25 November 1994

FINAL REPORT TO THE FISHING INDUSTRY RESEARCH AND DEVELOPMENT TRUST FUND PROJECT 90/105

THE MODIFIED AND UPGRADED SPECIES-CODING SYSTEM FOR AUSTRALIAN FISHERIES DATA BASES

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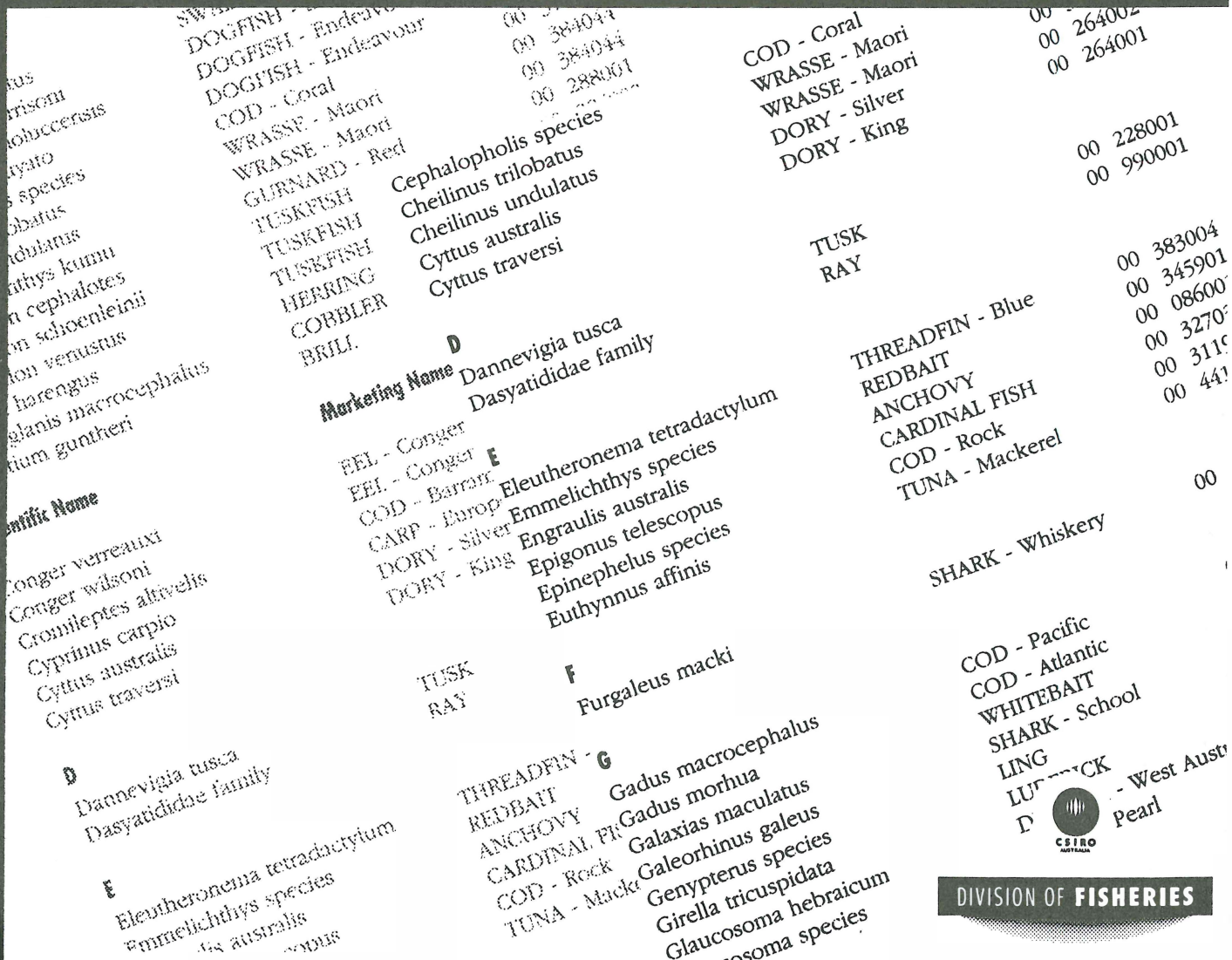

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1. NON-TECHNICAL SUMMARY

The numerical coding system for Australian fisheries, known widely as FISHLIST, has been upgraded to include all Australian fishes and commercial seafood species. The upgrade is known as 'Codes for Australian Aquatic Biota' (CAAB). It now lists 4139 species of which nearly three-quarters were added during this project. Several hundred existing records were modified or deleted. The system was expanded from six to eight digits. The additional digits allow for the addition of all Australian aquatic animals and plants. Existing 6-digit codes will stay as a legal subset of the 8-digit codes so users will not have to alter their software immediately. However, we recommend they make provision for an 8-digit code when they next reorganise their databases, because the old codes will not be maintained or developed.

The new system incorporates several technical and practical improvements. The software on which this original antiquated system was based has been modified to enable historical data to be effectively included within the new system. The old system mostly linked codes to scientific names rather than to animals so identifications could not always be validated. CAAB overcomes this deficiency by linking codes to specimens, which in the case of commercial species, double as vouchers for recommended marketing names.

The final list and explanation of the new system will be published in a technical report of the CSIRO Division of Fisheries. CAAB has already received broad national acceptance but its accessibility will be improved. All users, including governmental agencies and sectors of Industry, will receive copies of the list in both printed and computer-readable form. Custodianship and maintenance responsibilities for the list will remain with the Division of Fisheries.

2. BACKGROUND

2.1. FISHERIES CODING SYSTEM

Codes significantly reduce the time spent entering catch information and also allow for various methods of sorting and manipulation of the data. They are less cumbersome than lengthy species names, are a more efficient way of identifying species on a computer, and enable closely related animals to be grouped.

Catch statistic databases available to fisheries managers throughout most of Australia have been based on a 6-digit coding system known as FISHLIST. This list, which was originally devised in 1978 by CSIRO fisheries biologists during exploratory fishing surveys of the Great Australian Bight, facilitated entry of catch information to an electronic database. It was subsequently expanded to include a significant component of the Australian fish and commercial shellfish faunas, but species were added to the list in an ad hoc manner rather than systematically.

Each species was allocated an unique numerical code; the first three digits designated the family placement of the species (following an efficient ordination system devised by the Australian Museum and now used by other regional museums to catalogue fish collections), the last three digits represented its specific number within the family. This 6-digit system replaced a 3-digit system developed by the Department of Primary Industry in the 1960s. Unlike the 3-digit system, the expanded system allowed for the simple and systematic addition of extra species.

Through the 1980s, FISHLIST became more comprehensive and widely adopted. By 1990, it included more than 3000 scientific names of fish and shellfish from all areas of the Australian Fishing Zone and was used by 12 governmental and industry groups from all states but one. In this format (as a comprehensive faunal list rather than solely as a commercial list) it proved invaluable to fisheries scientists, particularly for biological studies of species and exploratory fishing surveys.

Before being upgraded, FISHLIST was managed by a CSIRO team consisting of a computer analyst (Mr G. Morris), who developed the system, a fish taxonomist (Dr P. Last) and the manager of the CSIRO fish collection (Ms J. O'Regan). They were solely responsible for making any modifications to the list and for liaising with other users.

2.2. VALUE OF 'FISHLIST' TO INDUSTRY

The importance of statistical data to fisheries managers and scientists in Australia was stressed during one of the first Australian workshops on scientific advice for fishery management (Williams, 1987). While there was increased activity to expand and improve the collection of statistical data, the 'keystone' of this system — the coding system — had not been assessed to determine its accuracy or its reliability. Incomplete and incorrect entries on existing FISHLIST versions had the potential to corrupt data on Australian fisheries, which could result in financial cost or wasted effort.

FISHLIST has been widely adopted by fisheries managers and used within the industry for many statistical purposes (Table 1). It has been used Australia-wide in CSIRO field programs and by state fisheries research agencies (eg. NSW Fisheries Research Institute, Tasmanian Department of Sea Fisheries, WA Fisheries Department, Northern Territory Department of Primary Industry) and fish marketing authorities (NSW and NT) to acquire catch composition and other fisheries data. It is on these data that the management strategies of many of our fisheries are based.

Table 1. Number of agencies using FISHLIST since 1980. Many of these agencies have numerous individual projects/programs/divisions using the coding system.

Year	State /Territory Government users	Cwealth Government users	Industry/other users	Total users
1980	1	1	0	2
1985	2	3	0	5
1990	5	3	1	9
1993	6	4	2	12

The Australian Fisheries Zone (AFZ) logbook database, managed primarily by the Australian Fisheries Service (AFS), was constructed around FISHLIST. In the late 1980s, at Industry's request, a new subset of codes was allocated to include multispecies categories (a single code representing more than one commercial species in a family or genus) for the acquisition of special catch-return data.

The upgraded codes have been used in recent fisheries-related publications and other references in preparation, such as *Marketing Names for Fish and Seafood of Australia* and a handbook of Australian seafood. Published works include FR&DC-funded projects such as *Sharks and Rays of Australia* (Last and Stevens, 1994), published by CSIROs Division of Fisheries, and *Australian Fisheries Resources* (Kailola *et al.*, 1993), published by the Bureau of Resource Sciences. FISHLIST codes were also provided in guides to the deepwater prawns and commercial trawl fishes of Western Australia produced for AFZ observers and fishermen by the CSIRO Division of Fisheries.

At present, there is no established procedure for validating fish marketing names, although several cases involving the use and misuse of these names have been argued in the courts. Assigning recommended common names and FISHLIST codes to individual fish (voucher specimens) has obvious benefits in the advent of legislation on marketing names and in legal cases involving fish substitution. Each species on the list will be represented by a voucher specimen that could be produced or referred to in disputes over identification. Vouchers, and where possible good colour photographs of the fresh specimens, will be held in the CSIRO fish collection, Hobart, or a nominated depository.

Coding systems such as FISHLIST are initially expensive to design and maintain. The establishment costs were borne by CSIRO and the Department of Primary Industry. By refining the coding system to encompass the entire Australian fish fauna and all commercial shellfish, the list will require less regular maintenance and should become more acceptable to new industry users, providing a standard for use Australia-wide.

2.3. NEED TO UPGRADE FISHLIST

FISHLIST was originally devised as a coding system to be used on a small scale by a single CSIRO user group. It was expanded beyond its original concept into a multiple-user system that is used widely throughout the fishing industry. However, as a result of this expansion, several problems arose.

Additional species were added ad hoc for more than a decade, making the list confusing and unreliable. Many of the species names used were inaccurate, outdated or were duplicates. Some species had up to three separate codes, while other taxa, identified only to genera, could not be linked to known species. Several others, including foreign imports and some commercially important Australian species, needed to be added. Furthermore, expansions in deepwater exploratory survey work and marine research activities nation-wide, resulted in the collection of many uncoded species. However, the indiscriminate addition of these species to the list without careful taxonomic scrutiny would have exacerbated existing problems. Shellfishes are now Australia's most valuable seafood but many of them were not included in the system.

Upgrading and expanding the existing system to make it all-inclusive was considered to be more cost-effective than producing a completely new system or designing separate systems for each of the states. Few of Australia's fisheries are managed solely by a single state, so there are long-term benefits in establishing a nationally acceptable information system. A single, widely used system will facilitate the collation, exchange and transfer of information between different management groups and industry.

During the project, we have looked at several options for the delivery of this information. At the start of the project, CSIRONET was our main networking system, but it was relatively expensive and not all potential users of the list were connected. At the same time as the project was being carried out, developments in computing and networking have meant that many of our potential users are now connected to the Internet and many more will be in the near future.

We are therefore planning to use Internet access as our main means of distribution of the lists. They will be available via file transfer, and eventually it may be possible (subject to security constraints) to allow users to log in directly to a computer and make enquiries of the list.

We will also distribute the list, as necessary, in hard copy form or on PC or Macintosh diskettes.

3. PROJECT DETAILS

3.1. OBJECTIVES

* to edit and upgrade the existing numerically coded list of Australian seafood species used for most Australian fisheries catch statistics.

* to incorporate all uncoded commercial shellfish and finfish species from a recently prepared ABRS checklist of the Australian fauna.

* to validate these codes by allocating voucher specimens to each species which will be useful in settling nomenclatural conflicts, particularly over marketing names, and in legal cases involving fish substitution.

* to widen use of the revised list and to promote it as the national coding system for the Australian Fishing Industry's collection and analysis of catch statistics and research data.

* to improve accessibility and reduce costs to users of the list by providing alternatives to CSIRONET.

3.2. PERSONNEL

The project was supervised by Peter Last, who provided training and taxonomic skills, and Graeme Morris, who with the assistance of Peter Campbell and Owen MacNamara, managed the computing aspects of the upgrade. Gordon Yearsley was appointed for the duration of this project to revise the existing list, and implement the upgrade. Planning for the project was carried out by all of the above with substantial assistance from Justine O'Regan.

4. METHODOLOGY

The finfish section of the old version of FISHLIST was upgraded systematically on a family-by-family basis. Codes and the associated scientific names for the 250 families and 3000 entries on FISHLIST were examined to determine their validity according to the literature (including Part 1 of an ABRS checklist of Australian fishes, Paxton *et al.*, 1989) and after advice from many taxonomists (see acknowledgements). Commercial shellfish and other Australian fish records were also added. The total is now about 5000 valid entries.

During the modification process, scientific names of finfish species were updated and codes rationalised; each species now has only a single code. A synonymy of discarded codes and scientific names was constructed so that, if

necessary, data collected in the past can be re-examined without loss of information.

Voucher specimens were designated for some species. These specimens, linked to the new CAAB codes by a collection registration number and marketing name (if one existed), were photographed fresh (where possible) and their new status highlighted by a "V" on their collection registration label. Only specimens that had been carefully checked, using the full extent of taxonomic literature, were designated as vouchers. Assigning vouchers to remaining codes will be an ongoing process.

The 8-digit system consists of a standard 6-digit code prefixed by a 2-digit 'super-group' code representing a high taxonomic level grouping of the animal or plant. These groups are mostly assigned at phylum or class level. More detail, and a list of codes, are given in Appendix B of this report.

Refining the software, establishing guidelines for its future manipulation, and incorporating a synonymy of codes required detailed reprogramming. This has been developed using the Oracle relational database for storage and tools such as SQL*Forms for user interaction. A formal set of procedures was prepared and will be distributed to all users of the system.

5. RESULTS

5.1. PUBLICATION OF REPORT

A report discussing biological coding systems, the upgrading of FISHLIST, and the establishment of an expanded system to accept codes for all Australian aquatic biota (CAAB), will be published in the CSIRO Marine Laboratories Report series. This report will include a copy of the entire fish and seafood component of the CAAB list. A late draft version of this report is provided in Appendix B. A simplified account of the expanded system was published in 1993 (Appendix A).

5.2. COMMUNICATION OF REPORT

The revised version of FISHLIST and a copy of the published report will be sent to all users. Potential users have been made aware of the system and its application. To provide ready access to industry, the upgraded version will be made available through a computer network. It is intended, subject to network security constraints, to allow read-only access to the CAAB database to anyone with a legitimate requirement. This would be through AARNet or dial-in facilities. Computer-readable copies will also be available in ASCII (text) format on 3.5" diskettes for PC and Macintosh users.

6. DISCUSSION

All of the project's objectives were addressed and most were fully met. Compiling a list of more than 4000 Australian fishes and revamping a file containing more than 5000 valid entries proved to be a bigger task than expected. Half of the fish fauna (Part 1: sharks, rays, lower fishes) was partly covered in an ABRS checklist (Paxton et. al., 1989) but an equivalent review of the remaining groups (Part 2: perch-like fishes) did not become available for this project. Consequently, a huge effort went into compiling a list of the 2000 or so species that make up these other families.

One objective of this project — to assign voucher specimens to each species (particularly commercial species) — was not fully completed because our approach to designating vouchers was modified. Much of the preserved material in collections, of even common commercial species, is not in ideal condition. Many of the specimens in CSIROs I.S.R. Ichthyological Collection are juveniles, though adult or sub-adult specimens (of fishes marketed commercially) are far preferable as vouchers. Also, most specimens in collections lose their colour in fixative, so it is necessary to have a photographic record of their fresh state; however, such photographs were not always available. Figure 1 outlines the procedural guidelines now used by custodians for assigning voucher specimens. The procedure uses a system to score the precision level of the species identification devised during this project and which has now been adopted by Australian fish collection curators.

Fresh material of all commercial species will be obtained to prepare a technical manual on Australian seafood (FR&DC 94/136). The adults of each species will be photographed fresh and genetic samples taken. These specimens will also become vouchers for the CAAB list. Non-commercial species will be assigned after Australian members of their group have been subjected to detailed taxonomic review. We envisage that all the commercial species will have vouchers within three years; most of the finfish species within five years.

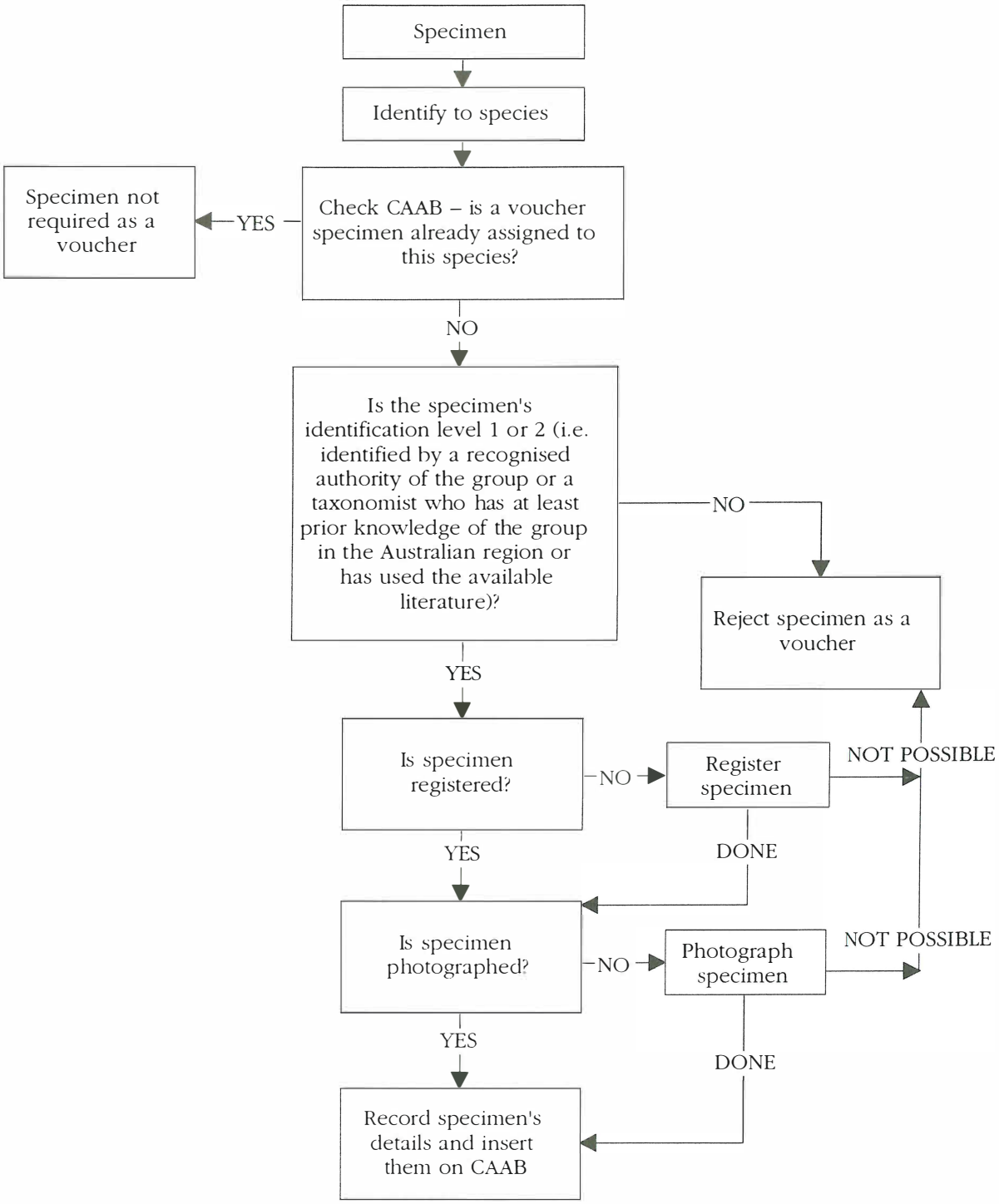

Figure 1. Flowchart showing the steps for assigning new voucher specimens.

7. IMPLICATIONS AND RECOMMENDATIONS

1. CAAB is a vast improvement on earlier fisheries data coding systems. Its design and introduction eliminated the many potential sources of error in its predecessor, FISHLIST. Fisheries managers, data analysts and Industry personnel can use CAAB with confidence.

2. The benefits of a nation-wide fisheries coding system have been discussed here. All state and commonwealth fisheries bodies and relevant Industry personnel should continue to be encouraged to use CAAB. Such people can also contribute to CAAB by providing the custodians with information on new records and new commercial species of Australia's Exclusive Economic Zone.

3. In order to maintain CAAB's integrity, additions and corrections should be made as new information comes to hand. The Fish Taxonomy Section of CSIRO Division of Fisheries will assume responsibility for the fish component of CAAB.

4. Ideally, all entries on CAAB should include a common name and a voucher specimen number. This process will be continued by the list's custodians as an ongoing process. Although common names of animals vary throughout Australia, marketing names of seafoods are being standardised. To speed and support this standardisation, CAAB will only use recommended marketing names for commercial species. A voucher specimen number should always accompany a request for an addition to CAAB.

5. The advantages of the 8-digit system (allowing for the systematic inclusion of non-finfish species) are yet to be realised. Coding frameworks need to be designed for each 2-digit category code. Experts in the each taxonomic group should be encouraged to design appropriate 6-digit systems to be incorporated into the CAAB database.

6. The number of taxonomic and nomenclatural problems with the Australian ichthyofauna is alarming. The CAAB list does not usually reflect this because 'problem species' have been omitted. Some problems relate directly to commercial species, and all relate to important members of the marine ecosystem. Further research is required to resolve these problems.

7. The computer system developed to manage this data was reasonably complete at the time it was written (about two years ago). However, the database system (Oracle) has added more facilities during this period. Many of these can now be used to add more functionality (especially in the area of database integrity) to the system.

8. ACKNOWLEDGEMENTS

This project was made possible by a grant from FR&DC (Grant 90/105).

Numerous people provided invaluable taxonomic assistance, especially in the groups and areas in parentheses: G. Allen (pomacentrids, acanthurids, other family lists, miscellaneous information); D. Bellwood (scarids); G. Bohlke (muraenids); P. Castle (congrids); R. Daley (bramids, centrolophids, miscellaneous); R. Fricke (callionymids, tripterygiids, psychrolutids, draconettids); M. Gomon (trachichthyids, labrids, scarids, miscellaneous information); D. Hoese (gobiids, clinids, soleids, tetraodontids, other family lists); B. Hutchins (monocanthids, balistids, gobiesosocids, miscellaneous information on Western Australian Museum specimens); W. Ivantsoff (atherinids); T. Iwamoto (macrourids); P. Kailola (ariids, miscellaneous information); R. Kuiter (mullids, miscellaneous information); R. McKay (sillaginids, haemulids); J. Nelson (miscellaneous information); J. Paxton (miscellaneous information on Australian Museum (AMS) specimens, myctophids, other family lists); J. Randall (miscellaneous information); B. Russell (nemipterids, labrids); K. Sasaki (sciaenids); J. Thomson (mugilids); A. Williams (macrourids and miscellaneous information).

Special thanks to M. McGrouther and S. Reader, who provided information on AMS specimens and to Don McAllister for information on his list of the world's fishes.

The following people provided information on coding systems in Australia: M. Baron, B. Bruce, J. Busby, G. Cassells, A. Caton, A. Coleman, K. Donohue, N. Dow, J. Just, A. Jordan, P. Karouzos, J. Lyle, G. Maxwell, I. McGuinness, F. Meany, A. Menegazzo, M. Moran, B. Pease, G. Pullen, D. Ramm, T. Skousen, D. Smith, S. Smith, D. Staples, N. Trainor, A. Tsolos.

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The following CSIRO Division of Fisheries personnel provided miscellaneous or specialised assistance: C. Bulman; D. Brewer; P. Campbell (computing); T. Cracknell (word processing); A. Graham; O. MacNamara (computing); C. Proctor; S. Riddoch; J. Stevens. J. O'Regan and C. Stanley provided useful comments on the manuscript. Thanks also to the Hobart site library staff: D. Abbott, G. Forbes, J. Virag and T. Venettacci.

Finally, thanks to numerous workers throughout the world for reprints of their technical papers.

9. REFERENCES

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Williams, M. (ed.), 1987. Proceedings of the workshop on scientific advice for fisheries management; getting the message across. Australian Government Publishing Service, Canberra.

10. APPENDIXES

A. Yearsley, G., Last, P. and Morris, G. 1993. Fishing for Numbers. *Australian Fisheries* 52 (8), 26–30.

B. Yearsley, G., Last, P. and Morris, G. (in prep.). *Codes for Australian Aquatic Biota (CAAB): an upgraded and expanded species coding system for Australian fisheries data bases*. CSIRO Marine Laboratories Report.

C. *'FISHLIST' Functional Specification and Preliminary Specification* - November, 1990

Appendix A

FISHING FOR NUMBERS -

Australian Fisheries, August 1993

RESEARCH

Fishing for numbers

The system used nationally since the late 1970s to record catch information has been upgraded to include all Australian fishes and also to allow for the systematic inclusion of commercial shellfish and other invertebrate groups.

Since the late 1970s fisheries scientists throughout Australia have used a six-digit species coding system to record catch information. However, this old system and list, maintained by the CSIRO Division of Fisheries, was fraught with errors and limitations. The list, FISHLIST, has now been redesigned and upgraded, not only to include all Australian fishes but also to allow for the systematic inclusion of commercial shellfish and other invertebrate groups.

Introduction

Numbers are important in the fishing industry. How many tonnes of western rock lobster are caught each year? What is the total allowable catch (TAC) for a particular species? How many boats are fishing the St Helens hill? What is the monetary value of the northern prawn fishery?

Another set of numbers which will be increasingly important to the fishing fraternity will be a numeric (number) coding system and a list of Australian fishes and other aquatic biota (animals and plants). The coding list, FISHLIST, used to record catch data but the CSIRO Division of Fisheries, has recently been edited and upgraded following funding from the Fisheries Research and Development Corporation (FRDC).The upgraded system will be called 'Codes for Australian Aquatic Biota' (CAAB) and will eventually include codes for all types of aquatic organisms.

Why use codes?

There is widespread awareness of the importance of protecting the environment and the need to manage fish stocks effectiveiy. Both protection and management depend on the accurate collection and analysis of data, for which several institutions are responsible. Few Australian fisheries are managed solely by one State, so data for a particular species are sometimes collected independently by representatives of State and Commonwealth departments. A single national coding system will simplify the collation and transfer of information between management groups and industry.

To compare and contrast information on different species or the same species from different areas, the data are usually entered in a database and analysed on a computer. Each species must, therefore, have a unique code.

Not only commercial species are of interest. Scientists studying the ecology of marine communities may require a coding system that covers all aquatic organisms, both plant and animal.

What type of code is best?

Common and scientific names of a species are codes of a type and could also be used as database codes. Common names, however, vary between States and sometimes even within States.

Scientific names (binomens) are also subject to change based on new information. For example the species known as snapper in our waters recently changed names from *Chrysophyrs auratus* to *Pagrus auratus* (Paulin, 1990). Had the scientific name itself been used as a code, the code would have changed, causing confusion in data sets and on databases.

Scientific names can also be long and unwieldy: for example, the name of a local whiptail, *Idiolophorhynchus andriashevi*, is made up of 28 letters. Such names are time consuming to enter, use a lot of memory space and can easily be misspelt. In such cases the database will read it as a separate species.

While some of these problems can be overcome with pull-down menus on a computer, a binomen gives no indication of a particular species' relationship to species from other genera. Scientists often want to group closely related species (for example, by family) which cannot be achieved with codes using binomens alone.

The current coding system (FISHLIST)

FISHLIST, a six-digit species coding system, is currently used by many fisheries statisticians and scientists in Australia. Originally devised in 1978 by CSIRO fisheries biologists during exploratory fishing surveys of the Great Australian Bight and North West Shelf, FISHLIST was expanded to include nearly 3000 scientific names of fish and shellfish from all areas of the Australian fishing zone (AFZ). It became the replacement for an antiquated and somewhat unwieldy four-digit system used by the Department of Primary Industry. Unlike the earlier four-digit system, FISHLIST allowed for the simple and systematic addition of extra finfish species.

The coding system is based on the allocation of a unique six-digit code to each species. For finfish species, the first three digits designate the family placement of the species (following an efficient ordination system used by several Australian museums); the last three digits represent its unique number within the family. Non-systematic six-digit codes were assigned to shellfish taxa.

Usage

In its present format (as a faunal list rather than solely as a commercial species list), FISHLIST is useful to fisheries scientists involved in biological research and in recording catches during fishing surveys. It is now used by a large and expanding number of governmental and industry groups for fishery purposes. The AFZ logbook database, where all logbook data from Commonwealth-managed fisheries are stored, is constructed around this coding system. FISHLIST is still used Australia-wide in CSIRO Division of Fisheries field programs and by State and Territory fisheries research departments to analyse catch composition and other statistical data. It is on these data that the management strategies of many of our fisheries are based.

The FISHLIST codes have been used during data collection and analysis by more than 20 projects funded by grants from FRDC and its predecessors, worth more than $2.6m during the past 12 years. Industry groups have also expressed interest in using FISHLIST.

A joint industry/governmental committee will include FISHLIST codes in the latest version of *Recommended Marketing Names for Fish*, a guide to the marketing names of Australian seafood. These codes are also provided in FRDC funded projects such as the soon to be published guide *Sharks and Rays of Australia*, and in the *Australian Fisheries Resources* prepared by the Bureau of Resource Sciences. FISHLIST codes were used in guides to the deepwater prawns and commercial trawl fishes of Western Australia produced recently for AFZ observers and fishermen by the CSIRO Division of Fisheries.

FISHLIST is still by far the most widely used coding system for biological purposes in Australia and is rapidly assuming the role of a regional standard.

