, the compiling of fishery data for clupeoids has been hampered, as with biological studies, by poor identifications and incorrect nomenclature. Under such conditions, rational exploitation of clupeoid resources, especially in tropical and subtropical seas, has often been impossible. Neither is there any guarantee that models derived from the better known cool-water species are applicable to the low latitude fisheries.

Both biological and fisheries studies, therefore, must be underpinned by sound taxonomy. It is hoped that the present catalogue will contribute to this end.

The clupeoid fishes are united in the suborder Clupeoidei of the order Clupeiformes. They include the herrings, sardines, sprats, shads, etc., the wolf-herrings and the anchovies. In general, the herring-like clupeoids (families Clupeidae, Pristigasteridae) are easily recognized by their keel of scutes along the belly, small and often poorly toothed mouths, and silvery appearance. Similarly, the anchovy-like clupeoids (Engraulidae) are usually distinctive because of their projecting, pig-like snout, large mouth and 'underslung' lower jaw. The fang-like teeth of the wolf-herrings (Chirocentridae) are also distinctive. On the whole, fishery workers have little difficulty in picking clupeoids out of the net.

In spite of this clupeoid 'look' however, there are so many exceptions to any of the more obvious and external features used in the past to diagnose the clupeoids that modern diagnoses rely mainly on small internal characters, such as details of the caudal fin skeleton and the characteristic coupling of the swimbladder, inner ear and head canal system. One result of this difficulty is that in the earlier literature the clupeoids were frequently allied with the tenpounders (Elopidae), ladyfishes (Albulidae), milkfishes (Chanidae) and certain other 'lower' (i.e. primitive) bony fishes and relegated to the order Isoospondyli. In fact, there was no common ancestry to all these groups and the clupeoids are rather distantly related to the others. For example, the tenpounders and tarpons (Elops, Megalops) and the ladyfishes (Albula) have a ribbon-like, leptocephalus larva, which allies them with the eels. The clupeoids are now placed in the distinct suborder Clupeoidei and, with the suborder Denticipitoidei (sole modern genus Denticeps), comprise the order Clupeiformes. Their relationship to fossil forms and to all other bony fishes is shown in Fig. 2.

Throughout the Catalogue the term clupeoid refers to members of the suborder Clupeoidei; clupeid refers to the family Clupeidae, pristigasterid to the family Pristigasteridae, and engraulid to the family Engraulidae; the subfamily names are similarly treated (clupeine, pellenuline, alosine, etc.).

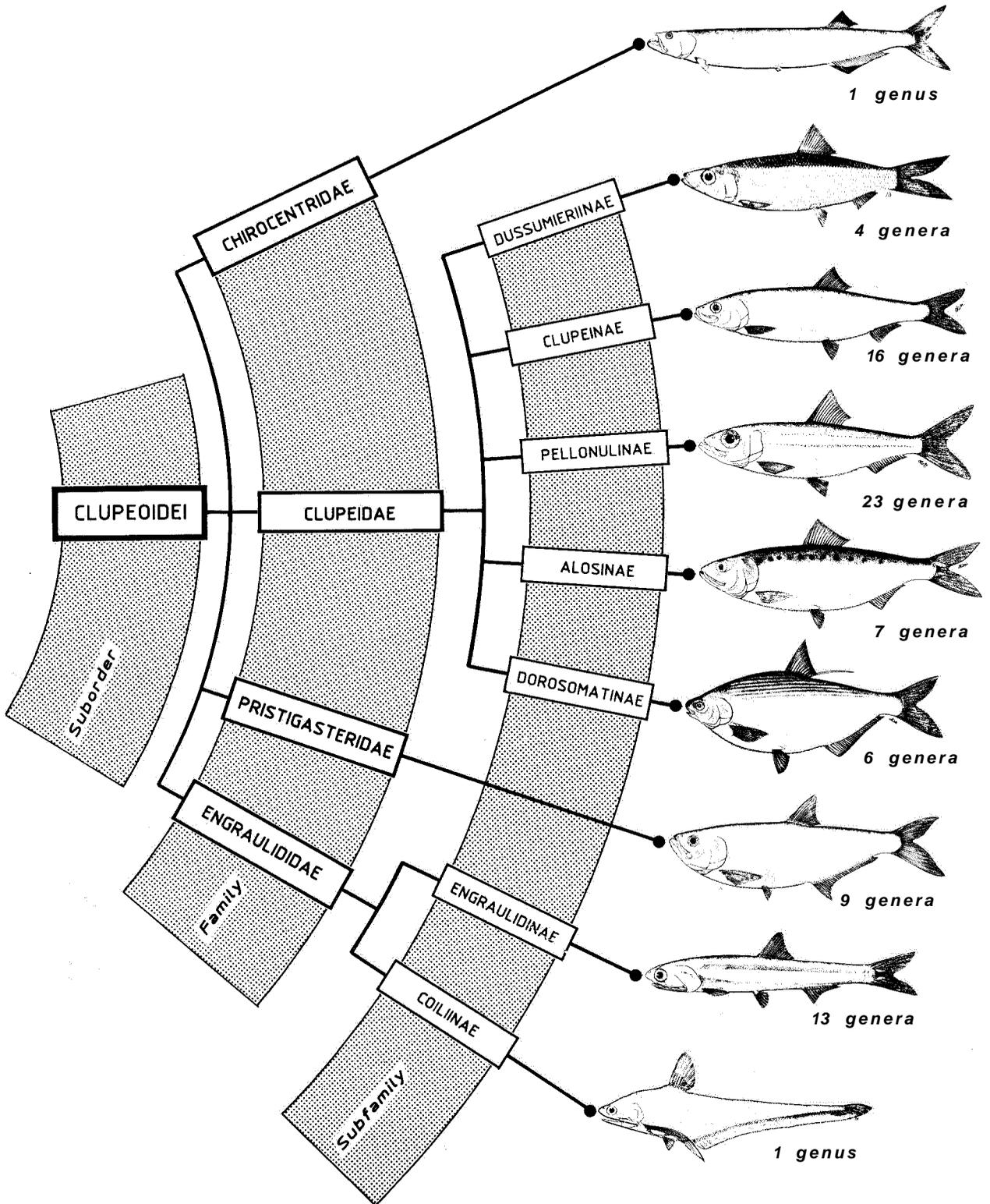


Fig. 1 Classification of clupeoid fishes