Need for modification

The reliability of catch statistics depends on the quality of the data on which they are based. Data errors can result in the loss of important information which can lead to incorrect management advice. Coding errors in existing FISHLIST versions had the potential to corrupt these data and detrimentally affect fisheries management decisions in Australia.

Problems have arisen because FISHLIST was originally designed for use on a small scale by a single CSIRO user group. Due to its successful local application, however, the system became popular and more widely accepted throughout the fishing industry. This forced FISHLIST to expand well beyond its original concept into a multiple user system which was not planned for in its original design.

For more than a decade, species were added on an ad hoc basis. The list finally became unreliable to the extent where a third of the scientific and common names were inaccurate, outdated or had been duplicated. Some species had as many as three separate codes while other taxa, identified only to genera, could not be linked to a known species. Others, including foreign imports and some commercially important Australian species, needed to be added.

Furthermore, an increase in deepwater exploratory fishing surveys and the expansion of marine research nationwide, resulted in the collection of many uncoded species. Some specimens were incorrectly, or not fully identified, resulting in temporary codes being assigned which further complicated matters.

In addition, the original system did not account for shellfish, which are among our most valuable seafood. Although some commercial shellfish species and other invertebrate taxa were added to the list, this was not done systematically.

FISHLIST required revising and correcting to produce an accurate list of Australian fishes and it required upgrading to allow for the systematic inclusion of invertebrate species.

The new system and revised list (CAAB)

In 1990, FRDC approved a grant to revise and upgrade FISHLIST to include all the described Australian finfish fauna, to edit commercial shellfish codes and to provide for the systematic inclusion of all species (aquatic animals and plants). By upgrading the list from six to eight digits to include a two-digit prefix categorising the type of organism (for example, finfish, crustacean, red alga or mammal), the system will become more flexible. The remaining digits of each code are assigned systematically to families (three digits) and species within each family (three digits) in accordance with the original FISHLIST design.

Valid six-digit finfish codes that have already been assigned systematically, remain unchanged except for the addition of the two-digit prefix for finfish. During the changeover period from six to eight digits (beginning in July 1993), the current six-digit codes will be prefixed with "00". Present users can continue to use the existing six-digit codes for fish but need to upgrade their systems if they wish to include new invertebrate data. Apart from finfish, the "00" section of the old FISHLIST will not be updated once the two-digit prefixes have been assigned.

CAAB will also allow for the allocation of codes to groups of commercial species (for example, the two main species of warehou within a single code) and to species that cannot be accurately identified. The coding system will also allow users to construct temporary codes as required for their own purposes without corrupting more broadly based data sets.

A synonymy of old codes and a history of code changes will be maintained in an archival file within the CAAB system so that such information can be accessed if necessary.

Use of voucher specimens

An Australian specimen (voucher) of each species will be designated to represent each CAAB code. Voucher specimens will be allocated for all commercial species initially, and progressively assigned for other species as specimens become available.

A recent FRDC study into the seafood consumption patterns of Australians revealed that the single most important factor to consumers when buying fish is to be sure that the fish is correctly labelled (see *Australian Fisheries* 51(3)). Consumers are not always confident that this is happening. At present, there is no established procedure for the validation of fish marketing names although there have already been several law suits both here and abroad involving the use and misuse of these names.

Assigning recommended common names and CAAB codes to voucher specimens has obvious benefits if marketing names are

(Continued on page 30)

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24–28 August: Australian Society for Fish Biology 1993 Workshop and Conference, Sorrento Quay Function Centre, Sorrento, Western Australia. Theme — Population dynamics for fisheries management. Contact Dr Nick Caputi, C/- Western Australian Marine Research Laboratories, PO Box 20, North Beach WA 6020. Tel (09) 246 8440, fax (09) 447 3062.

15–19 September: Icelandic Fisheries Exhibition 1993. Laugardalsholl, Reykjavik, Iceland. Contact: Patricia Foster, Reed Exhibition Companies (UK), Oriel House, 26 The Quadrant, Richmond-on-Thames, Surrey, TW9 1DL, UK. Tel + 44 (81) 948 9800, fax + 44 (81) 948 9870.

11–15 October: Agrifish '93 and Food Processing Exhibition. Oman Exhibition Centre, Seeb. Contact: Oman International Trade and Exhibitions, PO Box 4475 Ruwi, Sultanate of Oman. Tel: 56 4268 or 56 4303. Fax: 56 5165. Telex: 5494 OITEL ON.

26–28 October: INFOFISH Third International Tuna Trade Conference, Bangkok, Thailand. Contact: INFOFISH-Tuna '93 Bangkok, PO Box 10899, 50728 Kuala Lumpur, Malaysia. Tel (603) 291 4466, Fax (603) 291 6804, Telex INFISH MA 31560.

1994

11–15 April: International Symposium and Workshop on Stock Assessment in Inland Fisheries. University of Hull, England. Contact: Dr I. G. Cowx, University of Hull, International Fisheries Institute, Hull HU6 7RX, UK. Tel 0482 466421, telex 592592 KH MAIL G Ref HULIB 375, fax 0482 470129.

25–31 July: Fourth International Workshop on Lobster Biology and Management. Sanriku, Iwate, Japan. Contact: Secretariat, 4th IWL, School of Fisheries Sciences, Kitasato University, Sanriku, Iwate 022-01 Japan. Fax (81) 192 44 2125.

21–24 October: Fish Asia '94. Contact: ITP Services (Private) Ltd, 2 Jurong East St, #05-19/22 IMM Building, Singapore 2260. Telex RS 55223, Tel 291 3238, fax 296 5384.

So what does the future hold?

'I think in the medium term, if industry is not extremely careful it will end up in the hands of a couple of individual companies,' said Laurie 'This in itself is not a bad thing, but it would be better for everyone, including the local communities, if the biggest part of the fleet was kept in the hands of the owner operators.

'There is no doubt that the major stocks are restorable. It has happened before due to a convenient war or two. But to achieve that pressure has to come off a long way — probably more than 50 per cent of the present commercial effort has to go. I doubt that it will.

'In the long term I think the commercial trawl industry will be phased out altogether except for those targeting the virtually inaccessible stocks. I can see the south east trawl as a watery national park with people licensed to take fish only by passive means such as handlines and longlines — be they tourists, dad and the kids, or commercial operations.

'This just might take a long time. But there are some States working towards this situation already. And very determinedly too. It will be interesting to see where the pressures comes from in the next year or so — the greenies, the environmentalists, the tourist lobby, or recreational fishermen. These groups are all there in the wings. And bloody heaps of them, all with money, good organisation and all with a vote. The initiative might even come from the Government itself.'

These days you will find Laurie in Queensland, but not basking in the sunshine. He has started a new business to do with computer analysis of engine performance and exhaust gas emissions. And of course he still has his other great love of electronic exchange of stock market data and information.

Asked if his thoughts ever turn to fisheries these days, he replies: 'If they ever do, it's limited to a nice fillet on a plate, with a few chips, a wedge of lemon and plenty of salt — and with, perhaps, a cool glass of that dry white stuff.'

Fishing for numbers (continued from page 27)

legislated. Voucher specimens held by one of Australia's biotic collection facilities can be produced or referred to in disputes over identification. Colour transparency files are being established for voucher specimens of commercial species within the photographic index of the ISR Munro Ichthyological Collection, at the CSIRO Division of Fisheries, Hobart.

Maintenance and distribution

The list, as well as historical and explanatory information, will be kept on a database maintained by the CSIRO Division of Fisheries. Changes to the list will only be made by managers of CAAB but the database will be available for enquiries by anyone with access. Full details and access conditions are still to be determined, but needs of users will be a major consideration.

Copies of CAAB will be available by August 1993, on both diskette and as a CSIRO Division of Fisheries Marine Laboratories Report. Enquiries should be directed to:

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GPO Box 1538
Hobart TAS 7001
Ph. (002) 32 5352
Fax (002) 32 5000

Authors: Gordon Yearsley, and Peter Last, are fish taxonomists with CSIRO Division of Fisheries, Hobart, Tasmania; and Graeme Morris is a computer analyst at CSIRO Division of Fisheries, Cleveland, Queensland. **The authors acknowledge the assistance of a FRDC grant.**

REFERENCE

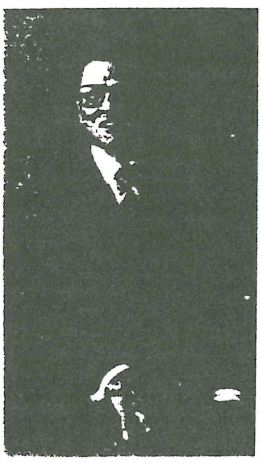
Paulin, C.D., (1990). *Pagras auratus*, a new combination for the species known as 'snapper' in Australasian waters (Pisces: Spandae). *New Zealand Journal of Marine and Freshwater Research*, 24: 259–265.

Mining stalwart to chair SSFMAC

Heading up AFMA's revamped Southern Shark Fishery Management Advisory Committee (SSFMAC) is a man with 40 years experience in the mining industry and a wealth of experience in chairing high level meetings.

Norman Gilberthorpe will draw upon his chairing skills, a strong scientific and technical background and his vast experience in a resource based industry in his new role as independent Chairperson of SSFMAC.

Norman Gilberthorpe



The fact that Mr Gilberthorpe has not had any notable involvement with the fishing industry should work to SSFMAC's advantage, he says, and help him to bring 'independence, impartiality and detachment' to the Chair.

After a brief stint in the Royal Australian Air Force during the second world war, Norman Gilberthorpe completed an engineering degree at the University of Sydney and then commenced his long career in mining.

He started as a miner at Broken Hill and rose to Chairman of Aberfoyle Limited, a leading publicly listed mining and exploration company from 1980 to 1985. Along the way he held various positions in CRA Limited, Newmont and Aberfoyle including experience in five Australian States as well as five years in England.

It is this wide-ranging experience and his ability to chair meetings that he says has enabled him to bring people together, resolve differences of opinion and reach a balanced position.

'I am aware of the fact that there is a dichotomy of opinion in the shark fishery,' Mr Gilberthorpe says. 'My aim is to see that we can, without too much compromise, arrive at a position of consensus on a course of action that will make sure that the shark stocks are conserved and also enable the industry to carry on profitably with a minimum of disruption.'

AFMA recently announced the new nine member SSFMAC team which was selected for its expertise and drawn from various sectors and regions of the southern shark fishery, Commonwealth and State Governments and scientific organisations.

The new committee will thus be well placed to balance the views of various organisations, fishermen, sectors and regions of the fishery in providing advice for the management of the fishery.

The SSFMAC members are Mr Geoff Rohan (AFMA), Dr John Wallace (CSIRO), Dr Geraldine Gentle (state fisheries), Richard Davidson (gillnet fisherman, eastern Victoria), Rob Wilson (gillnet fisherman, South Australia), David Sharp (hook fisherman, western Victoria), Adrian Fletcher (diversified fisherman, South Australia), and Greg Rainbird (diversified fisherman, Tasmania).

Appointments to SSFMAC will be for three years except for the State Government representative who will be appointed for one year on a rotational basis.

One of SSFMAC's priority tasks will be to develop a new Management Plan for the southern shark fishery under the *Fisheries Management Act 1991*.

Roger Nicoll

Appendix B

CODES FOR AUSTRALIAN AQUATIC BIOTA (CAAB); AN UPGRADED AND EXPANDED SPECIES CODING SYSTEM FOR AUSTRALIAN FISHERIES

Appendix B - Draft manuscript to be published as CSIRO Marine Labs Report

Codes for Australian Aquatic Biota (CAAB): an upgraded and expanded species coding system for Australian fisheries data bases.

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Abstract

Coding systems (alphameric, numeric or alphanumeric) are used widely throughout the world to assist in data storage and analysis. Until recently, many State, Territory and Federal fisheries departments in Australia used their own locally designed systems or a national three-digit system. However, these have now mostly been replaced with a six-digit system, FISHLIST, which was designed by CSIRO biologists in the late 1970s. The list expanded well beyond the scope of its originally intended use and, consequently, became inadequate and unreliable: it did not allow for the systematic inclusion of invertebrates, it contained many errors and it included only about one third of the Australian ichthyofauna. The problems were compounded by a lack of voucher specimens. Despite these problems, FISHLIST has been adopted by six State and Territory fisheries departments for storing and analysing catch data. The Australian Fishing Zone logbook database, where all data on Federal-managed fisheries is stored, also uses FISHLIST codes. The system has now been redesigned and the list corrected. The new system, Codes for Australian Aquatic Biota (CAAB), consists of eight digit codes; the first two digits represent the category of organism and the remaining six are available to code representatives of each category. This allows for the systematic inclusion of all aquatic biota. Voucher specimens will be assigned to all CAAB entries. The number of finfish species entries on the list has increased from about 1300 to 4067. In addition, a number of commercial groupings of species and imported fishes have been coded. The current ichthyofaunal entries and CAAB users are lsited and a summary of fisheries coding systems used elsewhere is included.

Contents

1 Biological Coding Systems

1.1 The Need for Coding Systems

Effective management and environmental protection policies depend on the accurate collection and analysis of data. The efficiency, accuracy and ease of data analysis has increased dramatically since the advent of computers approximately 30 years ago. To maximise the benefits of this modern technology, data need to be stored systematically. To achieve this aim, biological researchers throughout the world have assigned various types of codes to flora and fauna. In most coding systems, each species is given a unique code which records, to some degree, that species' relationship to other species in the system.

Coding systems related to fisheries research provide a good example of the variety of codes used by different countries (see Appendix 1). Some make use of codes provided by the Food and Agriculture Organisation of the United Nations or the National Oceanographic Data Center (USA). However, such lists seldom include all the species caught in a particular region forcing many countries to design a system relevant to their local needs. Less than half of respondent countries have no coding system for fisheries related data and a number of these are planning to initiate such systems in the near future.

1.2 Types of codes

Many types of codes can be used in a given situation. For example, the common (vernacular) and scientific names of fish species are codes of a type and could also be used as database codes. However, common names vary between, and sometimes even within, States; they are unsuitable as codes. Scientific names (binomens, consisting of two Latin or Latinised words) are also unsuitable, being subject to change based on new information. For example, the species known as snapper in our waters recently changed names from Chrysophrys auratus to Pagrus auratus (Paulin, 1990). Had the scientific name itself been used as a code, the code would have changed, causing confusion in data sets and on databases. In addition, scientific names are often long and unwieldy: for example, the name of a local whiptail, Idiolophorhynchus andriashevi, is made up of 28 letters (29 characters including the space). Such names are time-consuming to enter, use a lot of memory space and can easily be misspelt—in such cases the database will read it as a separate species. While some of these problems can be overcome with pull-down menus on a computer, a binomen gives no indication of a particular species' relationship to species from other genera. Scientists often want to group closely related species (for example, by family), which cannot be achieved with codes based on binomens alone.

In contrast with a code based on a complete name, an alphameric, numeric or alphanumeric code that relates to a particular species will remain unchanged. (Designation of voucher specimens, allocated for each code, prevent any confusion regarding species identity.) Such codes reduce data entry times, take up less storage room in a computer, need little retrieval time compared with often long-winded scientific names and can also allow for various methods of data sorting and manipulation.

Although alphameric codes can be mnemonic and therefore useful in the field, species cannot be sorted systematically; an alphameric code does not indicate relationships between species. An alphanumeric code may overcome this problem but would be more difficult to incorporate into database character fields than a straight numeric code.

Numeric codes can be used to show systematic relationships between species. The information content and value of a numeric code increases with the number of digits. For example, a longer code can include digits to code its phylum, class, family and genus whereas, in a shorter code, only family and species may be coded. However, "a numbering system which permits all biological taxa to have unique systematic numbers, all ranks (levels) to be shown in fixed positions and has enough empty room to permit future changes in the systematics, needs a large number of digits (40 or more)" (Pinborg and Paule, 1990). Such a long number would be unmanageable would use up memory space on the database, and increase the entry time and the likelihood of data entry errors. Therefore, from a practical point of view, a shorter numeric code is preferred.

1.3 ..... Fisheries Coding Systems of Australia

Various State, Territory and Federal research bodies in Australia have found coding systems useful in data analysis. Some systems, such as the Tasmanian Parks and Wildlife Services' TASÛCODE (10 digits, or 11 for subspecies), are intended to be all encompassing, including codes for all Tasmanian animal and plant species. Others code only selected biota. For example, the Census of Australian Vertebrate Species, designed and maintained by the Australian Biological Resources Study, is an alphanumeric system (one letter followed by four digits) which covers all Australian vertebrates except fish. Fish (and other marine organisms) have been coded elsewhere.

In conjunction with the Australian Bureau of Statistics' attempts to standardise the presentation of statistics, the Department of Primary Industry (DPI) published the "List of Australian Commercial Aquatic Fauna and Flora (Coded for Statistical Reference)" in 1963. This was a national three-digit coding system finally printed as a fourth and amended version in 1981 (DPI, Special Fisheries Publication No. 2). The preface to the latest edition states that, "The Commonwealth and State Fisheries Authorities have agreed on uniform common names for Australian commercial fishes, crustaceans, molluscs, marine mammals, marine flora, and other marine organisms of commercial value. These species have been arranged in accordance with species groups adopted by the Food and Agriculture Organisation of the United Nations . . . On behalf of the standing Committee on Fisheries, the Fisheries Division, Commonwealth Department of Primary Industry, has prepared a code for use in coding fishermen's returns for subsequent machine-processing of catch statistics. Each species has a three-digit code number assigned to it." Although species were coded in groups such as "Teleostean Freshwater Species," "Flatheads, Gurnards, and Similar Species" and "Molluscs," the codes were not systematic. Consequently, they gave no insight into inter-species relationships and were of little use in data sorting.

To further complicate matters, later additions to the list included four-digit codes. The "Explanatory Notes" at the beginning of a 1988 Department of Primary Industries and Energy publication of, "Recommended Marketing Names for Fish," states that "entries coded 4000 and upwards are those not yet listed in the ["List of Australian Commercial Aquatic Fauna and Flora"]. Entries coded 5000 and upwards are those species imported in commercial quantities, which are not locally occurring and are therefore not listed in the above publication."

Despite the limitations of this system, it has been used by a number of Federal and State fisheries departments. For example, the Victorian Department of Conservation and Natural Resources (Fisheries Branch) and its predecessors have used these codes at least since the mid 1970s and The Fisheries Department of Western Australia used them since their inception in 1963 until 1989. The latter introduced a fourth digit to the coding system in 1975.

In spite of attempts to standardise on the national three-digit system, a number of fisheries departments used locally designed systems: Queensland's Department of Primary Industries (Land Use and Fisheries) used a three-digit system from 1988 to 1992; New South Wales Fisheries used a five-digit system for a number of years until 1987; the Northern Territory's Department of Primary Industry and Fisheries (Fisheries Research and Development) had a four-digit system from 1982 to 1988; and CSIRO's Division of Fisheries and Oceanography developed a four-digit system in the 1970s for their Oceanic Fishery Resources Survey. The South Australian Research and Development Institute (Aquatic Sciences) (SARDI) added to the three-digit system in 1982 to suit their own purposes after using the DPI codes since 1976.

The Fisheries Department of Western Australia and Tasmania's Sea Fisheries Division have not used comprehensive locally designed coding systems. However, some small-scale projects within various fisheries departments used systems designed for their very specific needs. For example, Tasmania's Sea Fisheries Division used three three-alpha codes for the analysis of data from research on jack mackerel.

Many fish (and fisheries) cross state and territory boundaries so a single national coding system is preferable to separate State systems. A universally accepted system permits relatively easy transfer of data between State, Territory and Federal departments and Industry and prevents overlap of effort. In addition, a systematic ordering of species within a system allows sorting of data. Australia has such a system.

FISHLIST, a six-digit coding system of Australian aquatic fauna with a bias to fish, is managed centrally (by the CSIRO Division of Fisheries) and is now used by many fisheries statisticians and scientists (see Appendix 2). It has replaced almost all other national and locally designed systems. Originally devised in 1978 by CSIRO fisheries biologists (Garrey Maxwell, in particular) during exploratory fishing surveys of the Great Australian Bight and North West Shelf, FISHLIST was expanded to include nearly 3000 scientific names of fish and shellfish from all areas of the Australian Fishing Zone (AFZ).

In its present format (as a faunal list rather than solely as a commercial species list), FISHLIST is useful to fisheries scientists involved in broad biological research and obtaining bycatch data and in recording catches during fishing surveys. It is now used by a large and expanding number of governmental and industry groups for fishery purposes (see Table 1). All State and Territory fisheries departments except the SARDI now use, or in the case of the Victorian Fisheries Branch, intend to use, FISHLIST to provide data on catch compositions and for statistical analysis. Most departments agreed to use the codes as early as 1979 but have only recently incorporated the system into their databases. One exception, The Tasmanian Fisheries Development Authority, a predecessor of the current Sea Fisheries Division, began using FISHLIST in 1979. The AFZ logbook database, where all logbook data from Federal-managed fisheries are stored, was constructed around this coding system in 1980. FISHLIST is still used Australia-wide in CSIRO Division of Fisheries field programs. It is on all these data that the management strategies of many of our fisheries are based.

The FISHLIST system is based on the allocation of a unique six-digit code to each species. For finfish species, the first three digits designate the family placement of the species and the last three digits represent its unique number within the family. The latter have been assigned on an ad hoc basis and are not ordered systematically or alphabetically. At one time, only the last two digits were available to code species within a family and the fourth digit could code, for example,

subfamily or sex. However, this digit was rarely, if ever, used for such purposes and now has no special significance. The family coding system (the first three digits) follows an efficient ordination system used by several Australian museums. This system, based on a classification proposed by Greenwood et al (1966), is now outdated but is useful in giving broad taxonomic affinities.

FISHLIST became the replacement for the antiquated and somewhat unwieldy three-digit system used by the Department of Primary Industry. Unlike the earlier system, it allowed for the simple and systematic addition of extra finfish species. However, non-systematic six-digit FISHLIST codes were assigned to commercial and other shellfish taxa as required.

The FISHLIST codes have been used during data collection and analysis by more than 20 projects funded by grants from the Fisheries Research and Development Corporation (FRDC) and its predecessors worth more than $2.6m during the last twelve years. Industry groups have also expressed interest in using FISHLIST.

Table 1. Number of agencies using FISHLIST since 1980. Many of these agencies have numerous individual projects/programs/divisions using the coding system. Number of State /Territory Government users (S/T); number of Commonwealth Government users (C); number of Industry/other users (I/O)

Year	S/T	C	I/O
1980	1	1	0
1985	2	3	0
1990	5	3	1
1993	6	4	2

A joint industry/government committee will include FISHLIST codes in the latest version of Recommended Marketing Names for Fish, a guide to the marketing names of Australian seafood. They are also provided in FRDC-funded projects such as the recently published guide Sharks and Rays of Australia, and in Australian Fisheries Resources recently prepared by the Bureau of Resource Sciences. FISHLIST codes were provided in guides to the deepwater prawns and commercial trawl fishes of Western Australia produced recently for AFZ observers and fishermen by the CSIRO Division of Fisheries.

Considerable effort and resources have been allocated to collecting and analysing data related to Australian aquatic ecosystems. Such data forms the basis of fisheries management policies and, consequently, efficient and logical data handling is essential.

FISHLIST is by far the most widely used biological coding system for such purposes in Australia and is rapidly assuming the role of a regional standard. In recognition of its national importance, funding was provided by FRDC to upgrade, correct and revise FISHLIST.

2 Upgrade of FISHLIST

2.1 Reasons for Upgrade

The reliability of catch statistics depends on the quality of the data on which they are based. Data errors can result in the loss of important information possibly leading to incorrect management advice. Taxonomic errors in existing FISHLIST versions had the potential to corrupt data related to Australian fisheries, thereby detrimentally affecting management decisions.

Problems have arisen because FISHLIST was originally designed for use on a small scale by a single CSIRO user group. Due to its successful local application, however, the system became popular and more widely accepted throughout the fishing industry. This forced FISHLIST to expand well beyond its original concept into a multiple user system, which was not planned for in its original design.

For more than a decade, species were added on an ad hoc basis. The list finally became unreliable to the extent where a third of the scientific and common names used were inaccurate, outdated or had been duplicated. Some species had as many as three separate codes, while other taxa, identified only to genera, could not be linked to known species. Others, including foreign imports and some commercially important Australian species, needed to be added.

Furthermore, an increase in deepwater exploratory fishing surveys and the expansion of marine research nationwide resulted in the collection of many uncoded bycatch species. Some were incorrectly, or not fully, identified, resulting in temporary codes being assigned which further complicated matters. FISHLIST required revising and correcting to produce an accurate list of Australian fishes.

In most cases, codes (both temporary and regular) were added to FISHLIST without designating a voucher specimen. These specimens act as a permanent reference and can be examined to confirm the species identity. Without voucher specimens and adequate information to positively identify a species allocated to a particular code, many FISHLIST codes were useless (these codes are now obsolete). To minimise future discrepancies in the system, voucher specimens will be assigned to all species as they become available.

There is an increasing awareness of the need to conserve fish stocks along the lines of ecologically sustainable development principles. Consequently, fisheries studies are becoming more ecosystem or community based. The need for a coding system to cover all aquatic organisms (not just finfish) is greater now than ever before. Although some commercial shellfish species and other invertebrate taxa were added to FISHLIST, this was not done systematically. Therefore, the system upgrade needed to consider the systematic inclusion of invertebrate species.

2.2 Methods of Upgrade

In 1990, FRDC approved a grant to revise and upgrade FISHLIST to include all the described Australian finfish fauna, to edit commercial shellfish codes and to provide for the systematic inclusion of all species (aquatic animals and plants).

Initially, a list of the Australian ichthyofauna was compiled from the literature (Paxton et al (1989) provided the basis for approximately half the fauna), by liaison with other fish taxonomists and by referring to preserved museum

specimens. FISHLIST was then corrected and expanded to include all known Australian fishes by their currently accepted binomen. The process of assigning voucher specimens to all entries has begun but initially focuses on commercial species.

In addition, the list has been upgraded from six to eight digits to create a new list "Codes for Australian Aquatic Biota" (CAAB). The inclusion of a two-digit prefix categorising the type of organism (for example, finfish, crustacean, red alga or mammal; see Table 2) has resulted in a more flexible system allowing for the future systematic inclusion of invertebrates. Within each category, systematic work is required to assign the Australian representatives. In addition, the category list is all encompassing, allowing researchers to code terrestrial biota if desired.

Valid six-digit finfish codes that have already been assigned systematically remain unchanged except for the addition of the two-digit prefix for finfish: "37". During the changeover period from six to eight digits (which began in July 1993), the current six-digit codes will be prefixed with "00". Present users can continue to use the existing six-digit codes for fish but need to upgrade their systems if they wish to include new invertebrate data. Apart from finfish and commercially important shellfish, the "00" section of the old FISHLIST will not be updated.

Oracle database (computing requirements/problems—input required from G Morris)

3 Codes for Australian Aquatic Biota (CAAB)

3.1 CAAB Format

CAAB is an eight-digit system for coding Australian aquatic biota. Each code relates to a species which will be represented by a voucher specimen.

The correct format for entering the eight-digit codes on databases is "ccfffsss", where "cc" stands for the two-digit category code (Table 2), "fff" for the three-digit family code and "sss" for the three-digit species number (see Table 3). The allocation of three digits each to family and species may vary; for example, in some categories it may be more appropriate to allocate two digits each to order, family and species or to allow two digits for species and one for subspecies or variety. Such configurations will be discussed by relevant experts and designated when required. Numbering of the two-digit category codes begins at "10" to remove problems of leading zeros on computers. The eight-digit codes will be written with a space between the two-digit prefix and the remaining six digits (ie, cc fffsss).

CAAB codes can be assigned to groups of commercial species (e.g., catch data for the two main species of warehou (Seriolella) may be lumped within a single code), imported species and to species that cannot be accurately identified. The coding system will also allow users to construct temporary codes as required for their own purposes without corrupting more broadly based data sets (see Table 3).

A synonymy of old codes and a history of code changes will be maintained in an archival file within the CAAB system. Such information can be accessed if necessary.

Table 2. Two-digit CAAB major category codes. Primary sources were Parker (1982), Clayton and King (1990) and Brusca and Brusca (1990).

Code	Category (Groups)	Common Name
10	Prokaryotae (Virus, Monera (including Cyanophyta))	Viruses, bacteria, blue/green algae
11	Rhodophyta	Red algae
12	Chromophyta and Euglenophyta	Brown and yellow/green algae
13	Chlorophyta	Green algae and stonewerts
14	Fungi (includes Myxomycota, Eumycota, Basidiomycotina and lichens)	Fungi, slime molds and lichens
15	Bryophyta, Psilophyta, Lycopodiophyta, Equisetophyta, Filicophyta	Liverworts, ferns
16	Vascular Plants (Pinophyta and Magnoliophyta)	Gymnosperms and angiosperms
17	Protozoa	Protozoans
18	Porifera	Sponges
19	Cnidaria	Jellyfish, coral, anemones, hydra, etc.
20	Ctenophora	Comb jellies
21	Placozoa and Mesozoa	
22	Platyhelminthes	Flat worms
23	Nemertea	Ribbon worms
24	Aschelminthes (Nematoda, Nematomorpha, Rotifera, Gastrotricha, Kinorhyncha), Priapula, Gnathostomulidae, Loricifera, Acanthocephala, Entoprocta	
25	Annelida	Segmented worms
26	Echiurida, Sipunculida, Pogonophora, Vestimentifera	Coelomate worms
27	Malacostracan Crustacea	Crustaceans
28	Other Crustacea (non-malacostracan)	Crustaceans
29	Insecta	Insects
30	Other Arthropoda (Cheliceriformes, Uniramia (excluding insects: Oncyphora and Myriapoda), and Tardigrada)	
31	Gastropod Mollusca	Snails and slugs
32	Other Mollusca (non-gastropod)	Molluscs
33	Ectoprocta (or Bryozoa), Phoronida and Brachiopoda	
34	Echinodermata	Echinoderms
35	Chaetognatha and Hemichordata	Arrow and acorn worms
36	Cephalochordata and Urochordata	
37	Pisces	Fish
38	Amphibia	Amphibians
39	Reptilia	Reptiles
40	Aves	Birds
41	Mammalia	Mammals
99	Unidentified	

Table 3. The structure of the eight-digit CAAB codes (ccfffsss).

Category code (First 2 digits: cc)

- These two digits define broad groups or categories of organisms (Table 2). A temporary code of "00" is in use during the changeover period from six to eight digits.

Family code (Digits 3–5: fff)

- These three digits represent the families within each category. The family codes used for finfish (category 37) are based on a system adopted by Australian museums. The family codes for remaining groups will be assigned later.
- Family codes 990–999 in each category are reserved for groupings of species (usually commercial) which span families (for example, "shark").
- Family codes 980–989 in each category are reserved for the same purpose but are to be used for locally-defined groups on a temporary basis (similar to species numbers 800–899 below).

Species code (Digits 6–8: sss)

- These three digits represent species within each family up to species number 789 (ccfff789).
- Numbers 790–799 in each family are reserved for imported species that are not found living in Australian waters. (Australian waters are here defined as within 200 miles of the Australian mainland and Tasmanian coasts, including Lord Howe Island).
- Numbers 800–899 within each family are to be used locally as temporary codes for species that have not been rigorously identified. These may be new species or may, after investigation, turn out to be species which are already on the list. These organisms are assigned a local temporary code which will become obsolete when the organism is identified and a permanent code in the range 001–789 found or assigned. The temporary codes are for personal-only use and will not be added to the central database. However, for the benefit of future users of various data sets, workers should both ensure correct identifications and upgrade the status of any temporary codes once a permanent code has been found.
- Numbers 900–999 within each family are reserved for identifiable and nameable commercial groupings within the family (for example, "tuna").

3.2 Use of CAAB

The list of eight-digit CAAB codes (see Appendix 4 for ichthyofaunal section), as well as historical and explanatory information, will be kept on a database maintained by the custodian (CSIRO Division of Fisheries). Changes to the list will only be made by the custodian of CAAB but the database will be available for enquiries by anyone with access. All CAAB information, including historical data, can be accessed by logging into the Oracle database..... Copies of CAAB are available on diskette. (input from G. Morris required here). Queries can be directed to:

Mr G. Yearsley
CSIRO Division of Fisheries
GPO Box 1538
Hobart
Tas., 7001

phone: 002) 325 222
fax: 002) 325 000
E-mail: Gordon.Yearsley@ml.csiro.au

Users are responsible for the identification of their species. This can be achieved by using the recognised literature and keys to find an accepted scientific name for the species, or by comparing their specimens with voucher or other representative specimens. From their identification they can use the coding system to find the appropriate code. If their species is uncoded, it may be a synonym of a coded species. This can be checked by searching through the archival CAAB file and by obtaining help from taxonomists. However, if the species is valid but absent from the list, the user will request the CAAB custodians at CSIRO's Division of Fisheries to add it. (This can only be done for finfish at present). A voucher specimen must accompany the request.

The non-finfish section of CAAB includes all the commercially important Australian species and many others of interest to various researchers. These codes are still available for use but with the addition of the interim two-digit category code: "00". Each species will be assigned a new eight-digit code (including the relevant two-digit category code) when these systems are designed. Except for commercially important species, new non-finfish codes will not be assigned until they can be done so systematically.

3.3 Voucher Specimens

An Australian specimen (voucher) of each species will be designated to represent each CAAB code. Species codes will relate strictly to the species that the specimen represents rather than to a name; the list will be maintained with this convention in mind. However, in most cases, the name and voucher are likely to be synonymous.

CSIRO Division of Fisheries taxonomists are responsible for the allocation of finfish vouchers and the majority of these specimens will be registered in CSIRO's I.S.R. Munro Ichthyological Collection in Hobart. Responsibility for the allocation of non-finfish vouchers is yet to be determined and these specimens will be housed in other Australian biological collections.

A recent FRDC study into the seafood consumption patterns of Australians revealed that the single most important factor to consumers when buying fish is to be sure that the fish is correctly labelled (Kitson, 1992). However, consumers are not always confident that this is happening. At present, there is no established procedure for the validation of fish marketing names although there have already been several law suits both here and overseas involving the use and misuse of these names. Assigning recommended common names and CAAB codes to voucher specimens has obvious benefits if marketing names are legislated. Voucher specimens can be produced or referred to in disputes over identification.

In addition, colour transparency files are being established for voucher specimens of commercial species within the photographic index of the I.S.R. Munro Ichthyological Collection. The voucher specimens will lose their colour during preservation and the photographs will provide a permanent record of the colour pattern of each species.

4 Discussion

The management strategies of many of Australia's fisheries are based on data coded by the old six-digit species coding system, FISHLIST. However, the list is barely workable in this capacity as it contains misidentifications, duplication

of species, incomplete data and includes less than half of the Australian ichthyofauna. In addition, the old system does not make provision for the systematic inclusion of non-finfish species. It is therefore imperative that data sets using FISHLIST not be corrupted further by the use of defunct codes. Doing so could lead to misinterpretation of the data and poor management. Financial losses to the Australian fishing industry could ensue.

The purpose of this project was to revise the list in order to code all Australian fishes (without duplication of species) and to redesign the system to allow for the systematic inclusion of commercially important shellfish and other non-finfish species. This needed to be achieved with minimum disruption to existing data sets and databases.

The systematic inclusion of non-finfish species was made possible by the addition of two-digit higher category prefixes. Experts in the research of these groups (other than finfish) are invited to design coding frameworks (six-digit systems within each two-digit category code for the addition of non-commercial species) to be incorporated into the CAAB database. Full advantages of the eight-digit system will be gained when these systems are designed.

However, even prior to this, CAAB is a vast improvement on previous systems, including FISHLIST. The ichthyofaunal section is now complete and reliable; this was never true of FISHLIST. In addition, CAAB provides systematic codes to replace the array of unwieldy non-systematic codes used previously by various fisheries research bodies.

The finfish section of CAAB will continue to be updated as new information comes to hand. This will ensure that fisheries researchers and industry personnel have access to an up-to-date coded list of Australian fishes. The finfish voucher specimen and common name sections are currently incomplete but will be completed as an ongoing process.

A number of nomenclatural and/or taxonomic problems on CAAB deserve mention here. Solutions to these (and similar) problems will be included in CAAB upgrades when possible.

The identity of some macrourid specimens (assigned as voucher specimens on FISHLIST a number of years ago) could not be confirmed. The vouchers are on loan overseas and have not yet been retrieved.

A number of unidentified listings remain in the family Muraenidae. Seven Gymnothorax species (species 1–7) were added to the list in the early 1980s. Although photographs and/or voucher specimens were available, positive identifications were not attained. The species remain coded.

The family Muraenidae also contains problematic records of G. reticularis and G. cf augusticauda. In such cases, where species were added to FISHLIST but their identification or presence in Australia is not confirmed, the entry has been retained on CAAB with a relevant comment in the archival section of the list.

The ichthyofaunal section of CAAB is not intended to be accurate phylogenetically. The family numbering system, adopted widely by Australian museums, was designed based on Greenwood et al (1966) and is inconsistent with current knowledge. In addition, some fishes were not placed in the correct family in earlier versions of FISHLIST. For example, the pygmy perches were listed in the family Kuhliidae but are now considered part of the Percichthyidae. To maintain consistency for users, these problems have not been altered.

The non-finfish section of CAAB remains incomplete. Although old FISHLIST codes are still available, new codes (except for important commercial taxa) will not be assigned until classification systems are designed for each category code. Entering new taxa would further exacerbate the current problems. This delay will undoubtedly cause inconvenience to some researchers; new non-finfish codes cannot presently be assigned on request. However, the long term advantage is that all taxa on CAAB will be entered systematically.

CAAB is comparable to the various fisheries coding systems elsewhere. None are identical to CAAB but the majority are similarly numeric. In conjunction with the numeric codes, some countries (e.g., Iceland) use a 3-alpha identifier. These are usually mnemonic and therefore easier to remember in the field than a numeric code. The identifiers are linked to the numeric codes on databases. In Australia, the Australian Fisheries Management Authority (AFMA) includes 3-alpha mnemonic codes (e.g., SBT for southern bluefin tuna) on their logbooks. These assist fishermen and observers to record catch data at sea. Other similar codes have been used in various fisheries departments in Australia over many years and can continue to be used with CAAB.

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7 Appendices

7.1 Appendix 1: Coding systems used elsewhere

Summary of coding systems used by other countries. Institutions listed are located within the country in question unless otherwise indicated. Replies have not yet been received from the fisheries bodies of a further 20 countries.

Country	Coding System	Information Supplied By†
Austria	none	O. Schultz/B. Herzig, Naturhistorisches Museum Wien
Canada	currently use separate zonal systems consisting of 3 digits and a 3-alpha identifier; plan to implement a numeric system of 7 or 12 (NODC*) digits	D. Rivard, Fisheries and Oceans
Costa Rica	none	W. Bussing, Universidad de Costa Rica
Iceland	local system under revision; use FAO's** 3-alpha identifier for international work	G. Stefánsson, Hafrannsóknastofnunin
India	4-digit system	P. James, Central Marine Fisheries Institute
Indonesia	none	S. Bahar, Research Institute of Marine Fisheries
Israel	none	D. Golani/A. Ben-Tuvia, Hebrew University of Jerusalem
Japan	have a comprehensive system which is rarely used; use a 3-digit identifier in joint observer program with Canada and the USA	A. Yatsu, Fisheries Agency of Japan; K. Sasaki, Kochi University; H. Horikawa, Nansei National Fisheries Research Institute
Kuwait	presently none but one to be implemented shortly	M. Hossaini, Kuwait Institute for Scientific Research
New Zealand	3-alpha system	P. McMillan, Ministry of Agriculture and Fisheries
Nigeria	none	M. Okpanefe, Nigerian Institute for Oceanography and Marine Research
Norway	possibly use 7-character mnemonic code or the RUBIN*** system	R. Froese, International Center for Living Aquatic Resources Management (Philippines); E. Stengård, Nordic Code Centre (Sweden)
Peru	none	B. Cervantes, Instituto del Mar del Peru
Philippines	none	R. Froese, International Center for Living Aquatic Resources Management
Romania	none	T. Nalbant, Institute of Biological Sciences
Saudi Arabia	FAO** system	A. Al-Medbil, Ministry of Agriculture and Water
South Africa	a few numeric systems	G. Cliff, Natal Sharks Board
Sweden	RUBIN*** codes and numbers	E. Stengård, Nordic Code Centre
Taiwan	none	K-T Shao, Academia Sinica

Russia	4–5-digit system	A. Kotlyar, Academy of Sciences
U.K.	NODC* system; 3-alpha FAO**	R. Ayers, Ministry of Agriculture, Fisheries and Food
U.S.A.	4-digit system (National Marine Fisheries Service), for commercial or managed fisheries; 12-digit system (NODC*), for taxonomy	M. Holliday, National Marine Fisheries Service

† Researchers listed are not necessarily involved with the design, management or use of their country's coding system.

* NODC = National Oceanographic Data Center (USA). The NODC coding system consists of up to 12 digits divided into six two-digit taxonomic categories.

** FAO = Food and Agriculture Organisation (of the United Nations). FAO use a three-alpha identifier in conjunction with a 13-digit code (for systematic sorting) and a two-digit species group code.

*** RUBIN = Routine for Biological Information (managed by the Nordic Code Centre). RUBIN codes are mnemonic, consisting of eight characters and two digits. RUBIN numbers, which are used for systematic sorting, consist of 12 digits.

7.2 Appendix 2: FISHLIST/CAAB users

Australian Bureau of Statistics
Australian Fisheries Management Authority
Bureau of Resource Sciences
CSIRO Division of Fisheries (Australia wide)

Fisheries Department of Western Australia
New South Wales Fisheries
Northern Territory's Department of Primary Industry and Fisheries (Fisheries Research and Development)
Queensland's Department of Primary Industries (Land Use and Fisheries)
South Australian Research and Development Institute (Aquatic Sciences) †
Tasmania's Sea Fisheries Division
Victorian Department of Conservation and Natural Resources (Fisheries Branch)*

Reccommended Marketing Names for Fish committee
Sydney Aquarium*

* Currently incorporating FISHLIST/CAAB codes into their system
† FISHLIST used previously by one researcher

7.3 Appendix 4: Ichthyofaunal component of CAAB list and commercial list

Included here are complete lists of the Australian ichthyofauna added to the coding system to date, with current CAAB codes. Archival information, voucher specimen numbers and common names are not included but are available (where assigned) on diskette copies of the list. The list still requires minor nomenclatural editing so readers should consult the final published report as a reference to names/dates rather than use this version.

37 013000 **--- Family Hemiscyllidae ---**
37 013008 *Chiloscyllium punctatum* Muller & Henle, 1838
37 013014 *Hemiscyllium ocellatum* (Bonnaterre, 1788)
37 013015 *Hemiscyllium trispeculare* Richardson, 1843

37 013000 **--- Family Orectolobidae ---**
37 013011 *Eucrossorhinus dasypogon* (Bleeker, 1867)
37 013016 *Orectolobus* sp A [in Last & Stevens, 1994]
37 013003 *Orectolobus maculatus* (Bonnaterre, 1788)
37 013001 *Orectolobus ornatus* (De Vis, 1883)
37 013017 *Orectolobus wardi* Whitley, 1939
37 013012 *Sutorectus tentaculatus* (Peters, 1865)

37 013000 **--- Family Parascyllidae ---**
37 013018 *Parascyllium* sp A [in Last & Stevens, 1994]
37 013019 *Parascyllium* sp B
37 013002 *Parascyllium collare* Ramsay & Ogilby, 1888
37 013005 *Parascyllium ferrugineum* McCulloch, 1911
37 013004 *Parascyllium variolatum* (Dumeril, 1853)

37 013000 **--- Family Stegastomatidae ---**
37 013006 *Stegostoma fasciatum* (Hermann, 1783)

37 014000 **--- Family Rhincodontidae ---**
37 014001 *Rhincodon typus* (Smith, 1828)

37 015000 **--- Family Scyliorhinidae ---**
37 015014 *Apristurus* sp A [in Last & Stevens, 1994]
37 015015 *Apristurus* sp B [in Last & Stevens, 1994]
37 015016 *Apristurus* sp C [in Last & Stevens, 1994]
37 015017 *Apristurus* sp D [in Last & Stevens, 1994]
37 015018 *Apristurus* sp E [in Last & Stevens, 1994]
37 015019 *Apristurus* sp F [in Last & Stevens, 1994]
37 015020 *Apristurus* sp G [in Last & Stevens, 1994]
37 015021 *Apristurus longicephalus* Nakaya, 1975
37 015022 *Asymbolus* sp A [in Last & Stevens, 1994]
37 015023 *Asymbolus* sp B [in Last & Stevens, 1994]
37 015010 *Asymbolus* sp C [in Last & Stevens, 1994]
37 015024 *Asymbolus* sp D [in Last & Stevens, 1994]
37 015025 *Asymbolus* sp E [in Last & Stevens, 1994]
37 015026 *Asymbolus* sp F [in Last & Stevens, 1994]
37 015027 *Asymbolus analis* (Ogilby, 1885)
37 015003 *Asymbolus vincenti* (Zietz, 1908)
37 015005 *Atelomycterus fasciatus* Compagno & Stevens, 1993
37 015028 *Atelomycterus macleayi* Whitley, 1939
37 015029 *Aulohalaelurus labiosus* (Waite, 1905)
37 015013 *Cephaloscyllium* sp A [in Last & Stevens, 1994]
37 015030 *Cephaloscyllium* sp B [in Last & Stevens, 1994]
37 015031 *Cephaloscyllium* sp C [in Last & Stevens, 1994]
37 015032 *Cephaloscyllium* sp D [in Last & Stevens, 1994]
37 015033 *Cephaloscyllium* sp E [in Last & Stevens, 1994]
37 015007 *Cephaloscyllium fasciatum* Chan, 1966
37 015001 *Cephaloscyllium laticeps* (Dumeril, 1853)
37 015034 *Galeus* sp B
37 015009 *Galeus boardmani* (Whitley, 1928)
37 015008 *Galeus gracilis* Compagno & Stevens, 1993
37 015035 *Halaelurus* sp A [in Last & Stevens, 1994]
37 015004 *Halaelurus boesemani* Springer & D'Aubrey, 1972
37 015036 *Parmaturus* sp A [in Last & Stevens, 1994]

37 017000 **--- Family Triakidae ---**
37 017003 *Furgaleus macki* (Whitley, 1943)
37 017008 *Galeorhinus galeus* (Linneaus, 1758)
37 017010 *Hemitriakis abdita* Compagno & Stevens, 1993

37 003000 **--- Family Petromyzontidae ---**
37 003001 *Geotria australis* Gray, 1851
37 003002 *Mordacia mordax* (Richardson, 1846)
37 003003 *Mordacia praecox* Potter, 1968

37 004000 **--- Family Myxinidae ---**
37 004002 *Eptatretus cirrhatus* (Forster, 1801)
37 004001 *Eptatretus longipinnis* Strahan, 1975

37 005000 **--- Family Hexanchidae ---**
37 005001 *Heptranchias perlo* (Bonnaterre, 1788)
37 005005 *Hexanchus griseus* (Bonnaterre, 1788)
37 005004 *Hexanchus nakamurai* Teng, 1962
37 005002 *Notorynchus cepedianus* (Peron, 1807)

37 006000 **--- Family Chlamydoselachidae ---**
37 006001 *Chlamydoselachus anguineus* Garman, 1884

37 007000 **--- Family Heterodontidae ---**
37 007003 *Heterodontus galeatus* (Gunther, 1870)
37 007001 *Heterodontus portusjacksoni* (Meyer, 1793)
37 007002 *Heterodontus zebra* (Gray, 1831)

37 008000 **--- Family Odontaspididae ---**
37 008001 *Carcharias taurus* Rafinesque, 1810
37 008003 *Odontaspis ferox* (Risso, 1810)

37 009000 **--- Family Megachasmidae ---**
37 009001 *Megachasma pelagios* Taylor*et al*., 1983

37 009000 **--- Family Mitsukurinidae ---**
37 009002 *Mitsukurina owstoni* Jordan, 1898

37 009000 **--- Family Pseudocarchariidae ---**
37 009003 *Pseudocarcharias kamoharai* (Matsubara, 1936)

37 010000 **--- Family Lamnidae ---**
37 010003 *Carcharodon carcharias* (Linnaeus, 1758)
37 010001 *Isurus oxyrinchus* Rafinesque, 1810
37 010002 *Isurus paucus* Guitart Manday, 1966
37 010004 *Lamna nasus* (Bonnaterre, 1788)

37 011000 **--- Family Cetorhinidae ---**
37 011001 *Cetorhinus maximus* (Gunnerus, 1765)

37 012000 **--- Family Alopiidae ---**
37 012003 *Alopias pelagicus* Nakamura, 1935
37 012002 *Alopias superciliosus* (Lowe, 1840)
37 012001 *Alopias vulpinus* (Bonnaterre, 1788)

37 013000 **--- Family Brachaeluridae ---**
37 013013 *Brachaelurus colcloughi* (Ogilby, 1908)
37 013007 *Brachaelurus waddi* (Bloch & Schneider, 1801)

37 013000 **--- Family Ginglymostomatidae ---**
37 013010 *Nebrius ferrugineus* (Lesson, 1830)

37 020002 *Dalatias licha* (Bonnaterre, 1788)
37 020003 *Deania calcea* (Lowe, 1839)
37 020004 *Deania quadrispinosa* (McCulloch, 1915)
37 020027 *Etmopterus* sp A [in Last & Stevens, 1994]
37 020022 *Etmopterus* sp B [in Last & Stevens, 1994]
37 020028 *Etmopterus* sp C [in Last & Stevens, 1994]
37 020029 *Etmopterus* sp D [in Last & Stevens, 1994]
37 020030 *Etmopterus* sp E [in Last & Stevens, 1994]
37 020031 *Etmopterus* sp F [in Last & Stevens, 1994]
37 020032 *Etmopterus brachyurus* Smith & Radcliffe, 1912
37 020021 *Etmopterus granulosus* (Gunther, 1880)
37 020005 *Etmopterus lucifer* Jordan & Snyder, 1902
37 020033 *Etmopterus molleri* Whitley, 1939
37 020015 *Etmopterus pusillus* (Lowe, 1839)
37 020034 *Euprotomicrus bispinatus* (Quoy & Gaimard, 1824)
37 020014 *Isistius brasiliensis* (Quoy & Gaimard, 1824)
37 020035 *Scymnodalatias albicauda* Taniuchi & Garrick, 1986
37 020036 *Somniosus pacificus* Bigelow & Schroeder, 1944
37 020017 *Squaliolus aliae* Teng, 1959
37 020037 *Squalus* sp A [in Last & Stevens, 1994]
37 020038 *Squalus* sp B [in Last & Stevens, 1994]
37 020018 *Squalus* sp C [in Last & Stevens, 1994]
37 020039 *Squalus* sp D [in Last & Stevens, 1994]
37 020040 *Squalus* sp E [in Last & Stevens, 1994]
37 020041 *Squalus* sp F [in Last & Stevens, 1994]
37 020008 *Squalus acanthias* Linnaeus, 1758
37 020006 *Squalus megalops* (Macleay, 1881)
37 020007 *Squalus mitsukurii* Jordan & Snyder, 1903
37 020042 *Zameus squamulosus* (Gunther, 1877)
37 020900 _ (Common name: Dogfish Shark)
37 020901 _ (Common name: Dogfish, greeneye)
37 020903 _ (Common name: Dogfish, mixed)

37 021000 --- **Family Oxynotidae** ---
37 021001 *Oxynotus bruniensis* (Ogilby, 1893)

37 022000 --- **Family Echinorhinidae** ---
37 022001 *Echinorhinus brucus* (Bonnaterre, 1788)
37 022002 *Echinorhinus cookei* Pietschmann, 1928

37 023000 --- **Family Pristiophoridae** ---
37 023900 *Pristiophorus*
37 023003 *Pristiophorus* sp A [in Last & Stevens, 1994]
37 023004 *Pristiophorus* sp B [in Last & Stevens, 1994]
37 023002 *Pristiophorus cirratus* (Latham, 1794)
37 023001 *Pristiophorus nudipinnis* Gunther, 1870

37 024000 --- **Family Squatinidae** ---
37 024900 *Squatina* spp
37 024004 *Squatina* sp A [in Last & Stevens, 1994]
37 024005 *Squatina* sp B [in Last & Stevens, 1994]
37 024001 *Squatina australis* Regan, 1906
37 024002 *Squatina tergocellata* McCulloch, 1914

37 025000 --- **Family Pristidae** ---
37 025002 *Anoxypristis cuspidata* (Latham, 1794)
37 025004 *Pristis clavata* Garman, 1906
37 025003 *Pristis microdon* Latham, 1794
37 025005 *Pristis pectinata* Latham, 1794
37 025001 *Pristis zijsron* Bleeker, 1851

37 026000 --- **Family Rhynchobatidae** ---
37 026002 *Rhina ancylostoma* Bloch & Schneider, 1801

37 017009 *Hemitriakis falcata* Compagno & Stevens, 1993
37 017006 *Hypogaleus hyugaensis* (Miyosi, 1939)
37 017007 *Iago garricki* (Fourmanoir & Rivaton, 1979)
37 017005 *Mustelus* sp A [in Last & Stevens, 1994]
37 017004 *Mustelus* sp B [in Last & Stevens, 1994]
37 017901 *Mustelus* spp
37 017001 *Mustelus antarcticus* Gunther, 1870

37 018000 --- **Family Carcharhinidae** ---
37 018027 *Carcharhinus albimarginatus* (Ruppell, 1837)
37 018012 *Carcharhinus altimus* (Springer, 1950)
37 018033 *Carcharhinus amblyrhynchoides* (Whitley, 1934)
37 018030 *Carcharhinus amblyrhynchos* (Bleeker, 1856)
37 018026 *Carcharhinus amboinensis* (Muller & Henle, 1839)
37 018001 *Carcharhinus brachyurus* (Gunther, 1870)
37 018023 *Carcharhinus brevipinna* (Muller & Henle, 1839)
37 018034 *Carcharhinus cautus* (Whitley, 1945)
37 018009 *Carcharhinus dussumieri* (Valenciennes, 1839)
37 018008 *Carcharhinus falciformis* (Bibron, 1839)
37 018035 *Carcharhinus fitzroyensis* (Whitley, 1943)
37 018040 *Carcharhinus galapagensis* (Snodgrass & Heller, 1905)
37 018021 *Carcharhinus leucas* (Valenciennes, 1839)
37 018039 *Carcharhinus limbatus* (Valenciennes, 1839)
37 018032 *Carcharhinus longimanus* (Poey, 1861)
37 018025 *Carcharhinus macloti* (Muller & Henle, 1839)
37 018036 *Carcharhinus melanopterus* (Quoy & Gaimard, 1824)
37 018003 *Carcharhinus obscurus* (Lesueur, 1818)
37 018007 *Carcharhinus plumbeus* (Nardo, 1827)
37 018013 *Carcharhinus sorrah* (Valenciennes, 1839)
37 018014 *Carcharhinus tilstoni* (Whitley, 1950)
37 018022 *Galeocerdo cuvier* (Peron & Lesueur, 1822)
37 018041 *Glyphis* sp A [in Last & Stevens, 1994]
37 018005 *Loxodon macrorhinus* Muller & Henle, 1839
37 018029 *Negaprion acutidens* (Ruppell, 1837)
37 018004 *Prionace glauca* (Linnaeus, 1758)
37 018006 *Rhizoprionodon acutus* (Ruppell, 1837)
37 018037 *Rhizoprionodon oligolinx* Springer, 1964
37 018024 *Rhizoprionodon taylori* (Ogilby, 1915)
37 018790 *Scoliodon laticaudas* Muller & Henle, 1838
37 018038 *Triaenodon obesus* (Ruppell, 1837)
37 018901 _ (Common name: Black tip sharks)
37 018900 _ (Common name: Carcharhinidae (Whalers, etc))

37 018000 --- **Family Hemigaleidae** ---
37 018020 *Hemigaleus microstoma* Bleeker, 1852
37 018011 *Hemipristis elongata* (Klunzinger, 1871)

37 019000 --- **Family Sphyrnidae** ---
37 019003 *Eusphyra blochii* (Cuvier, 1816)
37 019001 *Sphyrna lewini* (Griffth & Smith, 1834)
37 019002 *Sphyrna mokarran* (Ruppell, 1837)
37 019004 *Sphyrna zygaena* (Linnaeus, 1837)

37 020000 --- **Family Squalidae** ---
37 020902 *Centrophorus* spp
37 020023 *Centrophorus granulosus* (Bloch & Schneider, 1801)
37 020010 *Centrophorus harrissoni* McCulloch, 1915
37 020001 *Centrophorus moluccensis* Bleeker, 1860
37 020009 *Centrophorus squamosus* (Bonnaterre, 1788)
37 020011 *Centrophorus uyato* (Rafinesque, 1810)
37 020024 *Centroscyllium kamoharai* Abe, 1966
37 020025 *Centroscymnus coelolepis* Bocage & Capello, 1864
37 020012 *Centroscymnus crepidater* (Bocage & Capello, 1864)
37 020019 *Centroscymnus owstoni* Garman, 1906
37 020013 *Centroscymnus plunketi* (Waite, 1910)
37 020026 *Cirrhigaleus barbifer* Tanaka, 1912

37 031007 *Raja lemprieri* Richardson, 1845
37 031042 *Raja polyommata* Ogilby, 1910
37 031006 *Raja whitleyi* Iredale, 1938

37 033000 --- **Family Anacanthobatidae** ---
37 033001 *Anacanthobatis* sp A [in Last & Stevens, 1994]
37 033002 *Anacanthobatis* sp B [in Last & Stevens, 1994]

37 035000 --- **Family Dasyatididae** ---
37 035012 *Amphotistius annotatus* Last, 1987
37 035013 *Amphotistius leylandi* Last, 1987
37 035021 *Dasyatis* sp A [in Last & Stevens, 1994]
37 035001 *Dasyatis brevicaudata* (Hutton, 1875)
37 035008 *Dasyatis fluviorum* Ogilby, 1908
37 035004 *Dasyatis kuhlii* (Muller & Henle, 1841)
37 035002 *Dasyatis thetidis* Ogilby , 1899
37 035010 *Dasyatis violacea* (Bonaparte, 1832)
37 035022 *Himantura* sp A [in Last & Stevens, 1994]
37 035023 *Himantura chaophraya* Monkolprasit & Roberts, 1990
37 035024 *Himantura fai* Jordan & Seale, 1906
37 035019 *Himantura granulata* (Macleay, 1883)
37 035025 *Himantura jenkinsii* (Annandale, 1909)
37 035020 *Himantura toshi* Whitley, 1939
37 035003 *Himantura uarnak* (Forsskal, 1775)
37 035026 *Himantura undulata* (Bleeker, 1852)
37 035011 *Pastinachus sephen* (Forsskal, 1775)
37 035009 *Taeniura lymma* (Forsskal, 1775)
37 035017 *Taeniura meyeni* Muller & Henle, 1841
37 035027 *Urogymnus asperrimus* (Bloch & Schneider, 1801)

37 037000 --- **Family Gymnuridae** ---
37 037001 *Gymnura australis* (Ramsay & Ogilby, 1886)

37 037000 --- **Family Hexatrygonidae** ---
37 037002 *Hexatrygon* sp A [in Last & Stevens, 1994]

37 038000 --- **Family Urolophidae** ---
37 038023 *Plesiobatis daviesi* (Wallace, 1967)
37 038013 *Trygonoptera* sp A [in Last & Stevens, 1994]
37 038014 *Trygonoptera* sp B [in Last & Stevens, 1994]
37 038015 *Trygonoptera mucosa* Whitley, 1939
37 038016 *Trygonoptera ovalis* Last & Gomon, 1987
37 038017 *Trygonoptera personata* Last & Gomon, 1987
37 038006 *Trygonoptera testacea* (Muller & Henle, 1841)
37 038018 *Urolophus* sp A [in Last & Stevens, 1994]
37 038019 *Urolophus* sp B [in Last & Stevens, 1994]
37 038001 *Urolophus bucculentus* Macleay, 1884
37 038020 *Urolophus circularis* McKay, 1966
37 038002 *Urolophus cruciatus* (Lacepede, 1804)
37 038008 *Urolophus expansus* McCulloch, 1916
37 038010 *Urolophus flavomosaicus* Last & Gomon, 1987
37 038003 *Urolophus gigas* Scott, 1954
37 038021 *Urolophus lobatus* McKay, 1966
37 038011 *Urolophus mitosis* Last & Gomon, 1987
37 038022 *Urolophus orarius* Last & Gomon, 1987
37 038004 *Urolophus paucimaculatus* Dixon, 1969
37 038005 *Urolophus sufflavus* Whitley, 1929
37 038024 *Urolophus var. viridis* (Stanley)
37 038007 *Urolophus viridis* McCulloch, 1916
37 038009 *Urolophus westraliensis* Last & Gomon, 1987

37 039000 --- **Family Myliobatididae** ---
37 039003 *Aetobatus narinari* (Euphrasen, 1790)
37 039002 *Aetomylaeus nichofii* (Schneider, 1801)
37 039005 *Aetomylaeus vespertilio* (Bleeker, 1852)
37 039001 *Myliobatis australis* Macleay, 1881

37 026001 *Rhynchobatus djiddensis* (Forsskal, 1775)

37 027000 --- **Family Rhinobatidae** ---
37 027007 *Aptychotrema* sp A [in Last & Stevens, 1994]
37 027009 *Aptychotrema rostrata* (Shaw & Nodder, 1794)
37 027001 *Aptychotrema vincentiana* (Haacke, 1885)
37 027003 *Rhinobatos* sp A [in Last & Stevens, 1994]
37 027010 *Rhinobatos typus* Bennett, 1830
37 027006 *Trygonorrhina* sp A [in Last & Stevens, 1994]
37 027002 *Trygonorrhina fasciata* Muller & Henle, 1841
37 027008 *Trygonorrhina melaleuca* Scott, 1954
37 027900 _ (Common name: Shovelnose Ray)

37 028000 --- **Family Torpedinidae** ---
37 028006 *Torpedo* sp A [in Last & Stevens, 1994]
37 028003 *Torpedo macneilli* (Whitley, 1932)
37 028900 _ (Common name: Electric Rays)

37 028000 --- **Family Hypnidae** ---
37 028001 *Hypnos monopterygium* (Shaw & Nodder, 1795)

37 028000 --- **Family Narcinidae** ---
37 028007 *Narcine* sp A [in Last & Stevens, 1994]
37 028004 *Narcine* sp B [in Last & Stevens, 1994]
37 028008 *Narcine* sp C [in Last & Stevens, 1994]
37 028002 *Narcine tasmaniensis* Richardson, 1841
37 028005 *Narcine westraliensis* McKay, 1966

37 031000 --- **Family Rajidae** ---
37 031016 *Bathyraja* sp A [in Last & Stevens, 1994]
37 031017 *Irolita* sp A [in Last & Stevens, 1994]
37 031001 *Irolita waitii* (McCulloch, 1911)
37 031018 *Notoraja* sp A [in Last & Stevens, 1994]
37 031015 *Notoraja* sp C [in Last & Stevens, 1994]
37 031020 *Notoraja* sp D [in Last & Stevens, 1994]
37 031019 *Notoraja ochroderma* McEachran & Last, 1994
37 031021 *Pavoraja* sp A [in Last & Stevens, 1994]
37 031022 *Pavoraja* sp B [in Last & Stevens, 1994]
37 031023 *Pavoraja* sp C [in Last & Stevens, 1994]
37 031024 *Pavoraja* sp D [in Last & Stevens, 1994]
37 031025 *Pavoraja* sp E [in Last & Stevens, 1994]
37 031026 *Pavoraja* sp F [in Last & Stevens, 1994]
37 031027 *Pavoraja alleni* McEachran & Fechelm, 1982
37 031009 *Pavoraja nitida* (Gunther, 1880)
37 031005 *Raja* sp A [in Last & Stevens, 1994]
37 031028 *Raja* sp B [in Last & Stevens, 1994]
37 031029 *Raja* sp C [in Last & Stevens, 1994]
37 031030 *Raja* sp D [in Last & Stevens, 1994]
37 031031 *Raja* sp E [in Last & Stevens, 1994]
37 031011 *Raja* sp F [in Last & Stevens, 1994]
37 031032 *Raja* sp G [in Last & Stevens, 1994]
37 031033 *Raja* sp H [in Last & Stevens, 1994]
37 031034 *Raja* sp I [in Last & Stevens, 1994]
37 031035 *Raja* sp J [in Last & Stevens, 1994]
37 031036 *Raja* sp K [in Last & Stevens, 1994]
37 031037 *Raja* sp L [in Last & Stevens, 1994]
37 031038 *Raja* sp M [in Last & Stevens, 1994]
37 031013 *Raja* sp N [in Last & Stevens, 1994]
37 031039 *Raja* sp O [in Last & Stevens, 1994]
37 031040 *Raja* sp P [in Last & Stevens, 1994]
37 031900 *Raja* spp
37 031002 *Raja australis* Macleay, 1884
37 031003 *Raja cerva* Whitley, 1939
37 031010 *Raja gudgeri* (Whitley, 1940)
37 031041 *Raja hyperborea* Collett, 1879

37 060000 **--- Family Muraenidae ---**
37 060017 *Anarchias allardicei* Jordan & Starks, 1906
37 060018 *Anarchias cantonensis* (Schultz, 1943)
37 060020 *Anarchias fuscus* Smith, 1962
37 060021 *Anarchias insuentus* Whitley, 1932
37 060019 *Anarchias leucurus* (Snyder, 1904)
37 060022 *Anarchias seychellensis* Smith, 1962
37 060023 *Echidna nebulosa* (Ahl, 1789)
37 060024 *Echidna polyzona* (Richardson, 1845)
37 060025 *Echidna unicolor* Schultz, 1953
37 060026 *Enchelycore bayeri* (Schultz, 1953)
37 060027 *Enchelycore ramosa* (Griffin, 1926)
37 060028 *Enchelynassa canina* (Quoy & Gaimard, 1824)
37 060029 *Gymnomuraena zebra* (Shaw & Nodder, 1797)
37 060004 *Gymnothorax* sp 1 [in Sainsbury et al, 1985]
37 060005 *Gymnothorax* sp 2 [in Sainsbury et al, 1985]
37 060008 *Gymnothorax* sp 3 [in Sainsbury et al, 1985]
37 060009 *Gymnothorax* sp 4 [in Sainsbury et al, 1985]
37 060010 *Gymnothorax* sp 5 [in Sainsbury et al, 1985]
37 060011 *Gymnothorax* sp 6 [in Sainsbury et al, 1985]
37 060012 *Gymnothorax* sp 7 [in Sainsbury et al, 1985]
37 060013 *Gymnothorax* sp cf augusticauda
37 060900 *Gymnothorax* spp
37 060064 *Gymnothorax annasona* (Whitley, 1937)
37 060030 *Gymnothorax australicola* Lavenberg, 1992
37 060031 *Gymnothorax boschii* (Bleeker, 1853)
37 060032 *Gymnothorax buroensis* (Bleeker, 1857)
37 060033 *Gymnothorax chilospilus* Bleeker, 1865
37 060002 *Gymnothorax cribroris* Whitley, 1932
37 060034 *Gymnothorax eurostus* (Abbott, 1861)
37 060016 *Gymnothorax favagineus* Bloch & Schneider, 1801
37 060035 *Gymnothorax fimbriatus* (Bennett, 1832)
37 060036 *Gymnothorax flavimarginatus* (Rueppell, 1830)
37 060037 *Gymnothorax fuscomaculata* Schultz, 1953
37 060038 *Gymnothorax gracilicauda* Jenkins, 1903
37 060039 *Gymnothorax javanicus* (Bleeker, 1859)
37 060040 *Gymnothorax kidako* (Teminck & Schlegel, 1847)
37 060041 *Gymnothorax longinquus* (Whitley, 1948)
37 060042 *Gymnothorax margaritophorus* Bleeker, 1865
37 060043 *Gymnothorax melanospilus* (Bleeker, 1855)
37 060044 *Gymnothorax melatremus* Schultz, 1953
37 060045 *Gymnothorax meleagris* (Shaw & Nodder, 1795)
37 060046 *Gymnothorax monochrous* Bleeker, 1864
37 060065 *Gymnothorax nubilus* (Richardson, 1848)
37 060047 *Gymnothorax nudivomer* (Playfair, 1866)
37 060048 *Gymnothorax pindae* Smith, 1962
37 060066 *Gymnothorax porphyreus* (Guichenot, 1848)
37 060006 *Gymnothorax prasinus* (Richardson, 1848)
37 060049 *Gymnothorax prionodon* Ogilby, 1895
37 060050 *Gymnothorax pseudothyrsoideus* (Bleeker, 1852)
37 060003 *Gymnothorax reticularis* (Bloch, 1795)
37 060051 *Gymnothorax ruppelliae* (McClelland, 1844)
37 060052 *Gymnothorax scriptus* Bloch & Schneider, 1801
37 060053 *Gymnothorax undulatus* (Lacepede, 1803)
37 060054 *Gymnothorax woodwardi* McCulloch, 1912
37 060055 *Gymnothorax wooliensis* (Whitley, 1968)
37 060056 *Gymnothorax zonipectis* Seale, 1906
37 060057 *Muraena australiae* Richardson, 1848
37 060058 *Rhinomuraena quaesita* Garman, 1888
37 060015 *Siderea pictus* (Ahl, 1789)
37 060059 *Siderea thyrsoidea* (Richardson, 1845)
37 060060 *Strophidon sathete* (Hamilton, 1822)
37 060061 *Uropterygius concolor* Ruepell, 1838
37 060014 *Uropterygius marmoratus* (Lacepede, 1803)
37 060062 *Uropterygius micropterus* (Bleeker, 1852)
37 060063 *Uropterygius obesus* Whitley, 1932

37 063000 **--- Family Muraenesocidae ---**
37 063003 *Muraenesox bagio* (Hamilton-Buchanan, 1822)

37 039004 *Myliobatis hamlyni* Ogilby, 1911

37 040000 --- **Family Rhinopteridae** ---
37 040002 *Rhinoptera javanica* Muller & Henle, 1841
37 040001 *Rhinoptera neglecta* Ogilby, 1912

37 041000 --- **Family Mobulidae** ---
37 041004 *Manta birostris* (Donndorff, 1798)
37 041001 *Mobula eregoodootenke* (Cuvier, 1829)
37 041002 *Mobula japanica* (Muller & Henle, 1841)
37 041003 *Mobula thurstoni* (Lloyd, 1908)

37 042000 --- **Family Chimaeridae** ---
37 042005 *Chimaera* sp A [in Last & Stevens, 1994]
37 042006 *Chimaera* sp B [in Last & Stevens, 1994]
37 042007 *Chimaera* sp C [in Last & Stevens, 1994]
37 042008 *Chimaera* sp D [in Last & Stevens, 1994]
37 042009 *Chimaera* sp E [in Last & Stevens, 1994]
37 042010 *Hydrolagus* sp A [in Last & Stevens, 1994]
37 042011 *Hydrolagus* sp B [in Last & Stevens, 1994]
37 042003 *Hydrolagus lemures* (Whitley, 1939)
37 042001 *Hydrolagus ogilbyi* (Waite, 1898)
37 042900 _ (Common name: Ghostfish)

37 043000 --- **Family Callorhinchidae** ---
37 043001 *Callorhinchus milii* (Bory de St. Vincent, 1823)

37 044000 --- **Family Rhinochimaeridae** ---
37 044003 *Harriotta haeckeli* Karrer, 1972
37 044001 *Harriotta raleighana* Goode & Bean, 1895
37 044004 *Rhinochimaera africana* Compagno *et al.*, 1990
37 044002 *Rhinochimaera pacifica* (Mitsukuri, 1895)

37 046000 --- **Family Ceratodontidae** ---
37 046001 *Neoceratodus forsteri* (Krefft, 1870)

37 053000 --- **Family Elopidae** ---
37 053001 *Elops hawaiensis* Regan, 1909

37 054000 --- **Family Megalopidae** ---
37 054001 *Megalops cyprinoides* (Broussonet, 1782)

37 055000 --- **Family Albulidae** ---
37 055001 *Albula neoguinaica* Valenciennes, 1847

37 056000 --- **Family Anguillidae** ---
37 056001 *Anguilla australis* Richardson, 1841
37 056003 *Anguilla bicolor* McClelland, 1844
37 056004 *Anguilla obscura* Gunther, 1872
37 056002 *Anguilla reinhardtii* Steindachner, 1867
37 056900 _ (Common name: Finned Eels)

37 057000 --- **Family Moringuidae** ---
37 057001 *Moringua ferruginea* Bliss, 1883
37 057002 *Moringua javanica* (Kaup, 1856)
37 057003 *Moringua microchir* Bleeker, 1853
37 057004 *Neoconger tuberculatus* (Castle, 1965)

37 059000 --- **Family Chlopsidae** ---
37 059001 *Kaupichthys atronasus* Schultz, 1953
37 059002 *Kaupichthys brachychirus* Schultz, 1953
37 059003 *Kaupichthys hyoproroides* (Stromann, 1896)

37 068031 *Ophichthus rutidodermatoides* (Bleeker, 1853)
37 068001 *Ophisurus serpens* (Linnaeus, 1758)
37 068032 *Phyllopichthus macrurus* McKay, 1970
37 068033 *Phyllopichthus xenodontus* Gosline, 1951
37 068034 *Pisodonophis boro* (Hamilton-Buchanan, 1822)
37 068002 *Pisodonophis cancrivorus* (Richardson, 1848)
37 068035 *Schismorhynchus labialis* (Seale, 1917)
37 068036 *Yirrkala lumbricoides* (Bleeker, 1864)

37 070000 --- **Family Synaphobranchidae** ---
37 070001 *Diastobranchus capensis* Barnard, 1923
37 070006 *Histiobranchus bathybius* (Gunther, 1877)
37 070007 *Histiobranchus bruuni* Castle, 1964
37 070002 *Ilyophis brunneus* Gilbert, 1892
37 070005 *Simenchelys parasiticus* Gill, 1879
37 070003 *Synaphobranchus affinis* Gunther, 1877
37 070004 *Synaphobranchus brevidorsalis* Gunther, 1887
37 070008 *Synaphobranchus kaupi* Johnson, 1862

37 073000 --- **Family Derichthyidae** ---
37 073003 *Derichthys* sp [info from Last]
37 073001 *Nessorhamphus danae* Schmidt, 1931
37 073002 *Nessorhamphus ingolfianus* (Schmidt, 1912)

37 075000 --- **Family Serrivomeridae** ---
37 075001 *Serrivomer beani* Gill & Ryder, 1883
37 075002 *Serrivomer bertini* Bauchot, 1959

37 076000 --- **Family Nemichthyidae** ---
37 076002 *Avocettina acuticeps* (Regan, 1916)
37 076003 *Avocettina infans* (Gunther, 1878)
37 076004 *Labichthys yanoi* (Mead & Rubinoff, 1966)
37 076001 *Nemichthys curvirostris* (Stromman, 1896)
37 076005 *Nemichthys scolopaceus* Richardson, 1848

37 077000 --- **Family Cyematidae** ---
37 077001 *Cyema atrum* Gunther, 1878

37 078000 --- **Family Saccopharyngidae** ---
37 078001 *Saccopharynx schmidti* Bertin, 1934

37 079000 --- **Family Eurypharyngidae** ---
37 079001 *Eurypharynx pelecanoides* Vaillant, 1882

37 081000 --- **Family Halosauridae** ---
37 081004 *Aldrovandia affinis* (Gunther, 1877)
37 081003 *Halosauropsis macrochir* (Gunther, 1878)
37 081001 *Halosaurus* sp [in unpubl NW Shelf Guide, CSIRO]
37 081002 *Halosaurus pectoralis* McCulloch, 1926

37 082000 --- **Family Lipogenyidae** ---
37 082001 *Lipogenys* sp [in Paxton et al, 1989]

37 083000 --- **Family Notacanthidae** ---
37 083002 *Notacanthus chemnitzii* Bloch, 1788
37 083001 *Notacanthus sexspinus* Richardson, 1846

37 085000 --- **Family Clupeidae** ---
37 085020 *Amblygaster leiogaster* (Valenciennes, 1847)

37 063002 *Muraenesox cinereus* (Forsskal, 1775)
37 063001 *Oxyconger leptognathus* (Bleeker, 1858)

37 065000 **--- Family Nettastomatidae ---**
37 065001 *Nettastoma parviceps* Gunther, 1877
37 065003 *Nettastoma solitarium* Castle & Smith,1981
37 065004 *Nettenchelys gephyra* Castle & Smith,1981
37 065005 *Saurenchelys finitima* (Whitley, 1935)
37 065006 *Saurenchelys stylura* (Lea, 1913)

37 066000 **--- Family Nessorhamphidae ---**

37 067000 **--- Family Congridae ---**
37 067006 *Ariosoma anago* (Teminck & Schlegel, 1847)
37 067003 *Ariosoma mauritianum* (Pappenheim, 1914)
37 067014 *Ariosoma scheelei* (Stromman, 1896)
37 067012 *Bassanago bulbiceps* Whitley, 1948
37 067013 *Bassanago hirsutus* (Castle, 1960)
37 067022 *Bathycongrus guttulatus* (Gunther, 1887)
37 067023 *Bathycongrus randalli* Ben-Tuvia, 1993
37 067010 *Blachea xenobranchialis* Karrer & Smith, 1980
37 067015 *Conger cinereus* Rueppell, 1830
37 067007 *Conger verreauxi* Kaup, 1856
37 067001 *Conger wilsoni* (Bloch & Schneider, 1801)
37 067009 *Diploconger polystigmatus* Kotthaus, 1968
37 067024 *Gavialiceps javanicus* Karmovskaya, 1993
37 067004 *Gnathophis* sp [in ISR Munro collection]
37 067002 *Gnathophis longicauda* (Ramsay & Ogilby, 1888)
37 067016 *Gnathophis umbrellabius* (Whitley, 1948)
37 067017 *Heteroconger hassi* (Klausewitz & Eibl-Eibesfeldt, 1959)
37 067005 *Lumiconger arafura* (Castle & Paxton, 1984)
37 067018 *Macrocephenchelys soela* Castle, 1988
37 067008 *Parabathymyrus* sp [info from Castle]
37 067019 *Poeciloconger kapala* Castle, 1988
37 067011 *Rhynchoconger ectenurus* (Jordan & Richardson, 1909)
37 067020 *Scalango lateralis* Whitley, 1935
37 067021 *Uroconger lepturus* (Richardson, 1845)

37 068000 **--- Family Ophichthidae ---**
37 068011 *Brachysomophis cirrocheilos* (Bleeker, 1857)
37 068013 *Callechelys catostomus* (Forster, 1801)
37 068012 *Callechelys marmoratus* (Bleeker, 1853)
37 068014 *Cirrhimuraena calamus* (Gunther,1870)
37 068015 *Elapsopis cyclorhinus* (Fraser-Brunner, 1934)
37 068016 *Elapsopis versicolor* (Richardson, 1848)
37 068017 *Ichthyapus vulturus* Weber & Beaufort, 1916
37 068010 *Lamnostoma orientalis* (McClelland, 1844)
37 068018 *Leiuranus semicinctus* (Lay & Bennett, 1839)
37 068019 *Malvoliophis pinguis* (Gunther, 1872)
37 068003 *Muraenichthys australis* Macleay, 1881
37 068004 *Muraenichthys breviceps* Gunther, 1876
37 068020 *Muraenichthys gymnotus* Bleeker, 1857
37 068021 *Muraenichthys iredalei* Whitley, 1927
37 068022 *Muraenichthys laticaudatus* (Ogilby, 1897)
37 068005 *Muraenichthys lengomena* Scott, 1980
37 068006 *Muraenichthys lingowenah* Scott, 1975
37 068023 *Muraenichthys macropterus* Bleeker, 1857
37 068037 *Muraenichthys nicholsae* Waite, 1904
37 068008 *Muraenichthys tasmaniensis* McCulloch, 1911
37 068024 *Myrichthys bleekeri* Gosline, 1951
37 068025 *Myrichthys colubrinus* (Boddaert, 1781)
37 068026 *Myrichthys maculosus* (Cuvier, 1816)
37 068027 *Neenchelys retropinna* Smith & Bohlke, 1983
37 068028 *Ophichthus cephalozona* (Bleker, 1864)
37 068029 *Ophichthus episcopus* Castelnau, 1878
37 068030 *Ophichthus melanochir* Bleeker, 1865

37 094000 --- **Family Salmonidae** ---
37 094750 *Oncorhynchus* spp
37 094003 *Oncorhynchus mykiss* (Walbaum, 1792)
37 094005 *Oncorhynchus tshawytscha* (Walbaum, 1792)
37 094001 *Salmo salar* Linnaeus, 1758
37 094004 *Salmo trutta* Linnaeus, 1758
37 094002 *Salvelinus frontinalis* (Mitchill, 1815)
37 094900 _ (Common name: Trout)

37 097000 --- **Family Argentinidae** ---
37 097001 *Argentina australiae* Cohen, 1958
37 097003 *Glossanodon struhsakeri* Cohen, 1970
37 097002 *Microstoma microstoma* (Risso, 1810)
37 097004 *Nansenia ardesiaca* Jordan & Thompson, 1914

37 098000 --- **Family Bathylagidae** ---
37 098003 *Bathylagichthys australis* Kobylyanskiy, 1990
37 098004 *Bathylagichthys greyae* (Cohen, 1958)
37 098001 *Bathylagoides argyrogaster* Norman, 1930
37 098002 *Bathylagus antarcticus* Gunther, 1878
37 098006 *Lipolagus ochotensis* (Schmidt, 1938)
37 098005 *Melanolagus bericoides* (Borodin, 1929)

37 099000 --- **Family Opisthoproctidae** ---
37 099001 *Opisthoproctus grimaldii* Zugmayer, 1911
37 099002 *Rhynchohyalus natalensis* (Gilchrst & von Bonde, 1924)
37 099003 *Winteria telescopa* Brauer, 1901

37 101000 --- **Family Retropinnidae** ---
37 101001 *Retropinna semoni* (Weber, 1895)
37 101002 *Retropinna tasmanica* McCulloch, 1920

37 102000 --- **Family Galaxiidae** ---
37 102001 *Galaxias auratus* Johnston, 1883
37 102002 *Galaxias brevipinnis* Gunther, 1866
37 102003 *Galaxias cleaveri* Scott, 1934
37 102004 *Galaxias fontanus* Fulton, 1978
37 102005 *Galaxias johnstoni* Scott, 1936
37 102006 *Galaxias maculatus* (Jenyns, 1842)
37 102016 *Galaxias niger* Andrews, 1985
37 102017 *Galaxias occidentalis* Ogilby, 1899
37 102018 *Galaxias olidus* Gunther, 1866
37 102007 *Galaxias parvus* Frankenberg, 1968
37 102008 *Galaxias pedderensis* Frankenberg, 1968
37 102019 *Galaxias rostratus* Klunzinger, 1872
37 102009 *Galaxias tanycephalus* Fulton, 1978
37 102010 *Galaxias truttaceus* Valenciennes, 1846
37 102020 *Galaxiella munda* McDowall, 1978
37 102021 *Galaxiella nigrostriata* (Shipway, 1953)
37 102011 *Galaxiella pusilla* (Mack, 1936)
37 102012 *Paragalaxias dissimilis* (Regan, 1906)
37 102013 *Paragalaxias eleotroides* McDowall & Fulton, 1978
37 102014 *Paragalaxias julianus* McDowall & Fulton, 1978
37 102015 *Paragalaxias mesotes* McDowall & Fulton, 1978

37 102000 --- **Family Lepidogalaxiidae** ---
37 102022 *Lepidogalaxias salamandroides* Mees, 1961

37 103000 --- **Family Aplochitonidae** ---
37 103002 *Lovettia sealii* (Johnston, 1883)

37 103000 --- **Family Prototroctidae** ---
37 103001 *Prototroctes maraena* Gunther, 1864

37 085006 *Amblygaster sirm* (Walbaum, 1792)
37 085015 *Anodontostoma chacunda* (Hamilton-Buchanan, 1822)
37 085790 *Clupea harengus*
37 085010 *Dussumieria elopsoides* (Bleeker, 1849)
37 085021 *Escualosa thoracata* (Valenciennes, 1847)
37 085001 *Etrumeus teres* (Steindachner, 1879)
37 085022 *Herklotsichthys blackburni* (Whitley, 1948)
37 085023 *Herklotsichthys castelnaui* (Ogilby, 1897)
37 085031 *Herklotsichthys collettei* Wongratana, 1987
37 085024 *Herklotsichthys gotoi* Wongratana, 1983
37 085007 *Herklotsichthys koningsbergeri* (Weber & de Beaufort, 1912)
37 085008 *Herklotsichthys lippa* (Whitley, 1931)
37 085025 *Herklotsichthys quadrimaculatus* (Ruppell, 1837)
37 085026 *Hyperlophus translucidus* McCulloch, 1917
37 085005 *Hyperlophus vittatus* (Castelnau, 1875)
37 085012 *Ilisha lunula* Kailola, 1986
37 085016 *Nematalosa come* (Richardson, 1846)
37 085019 *Nematalosa erebi* (Gunther, 1868)
37 085017 *Nematalosa vlaminghi* (Munro, 1957)
37 085009 *Pellona ditchela* Valenciennes, 1847
37 085027 *Potamalosa richmondia* (Macleay, 1879)
37 085014 *Sardinella albella* (Valenciennes, 1847)
37 085028 *Sardinella brachysoma* Bleeker, 1852
37 085013 *Sardinella gibbosa* (Bleeker, 1849)
37 085018 *Sardinella lemuru* Bleeker, 1853
37 085002 *Sardinops neopilchardus* (Steindachner, 1879)
37 085029 *Spratelloides delicatulus* (Bennett, 1832)
37 085030 *Spratelloides gracilis* (Schlegel, 1846)
37 085003 *Spratelloides robustus* Ogilby, 1897
37 085004 *Sprattus novaehollandiae* (McCulloch, 1911)
37 085901 _ (Common name: Bream, Bony (Mixed))

37 086000 --- **Family Engraulididae** ---
37 086001 *Engraulis australis* (White, 1790)
37 086007 *Papuengraulis micropinna* Munro, 1964
37 086003 *Setipinna paxtoni* Wongratana, 1987
37 086008 *Setipinna tenuifilis* (Valenciennes, 1848)
37 086022 *Stolephorus* sp A [in Whitehead et al, 1988]
37 086020 *Stolephorus advenus* Wongratana, 1987
37 086011 *Stolephorus andhraensis* Babu Rao, 1966
37 086012 *Stolephorus brachycephalus* Wongratana, 1983
37 086010 *Stolephorus carpentariae* (De Vis, 1882)
37 086013 *Stolephorus commersonii* Lacepede, 1803
37 086014 *Stolephorus devisi* (Whitley, 1940)
37 086015 *Stolephorus heterolobus* (Ruppell, 1837)
37 086006 *Stolephorus indicus* (Van Hasselt, 1823)
37 086021 *Stolephorus nelsoni* Wongratana, 1987
37 086002 *Stolephorus punctifer* (Fowler, 1938)
37 086016 *Stolephorus waitei* Jordan & Seale, 1926
37 086017 *Thryssa aestuaria* (Ogilby, 1910)
37 086018 *Thryssa baelama* (Forsskaal, 1775)
37 086023 *Thryssa brevicauda* Roberts, 1978
37 086024 *Thryssa encrasicholoides* (Bleeker, 1852)
37 086005 *Thryssa hamiltonii* (Gray, 1835)
37 086025 *Thryssa marasriae* Wongratana, 1987
37 086019 *Thryssa scratchleyi* (Ramsay & Ogilby, 1886)
37 086004 *Thryssa setirostris* (Broussonet, 1782)

37 087000 --- **Family Chirocentridae** ---
37 087001 *Chirocentrus dorab* (Forsskal, 1775)
37 087002 *Chirocentrus nudus* (Swainson,1839)

37 088000 --- **Family Osteoglossidae** ---
37 088001 *Scleropages jardinii* (Saville-Kent, 1892)
37 088002 *Scleropages leichhardti* Gunther, 1864

37 109000 --- **Family Melanostomiidae** ---
37 109001 *Bathophilus abarbatus* Barnett & Gibbs, 1968
37 109009 *Bathophilus ater* (Brauer, 1902)
37 109010 *Bathophilus indicus* (Brauer, 1902)
37 109002 *Bathophilus kingi* Barnett & Gibbs, 1968
37 109003 *Bathophilus longipinnis* (Pappenheim, 1914)
37 109004 *Bathophilus nigerrimus* Giglioli, 1884
37 109005 *Bathophilus pawneei* Parr, 1927
37 109006 *Echiostoma barbatum* Lowe, 1843
37 109011 *Eustomias achirus* Parin & Pokhilskaya, 1974
37 109012 *Eustomias australensis* Gibbs, Clarke & Gomon, 1983
37 109013 *Eustomias bifilis* Gibbs, 1960
37 109014 *Eustomias bulbornatus* Gibbs, 1960
37 109007 *Eustomias enbarbatus* Welsh, 1923
37 109015 *Eustomias macronema* Regan & Trewavas, 1930
37 109016 *Eustomias macrurus* Regan & Trewavas, 1930
37 109017 *Eustomias multifilis* Parin & Pokhilskaya, 1978
37 109018 *Eustomias satterleei* Beebe, 1933
37 109019 *Eustomias schmidti* Regan & Trewavas, 1930
37 109008 *Eustomias trewavasae* Norman, 1930
37 109020 *Eustomias vitiazi* Parin & Pokhilskaya, 1974
37 109021 *Flagellostomias boureei* (Zugmayer, 1913)
37 109022 *Melanostomias globulifer* Fowler, 1934
37 109023 *Melanostomias niger* Gilchrist & von Bonde, 1924
37 109024 *Melanostomias paucilaternatus* Parin & Pokhilskaya, 1978
37 109025 *Melanostomias pauciradius* Matsubara, 1938
37 109026 *Melanostomias tentaculatus* (Regan & Trewavas, 1930)
37 109027 *Melanostomias valdiviae* Brauer, 1902
37 109028 *Opostomias micripnus* (Gunther, 1878)
37 109029 *Pachystomias microdon* (Gunther, 1878)
37 109030 *Photonectes albipennis* (Doderlein, 1882)
37 109031 *Photonectes braueri* (Zugmayer, 1913)
37 109032 *Photonectes caerulescens* Regan & Trewavas, 1930
37 109033 *Photonectes gracilis* Goode & Bean, 1896
37 109034 *Photonectes mirabilis* Parr, 1927
37 109035 *Photonectes parvimanus* Regan & Trewavas, 1930
37 109036 *Thysanactis dentex* Regan & Trewavas, 1930
37 109037 *Trigonolampa miriceps* Regan & Trewavas, 1930

37 110000 --- **Family Malacosteidae** ---
37 110002 *Aristostomias* sp [info from Last]
37 110001 *Malacosteus niger* Ayres, 1848

37 111000 --- **Family Chauliodontidae** ---
37 111001 *Chauliodus sloani* Bloch & Schneider, 1801

37 112000 --- **Family Stomiidae** ---
37 112003 *Macrostomias longibarbatus* Brauer, 1902
37 112001 *Stomias affinis* Gunther, 1887
37 112002 *Stomias boa* (Risso, 1810)

37 113000 --- **Family Idiacanthidae** ---
37 113002 *Idiacanthus atlanticus* Brauer, 1906
37 113001 *Idiacanthus fasciola* Peters, 1877

37 114000 --- **Family Alepocephalidae** ---
37 114013 *Alepocephalus* sp 1 [small scale, in ISR Munro collection]
37 114014 *Alepocephalus* sp 2 [big scale, in ISR Munro collection]
37 114003 *Alepocephalus bicolor* Wood-Mason & Alcock, 1891
37 114004 *Asquamiceps longmani* Fowler, 1934
37 114005 *Ericara niger* (Gunther, 1878)
37 114006 *Herwigia kreffti* (Nielsen & Larsen, 1970)
37 114007 *Photostylus pycnopterus* Beebe, 1933
37 114008 *Rouleina attrita* (Vaillant, 1888)
37 114001 *Rouleina squamilatera* (Alcock, 1898)
37 114009 *Talismania antillarum* (Goode & Bean, 1896)
37 114010 *Talismania bifurcata* (Parr, 1951)

37 106000 **--- Family Gonostomatidae ---**
37 106012 *Bonapartia pedaliota* Goode & Bean, 1896
37 106013 *Cyclothone acclinidens* Garman, 1899
37 106014 *Cyclothone alba* Brauer, 1906
37 106015 *Cyclothone braueri* Jespersen & Taaning, 1926
37 106025 *Cyclothone kobayashii* Miya, 1994
37 106016 *Cyclothone microdon* (Gunther, 1878)
37 106017 *Cyclothone obscura* Brauer, 1902
37 106018 *Cyclothone pallida* Brauer, 1902
37 106019 *Cyclothone pseudopallida* Mukhacheva, 1964
37 106010 *Diplophos rebainsi* Krefft & Parin, 1972
37 106008 *Diplophos taenia* Gunther, 1873
37 106003 *Gonostoma atlanticum* Norman, 1930
37 106020 *Gonostoma bathyphilum* (Vaillant, 1888)
37 106004 *Gonostoma elongatum* Gunther, 1878
37 106021 *Margrethia obtusirostra* Jespersen & Taaning, 1919

37 106000 **--- Family Photichthyidae ---**
37 106022 *Ichthyococcus australis* Mukhacheva, 1980
37 106023 *Ichthyococcus intermedius* Mukhacheva, 1980
37 106009 *Ichthyococcus ovatus* (Cocco, 1838)
37 106002 *Photichthys argenteus* (Hutton, 1872)
37 106001 *Polymetme corythaeola* (Alcock, 1898)
37 106005 *Vinciguerria attenuata* (Cocco, 1838)
37 106006 *Vinciguerria nimbaria* (Jordan & Williams, 1896)
37 106007 *Vinciguerria poweriae* (Cocco, 1838)
37 106011 *Woodsia meyerwardeni* Krefft, 1973
37 106024 *Woodsia nonsuchae* (Beebe, 1932)

37 107000 **--- Family Sternoptychidae ---**
37 107012 *Argyripnus ephippiatus* Gilbert & Cramer, 1897
37 107004 *Argyripnus iridescens* McCulloch, 1926
37 107001 *Argyropelecus aculeatus* Valenciennes, 1849
37 107005 *Argyropelecus gigas* Norman, 1930
37 107006 *Argyropelecus hemigymnus* Cocco, 1829
37 107013 *Argyropelecus sladeni* Regan, 1908
37 107002 *Maurolicus muelleri* (Gmelin, 1789)
37 107008 *Polyipnus aquavitus* Baird, 1971
37 107014 *Polyipnus elongatus* Borodulina, 1979
37 107015 *Polyipnus kiwiensis* Baird, 1971
37 107020 *Polyipnus latirastrus* Last & Harold, 1994
37 107021 *Polyipnus paxtoni* Harold, 1989
37 107016 *Polyipnus ruggeri* Baird, 1971
37 107022 *Polyipnus soelae* Harold, 1994
37 107003 *Polyipnus tridentifer* McCulloch, 1941
37 107023 *Polyipnus triphanos* Shultz, 1938
37 107009 *Sternoptyx diaphana* Hermann, 1781
37 107019 *Sternoptyx pseudobscura* Baird, 1971
37 107018 *Sternoptyx pseudodiaphana* Borodulina, 1977
37 107010 *Valenciennellus tripunctulatus* (Esmark, 1871)

37 108000 **--- Family Astronesthidae ---**
37 108003 *Astronesthes boulengeri* Gilchrist, 1902
37 108004 *Astronesthes cyaneus* (Brauer, 1902)
37 108001 *Astronesthes indicus* Brauer, 1902
37 108005 *Astronesthes lucifer* Gilbert, 1905
37 108006 *Astronesthes lupina* Whitley, 1941
37 108007 *Astronesthes martensii* Klunzinger, 1871
37 108002 *Astronesthes niger* Richardson, 1844
37 108008 *Astronesthes psychrolutes* (Gibbs & Weitzman, 1965)
37 108009 *Astronesthes trifibulatus* Gibbs, Amaoka & Haruta, 1984
37 108010 *Borostomias antarcticus* (Lonnberg, 1905)
37 108011 *Borostomias mononema* (Regan & Trewavas, 1929)
37 108012 *Heterophotus ophistoma* Regan & Trewavas, 1929
37 108013 *Neonesthes capensis* (Gilchrist & von Bonde, 1924)
37 108014 *Neonesthes microcephalus* Norman, 1930

37 122000 **--- Family Myctophidae ---**
37 122078 *Benthosema fibulatum* (Gilbert & Cramer, 1897)
37 122079 *Benthosema pterotum* (Alcock, 1890)
37 122024 *Benthosema suborbitale* (Gilbert, 1913)
37 122074 *Bolinichthys indicus* Nafpaktitis & Nafpaktitis, 1969
37 122025 *Bolinichthys longipes* (Brauer, 1906)
37 122026 *Bolinichthys nikolayi* Bekker, 1978
37 122027 *Bolinichthys photothorax* (Parr, 1928)
37 122080 *Bolinichthys pyrsobolus* (Alcock, 1890)
37 122028 *Bolinichthys supralateralis* (Parr, 1928)
37 122081 *Centrobranchus andreae* (Lutken, 1892)
37 122029 *Centrobranchus nigroocellatus* (Gunther, 1873)
37 122021 *Ceratoscopelus warmingii* (Lutken, 1892)
37 122073 *Diaphus* sp [info from Paxton]
37 122082 *Diaphus aliciae* Fowler, 1934
37 122030 *Diaphus anderseni* Taning, 1932
37 122031 *Diaphus bertelseni* Nafpaktitis, 1966
37 122032 *Diaphus brachycephalus* Taning, 1928
37 122083 *Diaphus chrysorhynchus* Gilbert & Cramer, 1897
37 122006 *Diaphus coeruleus* (Klunzinger, 1871)
37 122001 *Diaphus danae* Taning, 1932
37 122072 *Diaphus diademeus* Taning, 1932
37 122015 *Diaphus drachmanni* Taning, 1932
37 122033 *Diaphus effulgens* (Goode & Bean, 1896)
37 122034 *Diaphus fragilis* Taning, 1928
37 122084 *Diaphus garmani* Gilbert, 1906
37 122061 *Diaphus hudsoni* Zurbrigg & Scott, 1976
37 122085 *Diaphus jenseni* Taning, 1932
37 122086 *Diaphus lucidus* (Goode & Bean, 1896)
37 122035 *Diaphus luetkeni* (Brauer, 1904)
37 122087 *Diaphus malayanus* Weber, 1913
37 122036 *Diaphus meadi* Nafpaktitis, 1978
37 122037 *Diaphus metopoclampus* (Cocco, 1829)
37 122038 *Diaphus mollis* Taning, 1928
37 122012 *Diaphus ostenfeldi* Taning, 1932
37 122039 *Diaphus parri* Taning, 1932
37 122008 *Diaphus perspicillatus* (Ogilby, 1898)
37 122088 *Diaphus phillipsi* Fowler, 1934
37 122089 *Diaphus problematicus* Parr, 1928
37 122090 *Diaphus regani* Taning, 1932
37 122040 *Diaphus splendidus* (Brauer, 1904)
37 122041 *Diaphus termophilus* Taning, 1928
37 122091 *Diaphus thiollierei* Fowler, 1934
37 122013 *Diaphus watasei* Jordan & Starks, 1904
37 122042 *Diogenichthys atlanticus* (Taning, 1928)
37 122075 *Electrona paucirastra* Bolin, 1962
37 122043 *Electrona risso* (Cocco, 1829)
37 122014 *Electrona subaspera* (Gunther, 1864)
37 122044 *Gonichthys barnesi* Whitley, 1931
37 122018 *Gymnoscopelus piabilis* (Whitley, 1931)
37 122045 *Hygophum hanseni* (Taning, 1932)
37 122004 *Hygophum hygomii* (Lutken, 1892)
37 122092 *Hygophum macrochir* (Gunther, 1864)
37 122023 *Hygophum proximum* Bekker, 1965
37 122046 *Hygophum reinhardtii* (Lutken, 1892)
37 122093 *Lampadena chavesi* Collett, 1905
37 122094 *Lampadena luminosa* (Garman, 1899)
37 122047 *Lampadena notialis* Nafpaktitis & Paxton, 1968
37 122062 *Lampadena speculigera* Goode & Bean, 1896
37 122095 *Lampadena urophaos* Paxton, 1963
37 122002 *Lampanyctodes hectoris* (Gunther, 1876)
37 122064 *Lampanyctus* sp [info from Paxton]
37 122096 *Lampanyctus achirus* Andriashev, 1962
37 122048 *Lampanyctus alatus* Goode & Bean, 1896
37 122049 *Lampanyctus ater* Taning, 1928
37 122019 *Lampanyctus australis* Taning, 1932
37 122050 *Lampanyctus festivus* Taning, 1928
37 122020 *Lampanyctus intricarius* Taning, 1928
37 122051 *Lampanyctus lepidolychnus* Bekker, 1967
37 122063 *Lampanyctus macdonaldi* (Goode & Bean, 1896)

37 114012 *Talismania longifilis* (Brauer, 1902)
37 114002 *Xenodermichthys copei* (Gill, 1884)

37 115000 --- **Family Platytroctidae** ---
37 115002 *Holtbyrnia laticauda* Sazanov, 1976
37 115003 *Maulisia mauli* Parr, 1960
37 115001 *Persparsia kopua* (Phillipps, 1942)
37 115004 *Platytroctes apus* Gunther, 1878

37 117000 --- **Family Aulopodidae** ---
37 117002 *Aulopus* sp [in Sainsbury et al, 1985]
37 117003 *Aulopus curtirostris* Thomson, 1967
37 117001 *Aulopus purpurissatus* Richardson, 1843

37 118000 --- **Family Bathysauridae** ---
37 118019 *Bathysaurus ferox* Gunther, 1878
37 118016 *Saurida* sp 2 [in Sainsbury et al, 1985]
37 118020 *Saurida* sp 3 [in Sainsbury et al, 1985]
37 118901 *Saurida* spp
37 118008 *Saurida cf elongata* Temminck & Schlegel, 1846
37 118006 *Saurida filamentosa* Ogilby, 1910
37 118013 *Saurida gracilis* (Quoy & Gairmard, 1824)
37 118014 *Saurida longimanus* Norman, 1939
37 118005 *Saurida micropectoralis* Shindo & Yamada, 1972
37 118027 *Saurida nebulosa* Valenciennes, 1849
37 118028 *Saurida tumbil* (Bloch, 1795)
37 118001 *Saurida undosquamis* (Richardson, 1848)
37 118029 *Saurida wanieso* Shindo & Yamada, 1972

37 118000 --- **Family Synodontidae** ---
37 118021 *Synodus binotatus* Schultz,1953
37 118003 *Synodus dermatogenys* Fowler, 1912
37 118022 *Synodus doaki* Russell & Cressey, 1979
37 118010 *Synodus hoshinonis* Tanaka, 1917
37 118024 *Synodus houlti* McCulloch, 1921
37 118009 *Synodus indicus* (Day, 1873)
37 118015 *Synodus jaculum* Russell & Cressey, 1979
37 118011 *Synodus kaianus* (Gunther, 1880)
37 118012 *Synodus macrops* Tanaka, 1917
37 118025 *Synodus rubromarmoratus* Russell & Cressey, 1979
37 118004 *Synodus sageneus* Waite, 1905
37 118007 *Synodus similis* McCulloch, 1921
37 118026 *Synodus tectus* Cressey, 1981
37 118023 *Synodus variegatus* (Lacepede, 1803)
37 118002 *Trachinocephalus myops* (Forster, 1801)

37 119000 --- **Family Harpadontidae** ---
37 119001 *Harpadon translucens* Saville-Kent, 1889

37 120000 --- **Family Chlorophthalmidae** ---
37 120007 *Bathysauropsis gigas* (Kamohara, 1952)
37 120005 *Chlorophthalmus* sp [in Sainsbury et al, 1985]
37 120002 *Chlorophthalmus agassizi* Bonaparte, 1840
37 120003 *Chlorophthalmus maculatus* Kotthaus, 1967
37 120001 *Chlorophthalmus nigripinnis* Gunther, 1878
37 120004 *Chlorophthalmus nigromarginatus* Kamohara, 1953
37 120006 *Parasudis* sp [in Sainsbury et al, 1985]

37 121000 --- **Family Neoscopelidae** ---
37 121001 *Neoscopelus macrolepidotus* Johnson, 1863
37 121002 *Neoscopelus microchir* Matsubara, 1943
37 121003 *Neoscopelus porosus* Arai, 1969

37 130000 --- **Family Evermannellidae** ---
37 130001 *Coccorella atlantica* (Parr, 1928)
37 130002 *Evermannella balbo* (Risso, 1820)
37 130003 *Evermannella indica* Brauer, 1906

37 131000 --- **Family Scopelarchidae** ---
37 131001 *Benthalbella infans* Zugmayer, 1911
37 131002 *Rosenblattichthys alatus* (Fourmanoir, 1970)
37 131003 *Scopelarchoides danae* Johnson, 1974
37 131004 *Scopelarchus analis* (Brauer, 1902)
37 131005 *Scopelarchus guentheri* Alcock, 1896

37 132000 --- **Family Cetomimidae** ---
37 132001 *Gyrinomimus simplex* Parr, 1946

37 133000 --- **Family Rondeletiidae** ---
37 133001 *Rondeletia loricata* Abe & Hotta, 1963

37 134000 --- **Family Barbourisiidae** ---
37 134001 *Barbourisia rufa* Parr, 1945

37 136000 --- **Family Ateleopodidae** ---
37 136001 *Ateleopus* sp [in ISR Munro collection]

37 137000 --- **Family Mirapinnidae** ---
37 137001 *Parataeniophorus brevis* Bertelsen & Marshall, 1956

37 139000 --- **Family Giganturidae** ---
37 139001 *Gigantura chuni* Brauer, 1901
37 139002 *Rosaura indica* (Brauer, 1901)

37 141000 --- **Family Gonorynchidae** ---
37 141001 *Gonorynchus greyi* (Richardson, 1845)

37 142000 --- **Family Chanidae** ---
37 142001 *Chanos chanos* (Forsskal, 1775)

37 165000 --- **Family Cyprinidae** ---
37 165001 *Carassius auratus* (Linnaeus, 1758)
37 165003 *Cyprinus carpio* Linnaeus, 1758
37 165004 *Puntius conchonius* (Hamilton, 1822)
37 165005 *Rutilus rutilus* (Linnaeus, 1758)
37 165002 *Tinca tinca* (Linnaeus, 1758)

37 188000 --- **Family Ariidae** ---
37 188009 *Arius* sp 2 [Kailola unpubl.]
37 188004 *Arius* sp 4 [Kailola unpubl.]
37 188901 *Arius* spp
37 188003 *Arius argyropleuron* Valenciennes, 1840
37 188011 *Arius armiger* De Vis, 1884
37 188012 *Arius berneyi* (Whitley, 1941)
37 188002 *Arius bileneatus* (Valenciennes, 1840)
37 188005 *Arius graeffei* Kner & Steindachner, 1866
37 188006 *Arius leptaspis* (Bleeker, 1862)
37 188007 *Arius mastersi* Ogilby, 1898
37 188010 *Arius midgleyi* Kailola & Pierce, 1988
37 188013 *Arius nella* (Valenciennes, 1840)
37 188008 *Arius proximus* Ogilby, 1898

37 122097 *Lampanyctus nobilis* Taning, 1928
37 122052 *Lampanyctus pusillus* (Johnson, 1890)
37 122017 *Lampichthys procerus* (Brauer, 1904)
37 122053 *Lobianchia dofleini* (Zugmayer, 1911)
37 122054 *Lobianchia gemellarii* (Cocco, 1838)
37 122098 *Loweina rara* (Lutken, 1892)
37 122016 *Metelectrona ventralis* (Bekker, 1963)
37 122009 *Myctophum asperum* Richardson, 1845
37 122055 *Myctophum brachygnathum* (Bleeker, 1856)
37 122056 *Myctophum nitidulum* Garman, 1899
37 122099 *Myctophum obtusirostre* Taning, 1928
37 122057 *Myctophum orientale* (Gilbert, 1913)
37 122003 *Myctophum phengodes* (Lutken, 1892)
37 122011 *Myctophum punctatum* Rafinesque, 1810
37 122100 *Myctophum selenops* Taning, 1928
37 122101 *Myctophum spinosum* (Steindachner, 1867)
37 122058 *Notolychnus valdiviae* (Brauer, 1904)
37 122070 *Notoscopelus caudispinosus* (Johnson, 1863)
37 122022 *Notoscopelus resplendens* (Richardson, 1845)
37 122067 *Protomyctophum normani* (Taning, 1932)
37 122102 *Protomyctophum parallelum* (Lonnberg, 1905)
37 122068 *Protomyctophum subparellelum* (Taning, 1932)
37 122005 *Scopelopsis multipunctatus* Brauer, 1906
37 122007 *Symbolophorus barnardi* (Taning, 1932)
37 122103 *Symbolophorus boops* (Richardson, 1845)
37 122059 *Symbolophorus evermanni* (Gilbert, 1905)
37 122069 *Taaningichthys bathyphilus* (Taning, 1928)
37 122071 *Triphoturus nigrescens* (Brauer, 1904)

37 123000 --- **Family Bathypteroidae** ---
37 123005 *Bathypterois guentheri* Alcock, 1889
37 123002 *Bathypterois longifilis* Gunther, 1878
37 123003 *Bathypterois longipes* Gunther, 1878

37 123000 --- **Family Ipnopidae** ---
37 123004 *Ipnops murrayi* Gunther, 1878

37 125000 --- **Family Notosudidae** ---
37 125003 *Luciosudis normani* Fraser-Brunner, 1931
37 125902 *Scopelosaurus* spp
37 125001 *Scopelosaurus ahlstromi* Bertelsen *et al.*, 1976
37 125004 *Scopelosaurus hamiltoni* (Waite, 1916)
37 125005 *Scopelosaurus hoedti* Bleeker, 1860
37 125006 *Scopelosaurus mauli* Bertelsen *et al.*, 1976
37 125002 *Scopelosaurus meadi* Bertelsen *et al.*, 1976

37 126000 --- **Family Paralepididae** ---
37 126006 *Lestidiops indopacificum* (Ege, 1953)
37 126003 *Lestidiops jayakari* (Boulenger, 1889)
37 126007 *Lestidium atlanticum* Borodin, 1928
37 126002 *Lestidium nudum* Gilbert, 1905
37 126008 *Lestrolepis japonica* (Tanaka, 1908)
37 126001 *Macroparalepis macrogeneion* Post, 1973
37 126005 *Notolepis risso* (Bonaparte, 1840)
37 126004 *Paralepis atlantica* Kroyer, 1868
37 126009 *Stemonosudis elegans* (Ege, 1933)
37 126010 *Stemonosudis macrura* (Ege, 1933)
37 126011 *Stemonosudis rothschildi* Richards, 1967

37 127000 --- **Family Omosudidae** ---
37 127001 *Omosudis lowei* Gunther, 1887

37 128000 --- **Family Alepisauridae** ---
37 128002 *Alepisaurus brevirostris* Gibbs, 1960
37 128001 *Alepisaurus ferox* Lowe, 1833

37 209007 *Brachionichthys* sp 3 [Last, unpubl.]
37 209008 *Brachionichthys* sp 5 [Last, unpubl.]
37 209002 *Brachionichthys hirsutus* (Lacepede, 1804)
37 209004 *Brachionichthys politus* (Richardson, 1844)
37 209003 *Brachionichthys unipennis* (Cuvier, 1817)
37 209001 *Sympterichthys verrucosus* (McCulloch & Waite, 1918)

37 210000 --- **Family Antennariidae** ---
37 210004 *Allenichthys glauerti* (Whitley, 1944)
37 210016 *Antennarius analis* (Gosline, 1957)
37 210017 *Antennarius coccineus* (Lesson, 1830)
37 210018 *Antennarius commersoni* (Shaw, 1804)
37 210019 *Antennarius dorehensis* Bleeker, 1859
37 210008 *Antennarius hispidus* (Schneider, 1801)
37 210011 *Antennarius nummifer* (Cuvier, 1817)
37 210020 *Antennarius pictus* (Shaw & Nodder, 1794)
37 210021 *Antennarius rosaceus* Smith & Radcliffe, 1912
37 210009 *Antennarius striatus* (Shaw, 1794)
37 210022 *Antennatus tuberosus* (Cuvier, 1817)
37 210005 *Echinophryne crassispina* McCulloch & Waite, 1918
37 210023 *Echinophryne reynoldsi* Pietsch & Kuiter, 1984
37 210024 *Histiophryne bougainvilli* (Valenciennes, 1837)
37 210013 *Histiophryne cryptacanthus* (Weber, 1913)
37 210025 *Histrio histrio* (Linnaeus, 1758)
37 210014 *Kuiterichthys furcipilis* (Cuvier, 1817)
37 210002 *Lophichthys boschmai* Boeseman, 1964
37 210007 *Lophiocharon trisignatus* (Richardson, 1844)
37 210015 *Phyllophryne scortea* (McCulloch & Waite, 1918)
37 210006 *Rhycherus filamentosus* (Castelnau, 1872)
37 210026 *Rhycherus gloveri* Pietsch, 1984
37 210003 *Tathicarpus butleri* Ogilby, 1907
37 210010 *Tetrabrachium ocellatum* Gunther, 1880
37 210001 *Trichophryne mitchelli* (Morton, 1897)

37 211000 --- **Family Chaunacidae** ---
37 211005 *Bathychaunax cf melanostomus* Caruso, 1989
37 211003 *Chaunax endeavouri* Whitley, 1929
37 211001 *Chaunax fimbriatus* Hilgendorf, 1879
37 211004 *Chaunax penicillatus* McCulloch, 1915

37 212000 --- **Family Ogcocephalidae** ---
37 212003 *Dibranchus* sp 1 [in Sainsbury et al, 1985]
37 212007 *Dibranchus japonicus* Amaoka & Toyoshima, 1981
37 212001 *Halieutaea brevicauda* Ogilby, 1910
37 212008 *Halieutaea coccinea* Alcock, 1889
37 212009 *Halieutaea fumosa* Alcock, 1894
37 212002 *Halieutaea stellata* (Vahl, 1797)
37 212004 *Malthopsis* sp 1 [in Sainsbury et al, 1985]
37 212006 *Malthopsis lutea* Alcock, 1891

37 213000 --- **Family Melanocetidae** ---
37 213001 *Melanocetus johnsoni* Gunther, 1864
37 213002 *Melanocetus murrayi* Gunther, 1887

37 214000 --- **Family Diceratiidae** ---
37 214001 *Diceratias bispinosus* (Paxton & Lavenberg, 1973

37 215000 --- **Family Himantolophidae** ---
37 215001 *Himantolophus appelii* (Clarke, 1878)

37 216000 --- **Family Oneirodidae** ---
37 216001 *Chaenophryne draco* Beebe, 1932
37 216002 *Dolopichthys pullatus* Regan & Trewavas, 1932
37 216003 *Oneirodes kreffti* Pietsch, 1974

37 188001 *Arius thalassinus* (Ruppell, 1837)
37 188014 *Cinetodus froggatti* (Ramsay & Ogilby, 1886)

37 192000 **--- Family Plotosidae ---**
37 192016 *Anodontiglanis dahli* Rendahl, 1922
37 192001 *Cnidoglanis macrocephalus* (Valenciennes, 1840)
37 192004 *Euristhmus lepturus* (Gunther, 1864)
37 192007 *Euristhmus microceps* (Richardson, 1845)
37 192003 *Euristhmus nudiceps* (Gunther, 1880)
37 192008 *Neosilurus argenteus* (Zietz, 1896)
37 192009 *Neosilurus ater* (Perugia, 1894)
37 192010 *Neosilurus brevidorsalis* (Gunther, 1867)
37 192011 *Neosilurus hyrtlii* Steindachner, 1867
37 192012 *Neosilurus rendahli* (Whitley, 1928)
37 192005 *Paraplotosus albilabris* (Valenciennes, 1840)
37 192013 *Plotosus caninus* (Hamilton-Buchanan, 1822)
37 192002 *Plotosus lineatus* (Thunberg, 1791)
37 192014 *Porochilus obbesi* Weber, 1913
37 192015 *Tandanus bostocki* Whitley, 1944
37 192006 *Tandanus tandanus* Mitchell, 1838

37 205000 **--- Family Batrachoididae ---**
37 205004 *Batrachomoeus* sp [in Sainsbury et al, 1985]
37 205007 *Batrachomoeus dahli* (Rendahl, 1922)
37 205008 *Batrachomoeus dubius* (White, 1790)
37 205001 *Batrachomoeus occidentalis* Hutchins, 1976
37 205009 *Batrachomoeus rubricephalus* Hutchins, 1976
37 205003 *Batrachomoeus trispinosus* (Gunther, 1861)
37 205002 *Halophryne diemensis* (Lesueur, 1824)
37 205005 *Halophryne ocellatus* Hutchins, 1974
37 205006 *Halophryne queenslandiae* (De Vis, 1882)

37 206000 **--- Family Gobiesocidae ---**
37 206007 *Alabes brevis* Springer & Fraser, 1976
37 206008 *Alabes dorsalis* (Richardson, 1845)
37 206009 *Alabes hoesei* Springer & Fraser, 1976
37 206010 *Alabes parvulus* (McCulloch, 1909)
37 206004 *Aspasmogaster costatus* (Ogilby, 1885)
37 206005 *Aspasmogaster liorhynchus* Briggs, 1955
37 206006 *Aspasmogaster occidentalis* Hutchins, 1984
37 206001 *Aspasmogaster tasmaniensis* (Gunther, 1861)
37 206002 *Cochleoceps bassensis* Hutchins, 1983
37 206011 *Cochleoceps bicolor* Hutchins, 1991
37 206012 *Cochleoceps orientalis* Hutchins, 1991
37 206013 *Cochleoceps spatula* (Gunther, 1861)
37 206014 *Cochleoceps viridis* Hutchins, 1991
37 206003 *Creocele cardinalis* (Ramsay, 1882)
37 206015 *Diademichthys lineatus* (Sauvage, 1883)
37 206016 *Discotrema echinophila* Briggs, 1976
37 206017 *Kopua kuiteri* Hutchins, 1991
37 206020 *Lepadichthys caritus* Briggs, 1969
37 206021 *Lepadichthys frenatus* Waite, 1904
37 206018 *Lepadichthys sandracatus* Whitley, 1943
37 206022 *Parvicrepis parvipinnis* (Waite, 1906)
37 206019 *Posidonichthys hutchinsi* Briggs, 1993

37 208000 **--- Family Lophidae ---**
37 208002 *Lophiodes infrabrunneus* Smith & Radcliffe, 1912
37 208003 *Lophiodes mutilus* (Alcock, 1893)
37 208004 *Lophiodes naresi* (Gunther, 1880)
37 208001 *Lophiomus setigerus* (Vahl, 1797)

37 209000 **--- Family Brachionichthyidae ---**
37 209006 *Brachionichthys* sp 1 [in Last et al, 1983]
37 209005 *Brachionichthys* sp 2 [in Last et al, 1983]

37 225005 *Bregmaceros nectabanus* Whitley, 1941
37 225006 *Bregmaceros rarisquamosus* Munro, 1950

37 226000 --- **Family Gadidae** ---
37 226791 *Gadus macrocephalus*
37 226001 *Gaidropsarus novaezealandiae* (Hector, 1874)
37 226792 *Melanogrammus aeglefinus*
37 226794 *Merlangius merlangus*
37 226795 *Micromesistius australis*
37 226796 *Pollachius virens*
37 226793 *Theragra chalcogramma*
37 226790 _ (Common name: Cod)

37 227000 --- **Family Merlucciidae** ---
37 227003 *Lyconus* sp [see Paxton et al, 1989]
37 227001 *Macruronus novaezelandiae* (Hector, 1871)
37 227002 *Merluccius australis* (Hutton, 1872)
37 227790 *Merluccius capensis*
37 227791 *Merluccius gayi*
37 227792 *Merluccius hubbsi* Marini, 1933

37 228000 --- **Family Aphyonidae** ---
37 228014 *Aphyonus gelatinosus* Gunther, 1878
37 228015 *Barathronus maculatus* Shcherbachev, 1976

37 228000 --- **Family Bythitidae** ---
37 228039 *Beaglichthys macrophthalmus* Machida, 1993
37 228040 *Brosmolus longicaudas* Machida, 1993
37 228016 *Brosmophyciops pautzkei* Schultz, 1960
37 228019 *Cataetyx* sp [info from Last]
37 228018 *Cataetyx niki* Cohen, 1981

37 228020 *Dermatopsis macrodon* Ogilby, 1896
37 228021 *Dermatopsis multiradiatus* McCulloch & Waite, 1918
37 228022 *Diancistrus longifilis* Ogilby, 1899
37 228024 *Dinematichthys dasyrhynchus* Cohen & Hutchins, 1982
37 228042 *Dinematichthys megasoma* Machida, 1994
37 228043 *Dinematichthys riukiuensis* Aoyagi, 1952
37 228025 *Diplacanthopoma* sp [see Paxton et al, 1989]
37 228026 *Dipulus caecus* Waite, 1905
37 228030 *Melodichthys paxtoni* Nielsen & Cohen, 1986
37 228032 *Monothrix mizolepis* (Gunther, 1867)
37 228033 *Monothrix polylepis* Ogilby, 1897
37 228037 *Saccogaster tuberculata* (Chan, 1966)

37 228000 --- **Family Ophidiidae** ---
37 228012 *Brotula multibarbata* Temminck & Schlegel, 1847
37 228013 *Brotulotaenia crassa* Parr, 1934
37 228017 *Brotulotaenia nigra* Parr, 1933
37 228001 *Dannevigia tusca* Whitley, 1941
37 228023 *Dicrolene* sp [see Paxton et al, 1989]
37 228901 *Genypterus* spp
37 228002 *Genypterus blacodes* (Forster, 1801)
37 228008 *Genypterus tigerinus* Klunzinger, 1872
37 228011 *Glyptophidium japonicum* Kamohara, 1936
37 228027 *Glyptophidium lucidum* Smith & Radclife, 1913
37 228028 *Homostolus acer* Smith & Radcliffe, 1913
37 228007 *Hoplobrotula armata* (Temminck & Schlegel, 1846)
37 228029 *Hypopleuron caninum* Smith & Radcliffe, 1913
37 228041 *Lamprogrammus shcherbachevi* Cohen & Rohr, 1993
37 228031 *Monomitopus* sp [see Paxton et al, 1989]
37 228034 *Neobythites longipes* Smith & Radcliffe, 1913
37 228035 *Neobythites purus* Smith & Radcliffe, 1913
37 228006 *Ophidion muraenolepis* (Gunther, 1880)
37 228044 *Parabrotula plagiophthalmus* Zugmayer, 1911
37 228036 *Pycnocraspedum squamipinne* Alcock, 1889

37 216004 *Oneirodes sabex* Pietsch & Siegel, 1980
37 216005 *Oneirodes whitleyi* Bertelsen & Pietsch, 1983

37 217000 --- **Family Gigantactinidae** ---
37 217001 *Gigantactis paxtoni* Bertelsen *et al.*, 1983

37 218000 --- **Family Neoceratiidae** ---
37 218001 *Neoceratias spinifer* Pappenheim, 1914

37 220000 --- **Family Ceratiidae** ---
37 220002 *Ceratias holboelli* Kroyer, 1845
37 220003 *Ceratias tentaculatus* (Norman, 1930)
37 220004 *Ceratias uranoscopus* Murray, 1877
37 220001 *Cryptopsaras couesii* Gill, 1883

37 221000 --- **Family Caulophrynidae** ---
37 221001 *Caulophryne jordani* Goode & Bean, 1896

37 222000 --- **Family Linophrynidae** ---
37 222001 *Haplophryne mollis* (Brauer, 1902)
37 222002 *Linophryne densiramus* Imai, 1941
37 222003 *Linophryne indica* (Brauer, 1902)

37 223000 --- **Family Muraenolepididae** ---
37 223001 *Muraenolepis cf orangiensis* Vaillant, 1888

37 224000 --- **Family Melanonidae** ---
37 224015 *Melanonus gracilis* Gunther, 1878
37 224016 *Melanonus zugmayeri* Norman, 1930

37 224000 --- **Family Moridae** ---
37 224008 *Antimora rostrata* (Gunther, 1878)
37 224007 *Austrophycis marginata* (Gunther, 1878)
37 224022 *Austrophycis megalops* Ogilby, 1897
37 224019 *Eeyorius hutchinsi* Paulin, 1986
37 224001 *Euclichthys polynemus* McCulloch, 1926
37 224020 *Gadella norops* Paulin, 1987
37 224009 *Halargyreus johnsonii* Gunther, 1862
37 224013 *Laemonema globiceps* Gilchrist, 1906
37 224014 *Laemonema multiradiatum* Thompson, 1916
37 224018 *Lepidion inosimae* (Gunther, 1887)
37 224010 *Lepidion microcephalus* Cowper, 1956
37 224017 *Lepidion schmidti* Svetovidov, 1936
37 224023 *Lotella phycis* (Temminck & Schlegel, 1847)
37 224005 *Lotella rhacinus* (Forster, 1801)
37 224002 *Mora moro* (Risso, 1810)
37 224024 *Physiculus longifilis* Weber, 1913
37 224012 *Physiculus luminosa* Paulin, 1983
37 224025 *Physiculus nigrescens* Smith & Radcliffe, 1912
37 224026 *Physiculus roseus* Alcock, 1891
37 224021 *Physiculus therosideros* Paulin, 1987
37 224006 *Pseudophycis bachus* (Forster, 1801)
37 224003 *Pseudophycis barbata* Gunther, 1863
37 224011 *Pseudophycis breviuscula* (Richardson, 1846)
37 224004 *Tripterophycis gilchristi* Boulenger, 1902

37 225000 --- **Family Bregmacerotidae** ---
37 225003 *Bregmaceros atlanticus* Goode & Bean, 1886
37 225004 *Bregmaceros japonicus* Tanaka, 1908
37 225001 *Bregmaceros lanceolatus* Shen, 1960
37 225002 *Bregmaceros mcclellandi* Thompson, 1840

37 232063 *Macrouroides inflaticeps* Smith & Radcliffe, 1912
37 232036 *Macrourus carinatus* (Gunther, 1878)
37 232007 *Malacocephalus laevis* (Lowe, 1843)
37 232064 *Mataeocephalus adustus* Smith & Radcliffe, 1912
37 232035 *Mesobius antipodum* Hubbs & Iwamoto , 1977
37 232065 *Mesobius berryi* Hubbs & Iwamoto , 1977
37 232075 *Nezumia* sp 3 [Iwamoto & Williams, unpubl.]
37 232027 *Nezumia* sp W4 [Iwamoto & Williams, unpubl.]
37 232066 *Nezumia namatahi* McCann & McKnight, 1980
37 232067 *Nezumia propinqua* (Gilbert & Cramer, 1897)
37 232068 *Nezumia spinosa* (Gilbert & Hubbs, 1916)
37 232041 *Odontomacrurus murrayi* Norman, 1939
37 232069 *Sphagemacrurus pumiliceps* (Alcock, 1894)
37 232070 *Squalogadus modificatus* Gilbert & Hubbs, 1916
37 232071 *Trachonurus cf villosus* (Gunther, 1877)
37 232028 *Trachyrinchus longirostris* (Gunther, 1878)
37 232072 *Ventrifossa fasciata* (Weber, 1913)
37 232073 *Ventrifossa johnboborum* Iwamoto , 1982
37 232074 *Ventrifossa nigrodorsalis* Gilbert & Hubbs, 1920

37 233000 --- **Family Exocoetidae** ---
37 233004 *Cheilopogon arcticeps* (Gunther, 1866)
37 233005 *Cheilopogon cyanopterus* (Valenciennes, 1847)
37 233001 *Cheilopogon furcatus* (Mitchill, 1815)
37 233006 *Cheilopogon heterurus* (Rafinesque, 1810)
37 233007 *Cheilopogon nigricans* (Bennett, 1840)
37 233008 *Cheilopogon pinnatibarbatus* (Bennett, 1831)
37 233009 *Cheilopogon spilopterus* (Valenciennes, 1847)
37 233010 *Cypselurus poecilopterus* (Valenciennes, 1847)
37 233017 *Cypselurus suttoni* (Whitley & Colefax, 1938)
37 233011 *Exocoetus monocirrhus* Richardson, 1846
37 233012 *Exocoetus obtusirostris* Gunther, 1866
37 233013 *Exocoetus volitans* Linnaeus, 1758
37 233014 *Hirundichthys oxycephalus* (Bleeker, 1852)
37 233002 *Hirundichthys rondeletii* (Valenciennes, 1847)
37 233015 *Hirundichthys speculiger* (Valenciennes, 1847)
37 233016 *Parexocoetus brachypterus* (Richardson, 1846)
37 233003 *Parexocoetus mento* Valenciennes, 1847

37 234000 --- **Family Hemiramphidae** ---
37 234006 *Arrhamphus sclerolepis* Gunther, 1866
37 234015 *Euleptorhamphus viridis* (van Hasselt, 1823)
37 234007 *Hemiramphus far* (Forsskal, 1775)
37 234013 *Hemiramphus robustus* Gunther, 1866
37 234016 *Hyporhamphus affinis* (Gunther, 1866)
37 234014 *Hyporhamphus australis* (Steindachner, 1866)
37 234008 *Hyporhamphus dussumieri* (Valenciennes, 1847)
37 234001 *Hyporhamphus melanochir* (Valenciennes, 1847)
37 234017 *Hyporhamphus neglectissimus* Parin *et al.*, 1980
37 234009 *Hyporhamphus quoyi* (Valenciennes, 1847)
37 234012 *Hyporhamphus regularis* (Gunther, 1866)
37 234018 *Oxyporhamphus micropterus* (Valenciennes, 1847)
37 234019 *Rhynchorhamphus georgii* (Valenciennes, 1847)
37 234010 *Zenarchopterus buffonis* (Valenciennes, 1847)
37 234020 *Zenarchopterus caudovittatus* Weber, 1908
37 234011 *Zenarchopterus dispar* (Valenciennes, 1847)
37 234021 *Zenarchopterus gilli* Smith, 1945
37 234022 *Zenarchopterus rasori* (Popta, 1912)
37 234900 _ (Common name: Northern Garfish)

37 235000 --- **Family Belonidae** ---
37 235001 *Ablennes hians* (Valenciennes, 1846)
37 235002 *Lhotskia gavialoides* (Castelnau, 1873)
37 235008 *Platybelone argalus* (Lesueur, 1821)
37 235007 *Strongylura incisa* (Valenciennes, 1846)
37 235009 *Strongylura krefftii* (Gunther, 1866)
37 235003 *Strongylura leiura* (Bleeker, 1851)

37 228005 *Sirembo imberbis* (Teminck & Schlegel, 1846)
37 228009 *Sirembo jerdoni* (Day, 1888)
37 228038 *Sirembo metachroma* Cohen & Robins, 1986
37 228010 *Spottobrotula amaculata* Cohen & Nielsen, 1982

37 229000 --- **Family Carapidae** ---
37 229005 *Carapus houlti* (Ogilby, 1922)
37 229006 *Carapus mourlani* (Petit, 1934)
37 229014 *Echiodon coheni* Williams, 1984
37 229003 *Echiodon rendhali* (Whitley, 1941)
37 229007 *Encheliophis boraborensis* (Kaup, 1856)
37 229001 *Encheliophis gracilis* (Bleeker, 1856)
37 229002 *Encheliophis homei* (Richardson, 1844)
37 229009 *Encheliophis vermicularis* Muller, 1842
37 229015 *Encheliophis vermiops* Markle & Olney, 1990
37 229008 *Eurypleuron cinereum* (Smith, 1955)
37 229013 *Onuxodon fowleri* (Smith, 1955)
37 229004 *Onuxodon margaritiferae* (Rendahl, 1921)
37 229010 *Onuxodon parvibranchium* (Fowler, 1927)
37 229016 *Pyramodon lindas* Markle & Olney, 1990
37 229011 *Pyramodon punctatus* (Regan, 1914)
37 229012 *Pyramodon ventralis* Smith & Radcliffe, 1913

37 231000 --- **Family Zoarcidae** ---
37 231001 *Melanostigma gelatinosum* Gunther, 1881

37 232000 --- **Family Macrouridae** ---
37 232038 *Asthenomacrurus victoris* Sazanov & Shcherbachev, 1982
37 232030 *Bathygadus cottoides* Gunther, 1878
37 232020 *Caelorinchus* sp W5 [Iwamoto & Williams, unpubl.]
37 232042 *Caelorinchus acanthiger* Barnard, 1925
37 232021 *Caelorinchus argentatus* Smith & Radcliffe, 1912
37 232001 *Caelorinchus australis* (Richardson, 1839)
37 232043 *Caelorinchus cf argus* Weber, 1913
37 232002 *Caelorinchus fasciatus* (Gunther, 1878)
37 232014 *Caelorinchus innotabilis* McCulloch, 1907
37 232031 *Caelorinchus kaiyomaru* Arai & Iwamoto , 1979
37 232040 *Caelorinchus kermadecus* Jordan & Gilbert, 1904
37 232044 *Caelorinchus maculatus* Gilbert & Hubbs, 1920
37 232017 *Caelorinchus matamua* (McCann & McKnight, 1980)
37 232045 *Caelorinchus maurofasciatus* McMillan & Paulin, 1993
37 232003 *Caelorinchus mirus* McCulloch, 1926
37 232046 *Caelorinchus multispinulosus* Katayama, 1942
37 232047 *Caelorinchus parvifasciatus* McMillan & Paulin, 1993
37 232048 *Cetonurichthys subinflatus* Sazonov & Shcherbachev, 1982
37 232029 *Cetonurus globiceps* (Vaillant, 1884)
37 232039 *Coryphaenoides* sp W2 [Iwamoto & Williams, unpubl.]
37 232049 *Coryphaenoides carapinus* (Goode & Bean, 1883)
37 232050 *Coryphaenoides grahami* Iwamoto & Shcherbachev, 1991
37 232051 *Coryphaenoides mcmillani* Iwamoto & Shcherbachev, 1991
37 232052 *Coryphaenoides murrayi* Gunther, 1878
37 232019 *Coryphaenoides rudis* Gunther, 1878
37 232015 *Coryphaenoides serrulatus* Gunther, 1878
37 232053 *Coryphaenoides striaturus* Barnard, 1925
37 232016 *Coryphaenoides subserrulatus* Makushok, 1976
37 232054 *Cyanomacrurus piriei* Dollo, 1909
37 232055 *Haplomacrourus nudirostris* Trunov, 1980
37 232056 *Hymenocephalus gracilis* Gilbert & Hubbs, 1920
37 232057 *Hymenocephalus kuronumai* Kamohara, 1938
37 232058 *Hymenocephalus longibarbis* (Gunther, 1887)
37 232059 *Hymenocephalus longiceps* Smith & Radclife, 1912
37 232060 *Hyomacrourus hyostomus* (Smith & Radcliffe, 1912)
37 232037 *Idiolophorhynchus andriashevi* Sazonov, 1981
37 232061 *Kuronezumia bubonis* (Iwamoto , 1974)
37 232062 *Kuronezumia leonis* (Barnard, 1925)
37 232004 *Lepidorhynchus denticulatus* (Richardson, 1846)
37 232005 *Lucigadus nigromaculatus* (McCulloch, 1907)

37 246027 *Craterocephalus pauciradiatus* (Gunther, 1861)
37 246028 *Craterocephalus fulvus* Ivantsoff *et al.*, 1987
37 246029 *Craterocephalus stercusmuscarum* (Gunther, 1867)
37 246030 *Craterocephalus stramineus* (Whitley, 1950)
37 246032 *Dentatherina merceri* Patten & Ivantsoff, 1983
37 246033 *Hypoatherina barnesi* Schultz, 1953
37 246034 *Hypoatherina temminckii* (Bleeker, 1853)
37 246035 *Hypoatherina tropicalis* (Whitley, 1948)
37 246036 *Kestratherina brevirostris* Pavlov *et al.*, 1988
37 246003 *Kestratherina esox* (Klunzinger, 1872)
37 246002 *Leptatherina presbyteroides* (Richardson, 1843)
37 246011 *Leptatherina wallacei* Prince, Ivantsoff, & Potter 1982
37 246037 *Scaturiginichthys vermeilipinnis* (Ivantsoff *et al.*, 1991)
37 246038 *Stenatherina panatela* (Jordan & Richardson, 1908)

37 247000 --- **Family Isonidae** ---
37 247001 *Iso rhothophilus* (Ogilby, 1895)

37 251000 --- **Family Melamphaidae** ---
37 251002 *Melamphaes longivelis* Parr, 1933
37 251003 *Melamphaes suborbitalis* (Gill, 1883)
37 251004 *Poromitra crassiceps* (Gunther, 1878)
37 251001 *Scopeloberyx microlepis* (Norman, 1937)
37 251005 *Scopelogadus beanii* (Gunther, 1887)
37 251006 *Scopelogadus mizolepis* (Gunther, 1878)
37 251007 *Sio nordenskjoldii* (Lonnberg, 1905)

37 253000 --- **Family Polymixiidae** ---
37 253001 *Polymixia berndti* Gilbert, 1905
37 253002 *Polymixia nobilis* Lowe, 1836

37 254000 --- **Family Diretmidae** ---
37 254001 *Diretmichthys parini* (Post & Quero, 1981)
37 254002 *Diretmus argenteus* Johnson, 1864

37 255000 --- **Family Trachichthyidae** ---
37 255011 *Aulotrachichthys novaezelandicus* (Kotlyar, 1980)
37 255012 *Aulotrachichthys pulsator* Gomon & Kuiter, 1987
37 255004 *Gephyroberyx darwinii* (Johnson, 1866)
37 255006 *Hoplostethus* sp [in Sainsbury et al, 1985]
37 255009 *Hoplostethus atlanticus* Collett, 1889
37 255005 *Hoplostethus gigas* McCulloch, 1914
37 255001 *Hoplostethus intermedius* (Hector, 1875)
37 255002 *Hoplostethus latus* McCulloch, 1914
37 255013 *Hoplostethus melanopus* (Weber, 1913)
37 255014 *Hoplostethus shubnikovi* Kotlyar, 1980
37 255007 *Optivus* sp 1 [in Gomon et al, 1994]
37 255016 *Optivus* sp 2 [in Gomon et al, 1994]
37 255003 *Paratrachichthys* sp 1 [see Gomon et al, 1994]
37 255010 *Sorosichthys ananassa* Whitley, 1945
37 255015 *Trachichthys australis* Shaw, 1799

37 257000 --- **Family Anoplogasteridae** ---
37 257001 *Anoplogaster cornuta*

37 258000 --- **Family Berycidae** ---
37 258001 *Beryx decadactylus* Cuvier, 1829
37 258002 *Beryx splendens* Lowe, 1833
37 258003 *Centroberyx affinis* (Gunther, 1859)
37 258006 *Centroberyx australis* Shimizu & Hutchins, 1987
37 258004 *Centroberyx gerrardi* (Gunther, 1887)
37 258005 *Centroberyx lineatus* (Cuvier, 1829)

37 235004 *Strongylura strongylura* (van Hasselt, 1823)
37 235010 *Strongylura urvillii* (Valenciennes, 1846)
37 235011 *Tylosurus acus* (Lacepede, 1803)
37 235005 *Tylosurus crocodilus* (Peron & Lesueur, 1821)
37 235006 *Tylosurus punctulatus* (Gunther, 1872)

37 236000 --- **Family Scomberesocidae** ---
37 236001 *Scomberesox saurus* (Walbaum, 1792)

37 244000 --- **Family Poeciliidae** ---
37 244001 *Gambusia affinis* (Baird & Girard, 1853)
37 244002 *Phalloceros caudimaculatus* (Hensel, 1868)
37 244003 *Poecilia latipinna* (Lesueur, 1821)
37 244004 *Poecilia reticulata* Peters, 1859
37 244005 *Xiphophorus hellerii* Heckel, 1848
37 244006 *Xiphophorus maculatus* (Gunther, 1866)

37 245000 --- **Family Pseudomugilidae** ---
37 245002 *Cairnsichthys rhombosomoides* (Nichols & Raven, 1928)
37 245003 *Iriatherina werneri* Meinken, 1974
37 245004 *Melanotaenia duboulayi* (Castelnau, 1878)
37 245005 *Melanotaenia eachamensis* Allen & Cross, 1982
37 245006 *Melanotaenia exquisita* Allen, 1978
37 245007 *Melanotaenia fluviatilis* (Castelnau, 1878)
37 245008 *Melanotaenia gracilis* Allen, 1978
37 245009 *Melanotaenia maccullochi* Ogilby, 1915
37 245010 *Melanotaenia nigrans* (Richardson, 1843)
37 245011 *Melanotaenia pygmaea* Allen, 1978
37 245013 *Melanotaenia s. inornata* (Castelnau, 1875)
37 245014 *Melanotaenia s. splendida* (Peters, 1867)
37 245015 *Melanotaenia s. tatei* (Zietz, 1896)
37 245012 *Melanotaenia splendida australis* (Castelnau, 1875)
37 245016 *Melanotaenia trifasciata* (Rendahl, 1922)
37 245017 *Pseudomugil cyanodorsalis* Allen & Sarti, 1983
37 245001 *Pseudomugil gertrudae* Weber, 1911
37 245018 *Pseudomugil inconspicuus* Roberts, 1978
37 245019 *Pseudomugil mellis* Allen & Ivantsoff, 1982
37 245020 *Pseudomugil signifer* Kner, 1867
37 245021 *Pseudomugil tenellus* Taylor, 1964
37 245022 *Rhadinocentrus ornatus* Regan, 1914

37 246000 --- **Family Atherinidae** ---
37 246004 *Atherinason hepsetoides* (Richardson, 1843)
37 246008 *Atherinomorus capricornensis* (Woodland, 1961)
37 246006 *Atherinomorus duodecimalis* (Valenciennes, 1835)
37 246005 *Atherinomorus eendrachtensis* (Quoy & Gaimard, 1824)
37 246009 *Atherinomorus lacunosus* (Forster, 1801)
37 246007 *Atherinomorus ogilbyi* (Whitley, 1930)
37 246010 *Atherinosoma elongata* (Klunzinger, 1880)
37 246001 *Atherinosoma microstoma* (Gunther, 1861)
37 246012 *Atherion elymus* Jordan & Starks, 1901
37 246013 *Atherion maccullochi* Jordan & Hubbs, 1919
37 246014 *Craterocephalus amniculus* Crowley & Ivantsoff, 1990
37 246015 *Craterocephalus capreoli* Rendahl, 1922
37 246016 *Craterocephalus centralis* Crowley & Ivantsoff, 1990
37 246017 *Craterocephalus cuneiceps* Whitley, 1944
37 246018 *Craterocephalus dalhousiensis* Ivantsoff & Glover, 1974
37 246019 *Craterocephalus eyresii* (Steindachner, 1884)
37 246020 *Craterocephalus fluviatilis* (McCulloch, 1913)
37 246031 *Craterocephalus gloveri* Crowley & Ivantsoff, 1990
37 246021 *Craterocephalus helenae* Ivantsoff *et al.*, 1987
37 246022 *Craterocephalus honoriae* (Ogilby, 1912)
37 246023 *Craterocephalus lentiginosus* Ivantsoff *et al.*, 1987
37 246024 *Craterocephalus marianae* Ivantsoff *et al.*, 1987
37 246025 *Craterocephalus marjoriae* Whitley, 1948
37 246026 *Craterocephalus mugiloides* (McCulloch, 1912)

37 266000 --- **Family Oreosomatidae** ---
37 266005 *Allocyttus niger* James, Inada & Nakamura 1988
37 266004 *Allocyttus verrucosus* (Gilchrist, 1906)
37 266006 *Neocyttus* sp A [in ISR Munro collection]
37 266001 *Neocyttus rhomboidalis* Gilchrist, 1906
37 266002 *Oreosoma atlanticum* Cuvier, 1829
37 266003 *Pseudocyttus maculatus* Gilchrist, 1906
37 266901 _ (Common name: Black Oreo)

37 267000 --- **Family Caproidae** ---
37 267004 *Antigonia capros* Lowe, 1843
37 267003 *Antigonia malayana* Weber, 1913
37 267001 *Antigonia rhomboidea* McCulloch, 1915
37 267005 *Antigonia rubescens* (Gunther, 1860)
37 267002 *Antigonia rubicunda* Ogilby, 1910

37 268000 --- **Family Lampridae** ---
37 268001 *Lampris guttatus* (Bruennich, 1788)
37 268002 *Lampris immaculatus* Gilchrist, 1904
37 268900 _ (Common name: Opahs)

37 269000 --- **Family Veliferidae** ---
37 269002 *Velifer hypselopterus* Bleeker, 1879
37 269001 *Velifer multiradiatus* Regan, 1907

37 270000 --- **Family Lophotidae** ---
37 270002 *Eumecichthys fiski* (Gunther, 1890)
37 270001 *Lophotus lacepede* Giorna, 1809

37 271000 --- **Family Trachipteridae** ---
37 271002 *Desmodema polystictum* (Ogilby, 1898)
37 271001 *Trachipterus jacksonensis* (Ramsay, 1881)
37 271003 *Zu cristatus* (Bonelli, 1820)

37 272000 --- **Family Regalecidae** ---
37 272003 *Agrostichthys parkeri* (Benham, 1904)
37 272002 *Regalecus glesne* Ascanius, 1772

37 277000 --- **Family Aulostomidae** ---
37 277001 *Aulostomus chinensis* (Linneaus, 1766)

37 278000 --- **Family Fistulariidae** ---
37 278001 *Fistularia commersonii* Ruppell, 1838
37 278002 *Fistularia petimba* Lacepede, 1803

37 279000 --- **Family Macroramphosidae** ---
37 279001 *Centriscops humerosus* (Richardson, 1846)
37 279004 *Centriscops obliquus* Waite, 1911
37 279006 *Macroramphosus elevatus* Waite, 1899
37 279007 *Macroramphosus gracilis* (Lowe, 1839)
37 279002 *Macroramphosus scolopax* (Linnaeus, 1758)
37 279008 *Macroramphosus velitaris* (Pallas, 1770)
37 279009 *Notopogon endeavouri* Mohr, 1937
37 279005 *Notopogon fernandezianus* (Delfin, 1899)
37 279003 *Notopogon lilliei* Regan, 1914

37 280000 --- **Family Centriscidae** ---
37 280003 *Aeoliscus strigatus* (Gunther, 1861)
37 280002 *Centriscus cristatus* (De Vis, 1885)

37 259000 **--- Family Monocentrididae ---**
37 259001 *Cleidopus gloriamaris* De Vis, 1882
37 259002 *Monocentris japonicus* (Houttuyn, 1782)

37 260000 **--- Family Anomalopidae ---**
37 260001 *Anomalops katoptron* (Bleeker, 1856)
37 260002 *Photoblepharon paplebratus* (Boddaert, 1781)

37 261000 **--- Family Holocentridae ---**
37 261008 *Myripristis adusta* Bleeker, 1853
37 261007 *Myripristis amaenus* (Castelnau, 1873)
37 261006 *Myripristis berndti* Jordan & Evermann, 1905
37 261009 *Myripristis chryseres* Jordan & Evermann, 1905
37 261010 *Myripristis hexagonus* (Lacepede, 1802)
37 261011 *Myripristis kuntee* Valenciennes, 1831
37 261004 *Myripristis melanostictus* Bleeker, 1863
37 261002 *Myripristis murdjan* (Forsskal, 1775)
37 261012 *Myripristis parvidens* Cuvier, 1829
37 261013 *Myripristis pralinia* Cuvier, 1829
37 261014 *Myripristis violacea* Bleeker, 1851
37 261015 *Myripristis vittatus* Valenciennes, 1831
37 261016 *Neoniphon argenteus* (Valenciennes, 1831)
37 261017 *Neoniphon aurolineatus* (Lienard, 1839)
37 261018 *Neoniphon opercularis* (Valenciennes, 1831)
37 261019 *Neoniphon sammara* (Forsskal, 1775)
37 261003 *Ostichthys japonicus* (Cuvier, 1829)
37 261005 *Ostichthys kaianus* (Gunther, 1880)
37 261020 *Plectrypops lima* (Valenciennes, 1831)
37 261021 *Pristilepis oligolepis* (Whitley, 1941)
37 261022 *Sargocentron caudimaculatum* (Ruppell, 1838)
37 261023 *Sargocentron diadema* (Lacepede, 1802)
37 261024 *Sargocentron ittodai* (Jordan & Fowler, 1903)
37 261025 *Sargocentron lepros* (Allen & Cross, 1983)
37 261026 *Sargocentron melanospilos* (Bleeker, 1858)
37 261027 *Sargocentron microstoma* (Gunther, 1859)
37 261028 *Sargocentron punctatissimum* (Cuvier, 1829)
37 261001 *Sargocentron rubrum* (Forsskal, 1775)
37 261029 *Sargocentron spiniferum* (Forsskal, 1775)
37 261030 *Sargocentron tiere* (Cuvier, 1829)
37 261031 *Sargocentron tiereoides* (Bleeker, 1853)
37 261032 *Sargocentron violaceum* (Bleeker, 1853)

37 262000 **--- Family Parazenidae ---**
37 262001 *Parazen pacificus* Kamohara, 1935

37 263000 **--- Family Zeniontidae ---**
37 263002 *Zenion* sp [see Paxton et al, 1989]
37 263001 *Zenion japonicum* Kamohara, 1934

37 264000 **--- Family Zeidae ---**
37 264011 *Cyttomimus affinis* Weber, 1913
37 264009 *Cyttopsis cypho* (Fowler, 1934)
37 264010 *Cyttopsis roseus* (Lowe, 1843)
37 264002 *Cyttus australis* (Richardson, 1843)
37 264005 *Cyttus novaezelandiae* (Arthur, 1885)
37 264001 *Cyttus traversi* Hutton, 1872
37 264012 *Zenopsis* sp [info from AMS, Bray unpubl]
37 264003 *Zenopsis nebulosus* (Teminck & Schlegel, 1845)
37 264004 *Zeus faber* Linnaeus, 1758

37 265000 **--- Family Grammicolepididae ---**
37 265001 *Daramattus americanus* (Nichols & Firth, 1939)
37 265002 *Daramattus armatus* Smith, 1960
37 265003 *Xenolepidichthys dalgleishi* Gilchrist, 1922

37 282013 *Leptoichthys fistularius* Kaup, 1853
37 282016 *Lissocampus caudalis* Waite & Hale, 1921
37 282084 *Lissocampus fatiloquus* (Whitley, 1943)
37 282009 *Lissocampus runa* Whitley, 1931
37 282085 *Maroubra perserrata* Whitley, 1948
37 282086 *Micrognathus andersonii* (Bleeker, 1858)
37 282087 *Micrognathus brevirostris* (Ruppell, 1838)
37 282088 *Micrognathus micronotopterus* (Fowler, 1938)
37 282089 *Micrognathus natans* Dawson, 1982
37 282090 *Microphis brachyurus* (Bleeker, 1853)
37 282091 *Microphis manadensis* (Bleeker, 1856)
37 282092 *Mitotichthys meraculus* (Whitley, 1948)
37 282022 *Mitotichthys mollisoni* (Scott, 1955)
37 282015 *Mitotichthys semistriatus* (Kaup, 1856)
37 282025 *Mitotichthys tuckeri* (Scott, 1942)
37 282093 *Nannocampus pictus* (Duncker, 1915)
37 282094 *Nannocampus subosseus* Gunther, 1870
37 282095 *Notiocampus ruber* (Ramsay & Ogilby, 1886)
37 282096 *Phoxocampus diacanthus* (Schultz, 1943)
37 282001 *Phycodurus eques* (Gunther, 1865)
37 282002 *Phyllopteryx taeniolatus* (Lacepede, 1804)
37 282021 *Pugnaso curtirostris* (Castelnau, 1872)
37 282097 *Siokunichthys breviceps* Smith, 1963
37 282098 *Solegnathus dunckeri* Whitley, 1927
37 282099 *Solegnathus hardwickii* (Gray, 1830)
37 282003 *Solegnathus lettiensis* (Bleeker, 1860)
37 282004 *Solegnathus robustus* McCulloch, 1911
37 282029 *Solegnathus spinosissimus* (Gunther, 1870)
37 282017 *Stigmatopora argus* (Richardson, 1840)
37 282018 *Stigmatopora nigra* Kaup, 1856
37 282019 *Stipecampus cristatus* (McCulloch & Waite, 1918)
37 282100 *Syngnathoides biaculeatus* (Bloch, 1785)
37 282006 *Trachyrhamphus bicoarctata* (Bleeker, 1857)
37 282101 *Trachyrhamphus longirostris* Kaup, 1856
37 282008 *Urocampus carinirostris* Castelnau, 1872
37 282102 *Vanacampus margaritifer* (Peters, 1869)
37 282023 *Vanacampus phillipi* (Lucas, 1891)
37 282024 *Vanacampus poecilolaemus* (Peters, 1869)
37 282103 *Vanacampus vercoi* (Waite & Hale, 1921)

37 285000 --- **Family Synbranchidae** ---
37 285001 *Monopterus albus* (Zuiew, 1793)
37 285002 *Ophisternon bengalense* McClelland, 1844
37 285003 *Ophisternon candidum* (Mees, 1962)
37 285004 *Ophisternon gutturale* (Richardson, 1845)

37 287000 --- **Family Scorpaenidae** ---
37 287031 *Ablabys taenianotus* (Cuvier, 1829)
37 287033 *Apistops caloundra* (De Vis, 1886)
37 287048 *Centropogon australis* (White, 1790)
37 287050 *Cheroscorpaena tridactyla* Mees, 1964
37 287014 *Cottapistus cottoides* (Cuvier, 1829)
37 287015 *Cottapistus praepositus* (Ogilby, 1903)
37 287051 *Cottapistus scorpio* (Ogilby, 1910)
37 287052 *Dampierosa daruma* Whitley, 1932
37 287010 *Dendrochirus brachypterus* (Cuvier, 1829)
37 287026 *Dendrochirus zebra* (Cuvier, 1829)
37 287053 *Ectreposebastes imus* Garman, 1899
37 287022 *Erosa erosa* (Langsdorf, 1829)
37 287054 *Glyptauchen insidiator* Whitley, 1931
37 287023 *Glyptauchen panduratus* (Richardson, 1850)
37 287018 *Gymnapistes marmoratus* (Cuvier, 1829)
37 287093 *Helicolenus barathri* (Hector, 1875)
37 287001 *Helicolenus percoides* (Richardson, 1842)
37 287011 *Hypodytes carinatus* (Bloch & Schneider, 1801)
37 287055 *Inimicus caledonicus* (Sauvage, 1878)
37 287028 *Inimicus didactylus* (Pallas, 1769)
37 287020 *Inimicus sinensis* (Valenciennes, 1833)

37 280001 *Centriscus scutatus* Linnaeus, 1758

37 281000 **--- Family Solenostomidae ---**
37 281001 *Solenostomus cyanopterus* Bleeker, 1855
37 281002 *Solenostomus paradoxus* (Pallas, 1770)

37 282000 **--- Family Syngnathidae ---**
37 282034 *Acentronura australe* Waite & Hale, 1921
37 282036 *Acentronura larsonae* Dawson, 1984
37 282035 *Acentronura tentaculata* Gunther, 1870
37 282037 *Bulbonaricus brauni* (Dawson & Allen, 1978)
37 282038 *Bulbonaricus davaoensis* (Herald, 1953)
37 282039 *Campichthys galei* (Duncker, 1909)
37 282040 *Campichthys tricarinatus* Dawson, 1977
37 282041 *Campichthys tryoni* (Ogilby, 1890)
37 282042 *Choeroichthys brachysoma* (Bleeker, 1855)
37 282043 *Choeroichthys cinctus* Dawson, 1976
37 282044 *Choeroichthys latispinosus* Dawson, 1978
37 282045 *Choeroichthys sculptus* (Gunther, 1870)
37 282046 *Choeroichthys suillus* Whitley, 1951
37 282047 *Corythoichthys amplexus* Dawson & Randall, 1975
37 282032 *Corythoichthys flavofasciatus* (Ruppell, 1838)
37 282048 *Corythoichthys haematopterus* (Bleeker, 1851)
37 282049 *Corythoichthys intestinalis* (Ramsay, 1881)
37 282050 *Corythoichthys ocellatus* Herald, 1953
37 282051 *Corythoichthys paxtoni* Dawson, 1977
37 282052 *Corythoichthys schultzi* Herald, 1953
37 282053 *Cosmocampus banneri* (Herald & Randall, 1972)
37 282054 *Cosmocampus darrosanus* (Dawson & Randall, 1975)
37 282055 *Cosmocampus howensis* (Whitley, 1948)
37 282056 *Cosmocampus maxweberi* (Whitley, 1933)
37 282057 *Doryrhamphus dactyliophorus* (Bleeker, 1853)
37 282058 *Doryrhamphus excisus* Kaup, 1856
37 282059 *Doryrhamphus janssi* (Herald & Randall, 1972)
37 282060 *Doryrhamphus negrosensis* Herre, 1934
37 282061 *Festucalex cinctus* (Ramsay, 1882)
37 282062 *Festucalex gibbsi* Dawson, 1977
37 282063 *Festucalex scalaris* (Gunther, 1870)
37 282064 *Filicampus tigris* (Castelnau, 1879)
37 282065 *Halicampus brocki* (Herald, 1953)
37 282066 *Halicampus dunckeri* (Chabanaud, 1929)
37 282030 *Halicampus grayi* Kaup, 1856
37 282067 *Halicampus macrorhynchus* Bamber, 1915
37 282068 *Halicampus mataafae* (Jordan & Seale, 1906)
37 282069 *Halicampus nitidus* (Gunther, 1873)
37 282070 *Halicampus spinirostris* (Dawson & Allen, 1981)
37 282007 *Haliichthys taeniophorus* Gray, 1859
37 282071 *Heraldia nocturna* Paxton, 1975
37 282072 *Hippichthys cyanospilus* (Bleeker, 1854)
37 282073 *Hippichthys heptagonus* Bleeker, 1849
37 282074 *Hippichthys parvicarinatus* (Dawson, 1978)
37 282075 *Hippichthys penicillus* (Cantor, 1850)
37 282076 *Hippichthys spicifer* (Ruppell, 1838)
37 282010 *Hippocampus abdominalis* Lesson, 1827
37 282077 *Hippocampus angustus* Gunther, 1870
37 282026 *Hippocampus breviceps* Peters, 1869
37 282005 *Hippocampus histrix* Kaup, 1856
37 282033 *Hippocampus kuda* Bleeker, 1852
37 282078 *Hippocampus planifrons* Peters, 1877
37 282079 *Hippocampus spinosissimus* Weber, 1913
37 282027 *Hippocampus whitei* Bleeker, 1855
37 282080 *Hippocampus zebra* Whitley, 1964
37 282011 *Histiogamphelus briggsii* McCulloch, 1914
37 282081 *Histiogamphelus cristatus* (Macleay, 1881)
37 282082 *Hypselognathus horridus* Dawson & Glover, 1982
37 282012 *Hypselognathus rostratus* (Waite & Hale, 1921)
37 282014 *Kaupus costatus* (Waite & Hale, 1921)
37 282083 *Kimblaeus bassensis* Dawson, 1980

37 288000 --- **Family Triglidae** ---
37 288024 *Chelidonichthys* sp [in unpubl NW Shelf Guide, CSIRO]
37 288001 *Chelidonichthys kumu* (Lesson, 1826)
37 288013 *Gargariscus prionocephalus* (Dumeril, 1868)
37 288015 *Lepidotrigla* sp C [of Paxton]
37 288901 *Lepidotrigla* spp
37 288010 *Lepidotrigla argus* Ogilby, 1910
37 288026 *Lepidotrigla calodactyla* Ogilby, 1910
37 288020 *Lepidotrigla grandis* Ogilby, 1910
37 288007 *Lepidotrigla modesta* Waite, 1899
37 288008 *Lepidotrigla mulhalli* Macleay, 1884
37 288002 *Lepidotrigla papilio* (Cuvier, 1829)
37 288027 *Lepidotrigla punctipectoralis* Fowler, 1938
37 288016 *Lepidotrigla spiloptera* Gunther, 1880
37 288028 *Lepidotrigla spinosa* Gomon, 1987
37 288029 *Lepidotrigla umbrosa* Ogilby, 1910
37 288003 *Lepidotrigla vanessa* (Richardson, 1839)
37 288025 *Parapterygotrigla* sp 1 [in Gloerfelt-Tarp *et al.*, 1984]
37 288022 *Peristedion liorhynchus* (Gunther, 1872)
37 288005 *Pterygotrigla andertoni* Waite, 1910
37 288009 *Pterygotrigla hemisticta* (Temminck & Schlegel, 1844)
37 288014 *Pterygotrigla leptacanthus* (Gunther, 1880)
37 288006 *Pterygotrigla polyommata* (Richardson, 1839)
37 288030 *Satyrichthys lingi* (Whitley, 1933)
37 288012 *Satyrichthys moluccense* (Bleeker, 1850)
37 288031 *Satyrichthys orientale* (Fowler, 1938)
37 288023 *Satyrichthys rieffeli* (Kaup, 1859)
37 288019 *Satyrichthys welchi* (Herre, 1925)

37 289000 --- **Family Caracanthidae** ---
37 289001 *Caracanthus maculatus* (Gray, 1831)
37 289002 *Caracanthus unipinnis* (Gray, 1831)

37 290000 --- **Family Aploactinidae** ---
37 290004 *Adventor elongatus* (Whitley, 1952)
37 290005 *Aploactis aspera* Temminck & Schlegel, 1844
37 290001 *Aploactisoma milesii* (Richardson, 1850)
37 290006 *Bathyaploactis curtisensis* Whitley, 1933
37 290002 *Erisphex aniarus* (Thomson, 1967)
37 290007 *Kanekonia queenslandica* Whitley, 1952
37 290008 *Karumba ornatissimus* (Whitley, 1933)
37 290013 *Matsubarichthys inusitatus* Poss & Johnson, 1991
37 290009 *Neoaploactis tridorsalis* Eschmeyer & Allen, 1978
37 290010 *Paraploactis intonsa* Poss & Eschmeyer, 1978
37 290003 *Paraploactis pulvinus* Poss & Eschmeyer, 1978
37 290011 *Paraploactis trachyderma* Bleeker, 1865
37 290012 *Peristrominous dolosus* Whitley, 1952

37 292000 --- **Family Gnathanacanthidae** ---
37 292002 *Gnathanacanthus goetzeei* Bleeker, 1855

37 292000 --- **Family Pataecidae** ---
37 292004 *Aetapcus maculatus* (Gunther, 1861)
37 292005 *Neopataecus waterhousii* (Castelnau, 1872)
37 292001 *Pataecus fronto* Richardson, 1844

37 296000 --- **Family Platycephalidae** ---
37 296026 *Bembras japonicus* Cuvier, 1829
37 296023 *Cymbacephalus nematophthalmus* (Gunther, 1860)
37 296013 *Elates ransonnetii* (Steindachner, 1877)
37 296010 *Inegocia harrisii* (McCulloch, 1914)
37 296029 *Inegocia japonica* (Tilesius, 1812)
37 296005 *Leviprora inops* (Jenyns, 1840)
37 296035 *Neoplatycephalus aurimaculatus* (Knapp, 1987)
37 296002 *Neoplatycephalus conatus* Waite & McCulloch, 1915
37 296001 *Neoplatycephalus richardsoni* Castelnau, 1872
37 296025 *Onigocia macrolepis* (Bleeker, 1854)

37 287043 *Lioscorpius longiceps* Gunther, 1880
37 287056 *Maxillicosta lopholepis* Eschmeyer & Poss, 1976
37 287007 *Maxillicosta scabriceps* Whitley, 1935
37 287045 *Maxillicosta whitleyi* Eschmeyer & Poss, 1976
37 287029 *Minous coccineus* Alcock, 1890
37 287024 *Minous trachycephalus* (Bleeker, 1854)
37 287021 *Minous versicolor* Ogilby, 1910
37 287035 *Neocentropogon* sp [in Sainsbury et al, 1985]
37 287034 *Neocentropogon aeglefinis* (Weber, 1913)
37 287039 *Neomerinthe amplisquamiceps* (Fowler, 1938)
37 287057 *Neomerinthe procurva* Chen, 1981
37 287009 *Neosebastes entaxis* Jordan & Starks, 1904
37 287019 *Neosebastes incisipinnis* Ogilby, 1910
37 287002 *Neosebastes nigropunctatus* McCulloch, 1915
37 287003 *Neosebastes pandus* (Richardson, 1842)
37 287004 *Neosebastes pantica* McCulloch & Waite, 1918
37 287005 *Neosebastes scorpaenoides* Guichenot, 1867
37 287006 *Neosebastes thetidis* (Waite, 1899)
37 287058 *Notesthes robusta* (Gunther, 1860)
37 287059 *Ocosia* sp [info from Last]
37 287016 *Paracentropogon longispinus* (Cuvier, 1829)
37 287060 *Paracentropogon vespa* Ogilby, 1910
37 287061 *Parascorpaena aurita* Ruppell, 1838
37 287062 *Parascorpaena mossambica* (Peters, 1885)
37 287063 *Pteroidichthys godfreyi* (Whitley, 1954)
37 287064 *Pterois antennata* (Bloch, 1787)
37 287027 *Pterois mombasae* (Smith, 1957)
37 287012 *Pterois russelli* Bennett, 1831
37 287040 *Pterois volitans* (Linnaeus, 1758)
37 287065 *Rhinopias aphanes* Eschmeyer, 1973
37 287036 *Richardsonichthys leucogaster* (Richardson, 1848)
37 287092 *Scorpaena* sp [info from Last]
37 287066 *Scorpaena cardinalis* Richardson, 1842
37 287044 *Scorpaena cf oglinus* (Smith, 1946)
37 287067 *Scorpaena grandisquamis* Ogilby, 1910
37 287068 *Scorpaena izensis* Jordan & Starks, 1904
37 287069 *Scorpaena maculipinnis* (Smith, 1957)
37 287070 *Scorpaena moultoni* Whitley, 1961
37 287041 *Scorpaena neglecta* Temminck & Schlegel, 1844
37 287008 *Scorpaena papillosa* (Bloch & Schneider, 1801)
37 287071 *Scorpaena picta* (Kuhl & van Hasselt, 1829)
37 287072 *Scorpaena sumptuosa* Castelnau, 1875
37 287073 *Scorpaenodes albaiensis* (Evermann & Seale, 1907)
37 287074 *Scorpaenodes guamensis* Quoy & Gaimard, 1824
37 287075 *Scorpaenodes hirsutus* (Smith, 1957)
37 287076 *Scorpaenodes littoralis* (Tanaka, 1917)
37 287077 *Scorpaenodes parvipinnis* (Garrett, 1863)
37 287078 *Scorpaenodes scaber* (Ramsay & Ogilby, 1886)
37 287032 *Scorpaenodes smithi* Eschmeyer & Rama-Rao, 1972
37 287079 *Scorpaenodes steenei* Allen, 1977
37 287080 *Scorpaenodes varipinnis* Smith, 1957
37 287081 *Scorpaenopsis diabolus* Cuvier, 1829
37 287082 *Scorpaenopsis furneauxi* Whitley, 1959
37 287030 *Scorpaenopsis gibbosa* (Bloch & Schneider, 1801)
37 287083 *Scorpaenopsis macrochir* Ogilby, 1910
37 287037 *Scorpaenopsis neglecta* Heckel, 1837
37 287084 *Scorpaenopsis oxycephalus* (Bleeker, 1849)
37 287085 *Scorpaenopsis palmeri* Ogilby, 1910
37 287086 *Scorpaenopsis venosa* (Cuvier, 1829)
37 287087 *Sebastapistes cyanostigma* (Bleeker, 1856)
37 287088 *Sebastapistes strongia* (Cuvier, 1829)
37 287047 *Setarches guentheri* Johnson, 1862
37 287013 *Setarches longimanus* (Alcock, 1894)
37 287049 *Synanceia horrida* (Linnaeus, 1766)
37 287089 *Synanceia verrucosa* Bloch & Schneider, 1801
37 287090 *Taenianotus triacanthus* Lacepede, 1802
37 287091 *Tetraroge darnleyensis* Alleyne & Macleay, 1877
37 287046 *Trachyscorpia capensis* (Gilchrist & von Bonde, 1924)
37 287790 _ (Common name: Atlantic Ocean Perch)
37 287901 _ (Common name: Ocean Perch)

37 309000 **--- Family Pegasidae ---**
37 309001 *Eurypegasus draconicus* (Linnaeus, 1766)
37 309003 *Pegasus lancifer* Kaup, 1861
37 309002 *Pegasus volitans* Linnaeus, 1758

37 310000 **--- Family Centropomidae ---**
37 310007 *Hypopterus macropterus* (Gunther, 1859)
37 310006 *Lates calcarifer* (Bloch, 1790)
37 310790 *Lates niloticus*
37 310001 *Psammoperca waigiensis* (Cuvier, 1828)

37 310000 **--- Family Chandidae ---**
37 310009 *Ambassis agassizi* Steindachner, 1866
37 310008 *Ambassis agrammus* Gunther, 1867
37 310010 *Ambassis elongatus* (Castelnau, 1878)
37 310004 *Ambassis gymnocephalus* (Lacepede, 1802)
37 310011 *Ambassis interruptus* Bleeker, 1852
37 310012 *Ambassis jacksoniensis* Macleay, 1881
37 310013 *Ambassis macleayi* (Castelnau, 1878)
37 310018 *Ambassis marianus* Gunther, 1880
37 310014 *Ambassis miops* Gunther, 1872
37 310015 *Ambassis mulleri* Klunzinger, 1880
37 310005 *Ambassis nalua* (Hamilton, 1822)
37 310002 *Ambassis vachellii* Richardson, 1846
37 310016 *Denariusa bandata* Whitley, 1948
37 310017 *Parambassis gulliveri* (Castelnau, 1878)

37 311000 **--- Family Percichthyidae ---**
37 311167 *Acropoma japonica* Gunther, 1859
37 311053 *Apogonops anomalus* Ogilby, 1896
37 311168 *Bostockia porosa* Castelnau, 1873
37 311025 *Doederleinia berycoides* (Hilgendorf, 1879)
37 311169 *Lateolabrax japonicus* (Cuvier, 1828)
37 311903 *Maccullochella* spp
37 311087 *Maccullochella macquariensis* (Cuvier, 1829)
37 311076 *Maccullochella peelii* (Mitchell, 1838)
37 311075 *Macquaria ambigua* (Richardson, 1845)
37 311088 *Macquaria australasica* Cuvier, 1830
37 311033 *Macquaria colonorum* (Gunther, 1863)
37 311034 *Macquaria novemaculeata* (Steindachner, 1866)
37 311031 *Malakichthys* sp 1 [in Sainsbury et al, 1985]
37 311048 *Malakichthys elegans* Matsubara & Yamaguchi, 1943
37 311902 *Polyprion* spp
37 311170 *Polyprion americanus* (Bloch & Schneider, 1801)
37 311006 *Polyprion oxygeneois* (Forster, 1801)
37 311171 *Sphyraenops bairdianus* Gill, 1860
37 311172 *Synagrops* sp [in ISR Munro Collection]
37 311054 *Synagrops japonicus* (Doderlein, 1884)
37 311028 *Synagrops philippinensis* (Gunther, 1880)

37 311000 **--- Family Serranidae ---**
37 311131 *Acanthistius cinctus* (Gunther, 1859)
37 311090 *Acanthistius ocellatus* (Gunther, 1859)
37 311132 *Acanthistius pardalotus* Hutchins, 1981
37 311 133 *Acanthistius paxtoni* Hutchins & Kuiter, 1982
37 311035 *Acanthistius serratus* (Cuvier, 1828)
37 311134 *Aethaloperca rogaa* (Forsskal, 1775)
37 311050 *Anthias* sp [in Sainsbury et al, 1985]
37 311092 *Anthias caesiopercula* Whitley, 1951
37 311093 *Anthias georgei* Allen, 1976
37 311094 *Anthias truncatus* Katayama & Masuda, 1983
37 311085 *Anyperodon leucogrammicus* (Valenciennes, 1828)
37 311002 *Caesioperca lepidoptera* (Forster, 1801)
37 311003 *Caesioperca rasor* (Richardson, 1839)
37 311135 *Caesioscorpis theagenes* Whitley, 1945
37 311004 *Callanthias allporti* Gunther, 1876

37 296027 *Onigocia oligolepis* Regan, 1908
37 296022 *Onigocia spinosa* (Temminck & Schlegel, 1844)
37 296021 *Platycephalus arenarius* Ramsay & Ogilby, 1886
37 296003 *Platycephalus bassensis* Cuvier, 1829
37 296007 *Platycephalus caeruleopunctatus* McCulloch, 1922
37 296039 *Platycephalus chauliodous* Knapp, 1991
37 296020 *Platycephalus endrachtensis* Quoy & Gaimard, 1825
37 296004 *Platycephalus fuscus* Cuvier, 1829
37 296033 *Platycephalus indicus* (Linnaeus, 1758)
37 296006 *Platycephalus laevigatus* Cuvier, 1829
37 296036 *Platycephalus longispinis* Macleay, 1884
37 296038 *Platycephalus marmoratus* Stead, 1908
37 296037 *Platycephalus speculator* Klunzinger, 1872
37 296011 *Ratabulus diversidens* (McCulloch, 1914)
37 296024 *Rogadius asper* (Cuvier, 1829)
37 296008 *Rogadius patriciae* Knapp, 1987
37 296040 *Rogadius serratus* (Cuvier, 1829)
37 296030 *Sorsogona tuberculata* (Cuvier, 1829)
37 296018 *Suggrundus* sp 1 [in Sainsbury et al, 1985]
37 296031 *Suggrundus bosschei* (Bleeker, 1860)
37 296041 *Suggrundus jugosus* (McCulloch, 1914)
37 296012 *Suggrundus macracanthus* (Bleeker, 1869)
37 296019 *Suggrundus rodericensis* (Cuvier, 1829)
37 296042 *Suggrundus staigeri* (Castelnau, 1875)
37 296043 *Thysanophrys arenicola* Schultz, 1966
37 296044 *Thysanophrys celebicus* (Bleeker, 1854)
37 296034 *Thysanophrys chiltonae* Schultz, 1966
37 296045 *Thysanophrys cirronasus* (Richardson, 1848)
37 296046 *Thysanophrys otaitensis* (Parkinson, 1829)
37 296902 _ (Common name: Flathead)
37 296901 _ (Common name: Sand Flathead (Mixed))

37 297000 --- **Family Hoplichthyidae** ---
37 297003 *Hoplichthys cf acanthopleurus* Regan, 1908
37 297002 *Hoplichthys citrinus* Gilbert, 1905
37 297005 *Hoplichthys filamentosus* Matsubara & Ochiai, 1950
37 297001 *Hoplichthys haswelli* McCulloch, 1907
37 297006 *Hoplichthys ogilbyi* McCulloch, 1914

37 298000 --- **Family Congiopodidae** ---
37 298001 *Congiopodus leucopaecilus* (Richardson, 1846)
37 298002 *Perryena leucometopon* (Waite, 1922)

37 300000 --- **Family Cottidae** ---
37 300002 *Antipodocottus elegans* Fricke & Brunken, 1984
37 300001 *Antipodocottus galatheae* Bolin, 1952

37 305000 --- **Family Psychrolutidae** ---
37 305003 *Ebinania* sp [info from Last]
37 305004 *Psychrolutes* sp [info from Last]
37 305001 *Psychrolutes marcidus* (McCulloch, 1926)
37 305002 *Psychrolutes occidentalis* Fricke, 1990

37 307000 --- **Family Cyclopteridae** ---
37 307001 *Paraliparis micrurus* (Barnard, 1927)

37 308000 --- **Family Dactylopteridae** ---
37 308003 *Dactyloptena macracanthus* (Bleeker, 1854)
37 308004 *Dactyloptena orientalis* (Cuvier, 1829)
37 308001 *Dactyloptena papilio* Ogilby, 1910
37 308002 *Dactyloptena peterseni* (Nystrom, 1887)

37 311097 *Hypoplectrodes jamesoni* Ogilby, 1908
37 311036 *Hypoplectrodes maccullochi* Whitley, 1929
37 311037 *Hypoplectrodes nigrorubrum* (Cuvier, 1828)
37 311099 *Hypoplectrodes wilsoni* (Allen & Moyer, 1980)
37 311102 *Lepidoperca brochata* Katayama & Fujii, 1982
37 311175 *Lepidoperca filamenta* Roberts, 1987
37 311103 *Lepidoperca magna* Katayama & Fujii, 1982
37 311052 *Lepidoperca occidentalis* Whitley, 1951
37 311001 *Lepidoperca pulchella* Waite, 1899
37 311038 *Lepidoperca tasmanica* Norman, 1937
37 311157 *Liopropoma mitratum* Lubbock & Randall, 1978
37 311158 *Liopropoma multilineatum* Randall & Taylor, 1988
37 311159 *Liopropoma susumi* (Jordan & Seale, 1906)
37 311104 *Luzonichthys waitei* (Fowler, 1931)
37 311160 *Ostracoberyx cf trifornis* Matsubara, 1939
37 311161 *Ostracoberyx paxtoni* Quero & Ozouf-Costaz, 1991
37 311005 *Othos dentex* (Cuvier, 1828)
37 311105 *Plectranthias alleni* Randall, 1980
37 311027 *Plectranthias japonicus* (Steindachner, 1884)
37 311106 *Plectranthias longimanus* Weber, 1913
37 311107 *Plectranthias maculicauda* (Regan, 1914)
37 311108 *Plectranthias megalophthalmus* Fourmanoir *et al.*, 1979
37 311109 *Plectranthias nanus* Randall, 1980
37 311110 *Plectranthias wheeleri* Randall, 1980
37 311111 *Plectranthias winniensis* (Tyler, 1966)
37 311081 *Plectropomus areolatus* (Ruppell, 1830)
37 311079 *Plectropomus laevis* (Lacepede, 1801)
37 311078 *Plectropomus leopardus* (Lacepede, 1801)
37 311012 *Plectropomus maculatus* (Bloch, 1790)
37 311162 *Plectropomus oligacanthus* (Bleeker, 1854)
37 311112 *Pseudanthias bicolor* (Randall, 1979)
37 311056 *Pseudanthias cf rubrizonatus* (Randall, 1983)
37 311113 *Pseudanthias cooperi* (Regan, 1902)
37 311114 *Pseudanthias dispar* (Herre, 1955)
37 311115 *Pseudanthias engelhardi* (Allen & Starck, 1982)
37 311116 *Pseudanthias fasciata* (Kamohara, 1954)
37 311117 *Pseudanthias huchtii* (Bleeker, 1857)
37 311118 *Pseudanthias hypselosoma* Bleeker, 1878
37 311119 *Pseudanthias lori* (Lubbock & Randall, 1976)
37 311120 *Pseudanthias luzonensis* (Katayama & Masuda, 1983)
37 311121 *Pseudanthias pascalus* (Jordan & Tanaka, 1927)
37 311122 *Pseudanthias pictilis* (Randall & Allen, 1978)
37 311123 *Pseudanthias pleurotaenia* (Bleeker, 1857)
37 311124 *Pseudanthias rubrizonatus* (Randall, 1983)
37 311176 *Pseudanthias sheni* Randall & Allen, 1989
37 311125 *Pseudanthias smithvanizi* (Randall & Lubbock, 1981)
37 311126 *Pseudanthias squamipinnis* (Peters, 1855)
37 311127 *Pseudanthias tuka* (Herre & Montalban, 1927)
37 311128 *Pseudanthias ventralis* (Randall, 1979)
37 3111 63 *Rainfordia opercularis* McCulloch, 1923
37 3111 74 *Saloptia powelli* Smith, 1963
37 311129 *Sayonara satsumae* Jordan & Seale, 1906
37 311049 *Selenanthias analis* Tanaka, 1918
37 311130 *Serranocirrhitus latus* Watanabe, 1949
37 311164 *Trachypoma macracanthus* Gunther, 1859
37 311165 *Triso dermopterus* (Temminck & Schlegel, 1842)
37 311026 *Variola albimarginata* Baissac, 1953
37 311166 *Variola louti* (Forsskal, 1775)
37 311909 _ (Common name: Cod)
37 3 11 905 _ (Common name: Coral Trout)
37 311901 _ (Common name: Rock Cod)
37 311907 _ (Common name: Subfamily Anthiinae)
37 3 11 908 _ (Common name: Subfamily Epinephelinae)
37 311906 _ (Common name: Subfamily Serraninae)

37 312000 --- **Family Grammistidae** ---
37 312003 *Aulacocephalus temmincki* Bleeker, 1857
37 312005 *Belonoperca chabanaudi* Fowler & Bean, 1930
37 312002 *Diploprion bifasciatum* Kuhl & van Hasselt, 1828

37 311055 *Callanthias australis* (Ogilby, 1899)
37 311095 *Caprodon longimanus* (Gunther, 1859)
37 311096 *Caprodon schlegelii* (Gunther, 1859)
37 311030 *Centrogenys vaigiensis* (Quoy & Gaimard, 1824)
37 311904 *Cephalopholis* spp
37 311082 *Cephalopholis argus* Bloch & Schneider, 1801
37 311008 *Cephalopholis boenack* (Bloch, 1790)
37 311136 *Cephalopholis cyanostigma* (Valenciennes, 1828)
37 311137 *Cephalopholis formosa* (Shaw & Nodder, 1812)
37 311138 *Cephalopholis leopardus* (Lacepede, 1801)
37 311139 *Cephalopholis microprion* (Bleeker, 1852)
37 311083 *Cephalopholis miniata* (Forsskal, 1775)
37 311140 *Cephalopholis sexmaculata* (Ruppell, 1830)
37 311045 *Cephalopholis sonnerati* (Valenciennes, 1828)
37 311141 *Cephalopholis spiloparaea* (Valenciennes, 1828)
37 311142 *Cephalopholis urodeta* (Forster, 1801)
37 311023 *Chelidoperca* sp 1 [in Sainsbury et al, 1985]
37 311039 *Chelidoperca* sp 2
37 311144 *Chelidoperca* sp 3 [in unpubl. NW Shelf Guide, CSIRO]
37 311143 *Chelidoperca margaritifera* Weber, 1913
37 311044 *Chromileptes altivelis* (Valenciennes, 1828)
37 311100 *Epinephelides armatus* (Castelnau, 1875)
37 311015 *Epinephelus amblycephalus* (Bleeker, 1857)
37 311009 *Epinephelus areolatus* (Forsskal, 1775)
37 311062 *Epinephelus bilobatus*
37 311041 *Epinephelus bleekeri* (Vaillant, 1877)
37 311070 *Epinephelus caeruleopunctatus* (Bloch, 1790)
37 311059 *Epinephelus chlorostigma* (Valenciennes, 1828)
37 311007 *Epinephelus coioides* (Hamilton, 1822)
37 311066 *Epinephelus corallicola* (Kuhl & van Hasselt, 1828)
37 311145 *Epinephelus cyanopodus* (Richardson, 1846)
37 311077 *Epinephelus daemelii* (Gunther, 1876)
37 311146 *Epinephelus darwinensis* Randall & Heemstra, 1991
37 311046 *Epinephelus epistictus* (Temminck & Schlegel, 1843)
37 311147 *Epinephelus ergastularius* Whitley, 1930
37 311014 *Epinephelus fasciatus* (Forsskal, 1775)
37 311021 *Epinephelus fuscoguttatus* (Forsskal, 1775)
37 311019 *Epinephelus heniochus* Fowler, 1904
37 311064 *Epinephelus hexagonatus* (Forster, 1790)
37 311148 *Epinephelus howlandi* (Gunther, 1873)
37 311061 *Epinephelus lanceolatus* (Bloch, 1790)
37 311043 *Epinephelus latifasciatus* (Teminck & Schlegel, 1843)
37 311149 *Epinephelus macrospilus* (Bleeker, 1855)
37 311011 *Epinephelus maculatus* (Bloch, 1790)
37 311173 *Epinephelus magniscuttis* Postel *et al.*, 1963
37 311150 *Epinephelus malabaricus* (Bloch & Schneider, 1801)
37 311065 *Epinephelus melanostigma* Schultz, 1953
37 311063 *Epinephelus merra* Bloch, 1793
37 311151 *Epinephelus morrhua* (Valenciennes, 1833)
37 311010 *Epinephelus multinotatus* (Peters, 1877)
37 311152 *Epinephelus octofasciatus* Griffen, 1926
37 311069 *Epinephelus ongus* (Bloch, 1790)
37 311153 *Epinephelus perplexus* Randall, Hoese & Last, 1991
37 311047 *Epinephelus polyphekadion* (Bleeker, 1849)
37 311154 *Epinephelus polystigma* (Bleeker, 1853)
37 311040 *Epinephelus quoyanus* (Valenciennes, 1830)
37 311042 *Epinephelus radiatus* (Day, 1868)
37 311022 *Epinephelus rivulatus* (Valenciennes, 1830)
37 311060 *Epinephelus septemfasciata* (Thunberg, 1793)
37 311017 *Epinephelus sexfasciatus* (Kuhl & van Hasselt, 1828)
37 311155 *Epinephelus spilotoceps* Schultz, 1953
37 311018 *Epinephelus stictus* Randall & Allen, 1987
37 311057 *Epinephelus tauvina* (Forsskal, 1775)
37 311073 *Epinephelus timorensis* Randall & Allen, 1987
37 311074 *Epinephelus trophis* Randall & Allen, 1987
37 311068 *Epinephelus tukula* Morgans, 1959
37 311086 *Epinephelus undulatostriatus* (Peters, 1867)
37 311156 *Gracila albomarginata* (Fowler & Bean,1930)
37 311091 *Hypoplectrodes annulata* (Gunther, 1859)
37 311101 *Hypoplectrodes cardinalis* Allen & Randall, 1990

37 320600 *Glaucosoma scapulare* Macleay, 1881

37 321000 --- **Family Teraponidae** ---
37 321007 *Amniataba caudavittata* (Richardson, 1845)
37 321009 *Amniataba percoides* (Gunther, 1864)
37 321008 *Bidyanus bidyanus* (Mitchell, 1838)
37 321010 *Bidyanus welchi* (McCulloch & Waite, 1917)
37 321011 *Hannia greenwayi* Vari, 1978
37 321012 *Hephaestus carbo* (Ogilby & McCulloch, 1916)
37 321013 *Hephaestus epirrhinos* Vari & Hutchins, 1978
37 321014 *Hephaestus fuliginosus* (Macleay, 1883)
37 321015 *Hephaestus jenkinsi* (Whitley, 1945)
37 321016 *Leiopotherapon aheneus* (Mees, 1963)
37 321017 *Leiopotherapon macrolepis* Vari, 1978
37 321018 *Leiopotherapon unicolor* (Gunther, 1859)
37 321019 *Mesopristes argenteus* (Cuver, 1829)
37 321020 *Pelates octolineatus* (Jenyns, 1840)
37 321001 *Pelates quadrilineatus* (Bloch, 1790)
37 321005 *Pelates sexlineatus* Quoy & Gaimard, 1824
37 321021 *Pelsartia humeralis* (Ogilby, 1899)
37 321023 *Pingalla gilberti* Whitley, 1955
37 321022 *Pingalla lorentzi* (Weber, 1910)
37 321024 *Pingalla midgleyi* Allen & Merrick, 1984
37 321025 *Scortum barcoo* (McCulloch & Waite, 1917)
37 321026 *Scortum hillii* (Castelnau, 1878)
37 321032 *Scortum neili* Allen, Larson & Midgley, 1993
37 321027 *Scortum parviceps* (Macleay, 1883)
37 321028 *Syncomistes butleri* Vari, 1978
37 321029 *Syncomistes kimberleyensis* Vari, 1978
37 321030 *Syncomistes rastellus* Vari & Hutchins, 1978
37 321031 *Syncomistes trigonicus* Vari, 1978
37 321002 *Terapon jarbua* (Forsskal, 1775)
37 321006 *Terapon puta* Cuvier, 1829
37 321003 *Terapon theraps* Cuvier, 1829

37 321033 *Variichthys lacustris* (Mees & Kailola, 1977)

37 322000 --- **Family Banjosidae** ---
37 322001 *Banjos banjos* (Richardson, 1846)

37 323000 --- **Family Kuhliidae** ---
37 323002 *Edelia vittata* Castelnau, 1873
37 323003 *Kuhlia munda* (De Vis, 1884)
37 323004 *Kuhlia rupestris* (Lacepede, 1802)
37 323005 *Kuhlia taeniura* (Cuvier, 1829)
37 323006 *Nannatherina balstoni* Regan, 1906
37 323001 *Nannoperca australis* Gunther, 1861
37 323007 *Nannoperca obscura* (Klunzinger, 1872)
37 323008 *Nannoperca oxleyana* Whitley, 1940
37 323009 *Nannoperca variegata* Kuiter & Allen, 1985

37 326000 --- **Family Priacanthidae** ---
37 326002 *Cookeolus japonicus* (Cuvier, 1829)
37 326008 *Heteropriacanthus cruentatus* (Lacepede, 1801)
37 326901 *Priacanthus* spp
37 326012 *Priacanthus blochii* Bleeker, 1853
37 326011 *Priacanthus fitchi* Starnes, 1988
37 326005 *Priacanthus hamrur* (Forsskal, 1775)
37 326001 *Priacanthus macracanthus* Cuvier, 1829
37 326009 *Priacanthus sagittarius* Starnes, 1988
37 326003 *Priacanthus tayenus* Richardson, 1846
37 326006 *Pristigenys niphonia* (Cuvier, 1829)

37 327000 --- **Family Apogonidae** ---
37 327025 *Apogon* sp 1 [in Sainsbury et al, 1985]
37 327029 *Apogon* sp 2 [in Sainsbury et al, 1985]

37 312006 *Grammistes sexlineatus* (Thunberg, 1792)
37 312001 *Grammistidae* sp [in Sainsbury et al, 1985]
37 312007 *Grammistops ocellatus* Schultz, 1953

37 313000 --- **Family Pseudochromidae** ---
37 313013 *Cypho purpurascens* (De Vis, 1884)
37 313026 *Labracinus cyclophthalmus* (Muller & Troschal, 1849)
37 313003 *Labracinus lineatus* (Castelnau, 1875)
37 313009 *Ogilbyina novaehollandiae* (Steindachner, 1880)
37 313014 *Ogilbyina queenslandiae* (Saville-Kent, 1893)
37 313017 *Ogilbyina velifera* (Lubbock, 1980)
37 313004 *Pseudochromis bitaeniatus* (Fowler, 1931)
37 313016 *Pseudochromis cyanotaenia* Bleeker, 1857
37 313005 *Pseudochromis flammicauda* Lubbock & Goldman, 1976
37 313006 *Pseudochromis fuscus* Muller & Troschel, 1849
37 313007 *Pseudochromis jamesi* Schultz, 1943
37 313008 *Pseudochromis marshallensis* Schultz, 1953
37 313010 *Pseudochromis paccagnellae* Axelrod, 1973
37 313011 *Pseudochromis paranox* Lubbock & Goldman, 1976
37 313012 *Pseudochromis punctatus* (Richardson, 1846)
37 313001 *Pseudochromis quinquedentatus* McCulloch, 1926
37 313015 *Pseudochromis splendens* (Fowler, 1931)
37 313018 *Pseudochromis wilsoni* (Whitley, 1929)
37 313019 *Pseudoplesiops annae* (Weber, 1913)
37 313020 *Pseudoplesiops bowensis* Allen, 1987
37 313021 *Pseudoplesiops knighti* Allen, 1987
37 313022 *Pseudoplesiops multisquamatus* Allen, 1987
37 313023 *Pseudoplesiops revellei* Schultz, 1953
37 313024 *Pseudoplesiops rosae* Schultz, 1943
37 313025 *Pseudoplesiops typus* Bleeker, 1858

37 314000 --- **Family Pseudogrammatidae** ---
37 314001 *Aporops bilinearis* Schultz, 1943
37 314002 *Pseudogramma polyacantha* (Bleeker, 1856)

37 316000 --- **Family Plesiopidae** ---
37 316003 *Assessor flavissimus* Allen & Kuiter, 1976
37 316004 *Assessor macneilli* Whitley, 1935
37 316005 *Calloplesiops altivelis* (Steindachner, 1903)
37 316006 *Fraudella carassiops* Whitley, 1935
37 316007 *Paraplesiops alisoniae* Hoese & Kuiter, 1984
37 316008 *Paraplesiops bleekeri* (Gunther, 1861)
37 316009 *Paraplesiops meleagris* (Peters, 1869)
37 316010 *Paraplesiops poweri* Ogilby, 1908
37 316011 *Paraplesiops sinclairi* Hutchins, 1987
37 316012 *Plesiops cephalotaenia* Inger, 1955
37 316013 *Plesiops coeruleolineatus* Ruppell, 1835
37 316014 *Plesiops corallicola* Bleeker, 1853
37 316015 *Steeneichthys plesiopsus* Allen & Randall, 1985
37 316016 *Trachinops brauni* Allen, 1977
37 316001 *Trachinops caudimaculatus* McCoy, 1890
37 316017 *Trachinops noarlungae* Glover, 1974
37 316018 *Trachinops taeniatus* Gunther, 1861
37 316900 _ (Common name: Plesiopidae (Trachinops only))

37 319000 --- **Family Acanthoclinidae** ---
37 319001 *Beliops xanthokrossos* Hardy, 1985
37 319002 *Belonepterygion fasciolatum* (Ogilby, 1889)

37 320000 --- **Family Glaucosomatidae** ---
37 320901 *Glaucosoma* spp
37 320001 *Glaucosoma buergeri* Richardson, 1845
37 320004 *Glaucosoma hebraicum* Richardson, 1845
37 320002 *Glaucosoma magnificum* (Ogilby, 1915)
37 320003 *Glaucosoma scapulare* Macleay, 1881

37 327010 *Epigonus denticulatus* Dieuzeide, 1950
37 327001 *Epigonus lenimen* (Whitley, 1935)
37 327093 *Epigonus macrops* (Brauer, 1906)
37 327018 *Epigonus robustus* (Barnard, 1927)
37 327035 *Epigonus telescopus* Risso, 1810
37 327094 *Foa brachygramma* Jenkins, 1903
37 327095 *Foa fo* Jordan & Seale, 1906
37 327096 *Foa vaiulae* Jordon & Seale, 1906
37 327097 *Fowleria abocellata* Goren & Karplus, 1980
37 327098 *Fowleria aurita* (Valenciennes, 1831)
37 327099 *Fowleria marmorata* (Alleyne & Macleay, 1877)
37 327100 *Fowleria punctulata* (Ruppell,1838)
37 327101 *Fowleria variegata* (Valenciennes, 1832)
37 327102 *Glossamia aprion* (Richardson, 1842)
37 327103 *Gymnopogon annona* (Whitley, 1936)
37 327104 *Gymnopogon urospilotus* Lachner, 1953
37 327037 *Howella brodiei* Ogilby, 1899
37 327036 *Howella sherboni* (Norman, 1930)
37 327105 *Neamia octospina* Smith & Radcliffe, 1912
37 327106 *Pseudamia amblyuroptera* (Bleeker, 1856)
37 327107 *Pseudamia gelatinosa* Smith, 1955
37 327108 *Pseudamia hayashii* Randall, Lachner & Fraser, 1985
37 327109 *Pseudamia nigra* Allen, 1992
37 327110 *Pseudamiops gracilicauda* (Lachner, 1953)
37 327111 *Pterapogon mirifica* (Mees, 1966)
37 327112 *Rhabdamia cypselurus* Weber, 1909
37 327113 *Rhabdamia eremia* Allen, 1987
37 327022 *Rhabdamia gracilis* (Bleeker, 1856)
37 327114 *Rosenblattia robusta* Mead & De Falla, 1965
37 327024 *Siphamia argyrogaster* (Weber, 1909)
37 327032 *Siphamia cephalotes* (Castelnau, 1875)
37 327115 *Siphamia cuniceps* Whitley, 1941
37 327023 *Siphamia fistulosa* (Weber, 1909)
37 327116 *Siphamia guttulatus* (Alleyne & Macleay, 1877)
37 327117 *Siphamia majimai* Matsubara & Iwai, 1958
37 327017 *Siphamia roseigaster* (Ogilby, 1886)
37 327118 *Siphamia tubulata* (Weber, 1909)
37 327021 *Siphamia versicolor* (Smith & Radcliffe, 1911)
37 327119 *Sphaeramia nematoptera* (Bleeker, 1856)
37 327120 *Vincentia badia* Allen, 1987
37 327121 *Vincentia chrysura* (Ogilby, 1889)
37 327033 *Vincentia conspersa* (Klunzinger, 1872)
37 327122 *Vincentia macrocauda* Allen, 1987
37 327123 *Vincentia punctata* (Klunzinger, 1879)

37 327000 --- **Family Dinolestidae** ---
37 327002 *Dinolestes lewini* (Griffith, 1834)

37 328000 --- **Family Acropomatidae** ---
37 328001 *Acropoma japonica* Gunther, 1859

37 329000 --- **Family Percidae** ---
37 329001 *Perca fluviatilis* Linnaeus, 1758

37 330000 --- **Family Sillaginidae** ---
37 330001 *Sillaginodes punctata* (Cuvier, 1829)
37 330003 *Sillago analis* Whitley, 1943
37 330002 *Sillago bassensis* Cuvier, 1829
37 330004 *Sillago burrus* Richardson, 1842
37 330010 *Sillago ciliata* Cuvier, 1829
37 330014 *Sillago flindersi* McKay, 1985
37 330009 *Sillago ingenuua* McKay, 1985
37 330007 *Sillago lutea* McKay, 1985
37 330015 *Sillago maculata* Quoy & Gaimard, 1824
37 330005 *Sillago robusta* Stead, 1908
37 330012 *Sillago schomburgkii* Peters, 1865
37 330006 *Sillago sihama* (Forsskal, 1775)
37 330013 *Sillago vittata* McKay, 1985

37 327014 *Apogon albimaculosus* Kailola, 1976
37 327042 *Apogon angustatus* (Smith & Radcliffe, 1911)
37 327043 *Apogon apogonoides* (Bleeker, 1856)
37 327044 *Apogon atrogaster* (Smith & Radcliffe, 1911)
37 327020 *Apogon aureus* (Lacepede, 1802)
37 327045 *Apogon bandanensis* Bleeker, 1854
37 327005 *Apogon brevicaudata* Weber, 1909
37 327125 *Apogon capricornis* Allen & Randall, 1993
37 327027 *Apogon carinatus* Cuvier, 1828
37 327046 *Apogon ceramensis* Bleeker, 1852
37 327047 *Apogon chrysotaenia* Bleeker, 1851
37 327048 *Apogon coccineus* Ruppell, 1838
37 327049 *Apogon compressus* (Smith & Radcliffe,1911)
37 327050 *Apogon cookii* Macleay, 1881
37 327051 *Apogon crassiceps* Garman, 1903
37 327052 *Apogon cyanosoma* (Bleeker, 1853)
37 327053 *Apogon doederleini* Jordan & Snyder, 1901
37 327013 *Apogon ellioti* Day, 1875
37 327054 *Apogon endekataenia* (Bleeker, 1852)
37 327055 *Apogon evermanni* Jordan & Snyder, 1904
37 327056 *Apogon exostigma* (Jordan & Starks, 1906)
37 327008 *Apogon fasciatus* (White, 1790)
37 327126 *Apogon flavus* Allen & Randall, 1993
37 327057 *Apogon fraenatus* Valenciennes, 1832
37 327058 *Apogon fragilis* Smith, 1961
37 327059 *Apogon fuscus* Quoy & Gaimard, 1824
37 327060 *Apogon fusovatus* Allen, 1985
37 327061 *Apogon guamensis* Valenciennes, 1832
37 327028 *Apogon hartzfeldii* Bleeker, 1852
37 327062 *Apogon hoeveni* Bleeker, 1854
37 327039 *Apogon hyalosoma* Bleeker, 1852
37 327063 *Apogon kallopterus* Bleeker, 1856
37 327064 *Apogon lateralis* Valenciennes, 1832
37 327065 *Apogon leptacanthus* Bleeker, 1856
37 327066 *Apogon limenus* Randall & Hoese, 1988
37 327016 *Apogon melanopus* Weber, 1911
37 327067 *Apogon moluccensis* Valenciennes, 1832
37 327009 *Apogon nigripinnis* Cuvier, 1828
37 327068 *Apogon nigrofasciatus* Lachner, 1953
37 327124 *Apogon norfolcensis* Ogilby, 1888
37 327069 *Apogon notatus* (Houttuyn, 1782)
37 327019 *Apogon novemfasciatus* Cuvier, 1828
37 327070 *Apogon opercularis* Macleay, 1878
37 327071 *Apogon pallidofasciatus* Allen, 1987
37 327026 *Apogon poecilopterus* Cuvier, 1828
37 327072 *Apogon properupta* (Whitley, 1964)
37 327040 *Apogon ruppellii* Gunther, 1859
37 327073 *Apogon sangiensis* Bleeker, 1857
37 327004 *Apogon semilineatus* Schlegel, 1843
37 327074 *Apogon semiornatus* Peters, 1876
37 327012 *Apogon septemstriatus* Gunther, 1880
37 327075 *Apogon taeniophorus* Regan, 1908
37 327076 *Apogon talboti* Smith, 1961
37 327077 *Apogon timorensis* Bleeker, 1854
37 327078 *Apogon trimaculatus* Cuvier, 1828
37 327079 *Apogon victoriae* Gunther, 1859
37 327127 *Apogon virgulatus* Allen & Randall, 1993
37 327080 *Apogonichthys ocellatus* Weber, 1913
37 327081 *Apogonichthys perdix* Bleeker, 1854
37 327082 *Archamia fucata* (Cantor, 1850)
37 327083 *Archamia leai* Waite, 1916
37 327084 *Archamia melasma* Lachner & Taylor, 1960
37 327085 *Archamia zosterophora* (Bleeker, 1856)
37 327086 *Cheilodipterus artus* Smith, 1961
37 327087 *Cheilodipterus lachneri* Klausewitz, 1959
37 327088 *Cheilodipterus lineatus* Lacepede, 1801
37 327089 *Cheilodipterus macrodon* (Lacepede, 1802)
37 327090 *Cheilodipterus quinquelineatus* Cuvier, 1828
37 327091 *Cheilodipterus singapurensis* Bleeker, 1859
37 327092 *Cheilodipterus zonatus* Smith & Radcliffe, 1912

37 337055 *Decapterus macarellus* (Cuvier, 1833)
37 337017 *Decapterus macrosoma* Bleeker, 1851
37 337071 *Decapterus muroadsi* (Temminck & Schlegel, 1844)
37 337023 *Decapterus russellii* (Ruppell, 1830)
37 337060 *Decapterus tabl* Berry, 1968
37 337029 *Elegatis bipinnulata* (Quoy & Gaimard, 1825)
37 337012 *Gnathanodon speciosus* (Forsskal, 1775)
37 337028 *Megalaspis cordyla* (Linnaeus, 1758)
37 337040 *Naucrates ductor* (Linnaeus, 1758)
37 337047 *Pantolabus radiatus* (Macleay, 1881)
37 337072 *Parastromateus niger* (Bloch, 1795)
37 337062 *Pseudocaranx dentex* (Bloch & Schneider, 1801)
37 337063 *Pseudocaranx wrighti* (Whitley, 1931)
37 337905 *Scomberoides* spp
37 337032 *Scomberoides commersonnianus* Lacepede, 1801
37 337046 *Scomberoides lysan* (Forsskal, 1775)
37 337045 *Scomberoides tala* (Cuvier, 1832)
37 337044 *Scomberoides tol* (Cuvier, 1832)
37 337008 *Selar boops* (Cuvier, 1833)
37 337009 *Selar crumenophthalmus* (Bloch, 1793)
37 337015 *Selaroides leptolepis* (Kuhl & van Hasselt, 1833)
37 337025 *Seriola dumerili* (Risso, 1810)
37 337007 *Seriola hippos* Gunther, 1876
37 337006 *Seriola lalandi* Valenciennes, 1833
37 337052 *Seriola rivoliana* Valenciennes, 1833
37 337014 *Seriolina nigrofasciata* (Ruppell, 1829)
37 337065 *Tachinotus cf mookalee* Cuvier, 1832
37 337904 *Trachinotus* spp
37 337073 *Trachinotus anak* Ogilby, 1909
37 337074 *Trachinotus baillonii* (Lacepede, 1801)
37 337075 *Trachinotus blochii* (Lacepede, 1801)
37 337066 *Trachinotus botla* (Shaw, 1803)
37 337076 *Trachinotus coppingeri* (Gunther, 1884)
37 337907 *Trachurus* spp larvae
37 337002 *Trachurus declivis* (Jenyns, 1841)
37 337077 *Trachurus murphyi* Nichols, 1920
37 337003 *Trachurus novaezelandiae* Richardson, 1843
37 337041 *Ulua aurochs* (Ogilby, 1915)
37 337048 *Ulua mentalis* (Cuvier, 1833)
37 337059 *Uraspis secunda* Poey, 1860
37 337020 *Uraspis uraspis* (Gunther, 1860)
37 337902 _ (Common name: Mixed Scad)
37 337906 _ (Common name: Tropical Trevallies)
37 337908 _ (Common name: White/Silver Trevally)

37 338000 --- **Family Coryphaenidae** ---
37 338002 *Coryphaena equiselis* Linnaeus, 1758
37 338001 *Coryphaena hippurus* Linnaeus, 1758

37 339000 --- **Family Formionidae** ---
37 339001 *Parastromateus niger* (Bloch, 1795)

37 340000 --- **Family Menidae** ---
37 340001 *Mene maculata* (Bloch & Schneider, 1801)

37 341000 --- **Family Leiognathidae** ---
37 341007 *Gazza minuta* (Bloch, 1797)
37 341003 *Leiognathus* sp [in Sainsbury et al, 1985]
37 341018 *Leiognathus aureus* Abe & Haneda, 1972
37 341002 *Leiognathus bindus* (Valenciennes, 1835)
37 341013 *Leiognathus blochii* (Valenciennes, 1835)
37 341016 *Leiognathus decorus* (de Vis, 1884)
37 341011 *Leiognathus elongatus* (Gunther, 1874)
37 341014 *Leiognathus equulus* (Forsskal, 1775)
37 341009 *Leiognathus fasciatus* (Lacepede, 1803)
37 341005 *Leiognathus leuciscus* (Gunther, 1860)

37 330901 _ (Common name: School Whiting)

37 331000 --- **Family Malacanthidae** ---
37 331002 *Branchiostegus australiensis* Dooley & Kailola, 1988
37 331003 *Branchiostegus hedlandensis* Dooley & Kailola, 1988
37 331004 *Branchiostegus paxtoni* Dooley & Kailola, 1988
37 331001 *Branchiostegus sawakinensis* Amirthalingam, 1969
37 331005 *Branchiostegus serratus* Dooley & Paxton, 1975
37 331006 *Branchiostegus wardi* Whitley, 1932
37 331007 *Hoplolatilus cuniculus* Randall & Dooley, 1974
37 331008 *Hoplolatilus starcki* Randall & Dooley, 1974
37 331009 *Malacanthus brevirostris* Guichenot, 1848
37 331010 *Malacanthus latovittatus* (Lacepede, 1801)

37 332000 --- **Family Labracoglossidae** ---
37 332001 *Bathystethus cultratus* (Forster, 1801)
37 332002 *Labracoglossa nitida* McCulloch & Waite, 1916

37 333000 --- **Family Lactariidae** ---
37 333001 *Lactarius lactarius* (Bloch & Schneider, 1801)

37 334000 --- **Family Pomatomidae** ---
37 334002 *Pomatomus saltatrix* (Linnaeus, 1766)

37 335000 --- **Family Rachycentridae** ---
37 335001 *Rachycentron canadum* (Linnaeus, 1766)
37 336000 --- **Family Echeneidae** ---
37 336001 *Echeneis naucrates* Linnaeus, 1758
37 336003 *Phtheirichthys lineatus* (Menzies, 1791)
37 336004 *Remora australis* (Bennett, 1840)
37 336005 *Remora brachyptera* (Lowe, 1839)
37 336006 *Remora osteochir* (Cuvier, 1829)
37 336002 *Remora remora* (Linnaeus, 1758)
37 336007 *Remorina albscens* (Teminck & Schlegel, 1847)

37 337000 --- **Family Carangidae** ---
37 337018 *Alectis ciliaris* (Bloch, 1787)
37 337038 *Alectis indicus* (Ruppell, 1830)
37 337010 *Alepes* sp [see Paxton et al, 1989]
37 337067 *Alepes vari* (Cuvier, 1833)
37 337024 *Atule mate* (Cuvier, 1833)
37 337021 *Carangoides caeruleopinnatus* (Ruppell, 1830)
37 337011 *Carangoides chrysophrys* (Cuvier, 1833)
37 337013 *Carangoides equula* (Schlegel, 1844)
37 337068 *Carangoides ferdau* (Forsskal, 1775)
37 337037 *Carangoides fulvoguttatus* (Forsskal, 1775)
37 337022 *Carangoides gymnostethus* (Cuvier, 1833)
37 337042 *Carangoides hedlandensis* (Whitley, 1934)
37 337031 *Carangoides humerosus* (McCulloch, 1915)
37 337005 *Carangoides malabaricus* (Bloch & Schneider, 1801)
37 337069 *Carangoides oblongus* (Cuvier, 1833)
37 337057 *Carangoides orthogrammus* (Jordon & Gilbert, 1882)
37 337070 *Carangoides plagiotaenia* Bleeker, 1857
37 337043 *Carangoides talamparoides* Bleeker, 1952
37 337016 *Caranx bucculentus* Alleyne & Macleay, 1877
37 337027 *Caranx ignobilis* (Forsskal, 1775)
37 337053 *Caranx lugubris* Poey, 1860
37 337050 *Caranx melampygus* Cuvier, 1833
37 337064 *Caranx papuensis* Alleyne & Macleay, 1877
37 337039 *Caranx sexfasciatus* Quoy & Gaimard, 1825
37 337049 *Caranx tille* Cuvier, 1833
37 337036 *"Caranx" kleinii* (Bloch, 1793)
37 337901 *Decapterus* spp
37 337056 *Decapterus kurroides* Bleeker, 1855

37 346033 *Lutjanus adetti* (Castelnau, 1873)
37 346015 *Lutjanus argentimaculatus* (Forsskal, 1775)
37 346039 *Lutjanus biguttatus* (Valenciennes, 1830)
37 346025 *Lutjanus bitaeniatus* (Valenciennes, 1830)
37 346029 *Lutjanus bohar* (Forsskal, 1775)
37 346040 *Lutjanus boutton* (Lacepede, 1803)
37 346011 *Lutjanus carponotatus* (Richardson, 1842)
37 346041 *Lutjanus decussatus* (Cuvier, 1828)
37 346042 *Lutjanus ehrenbergii* (Peters, 1869)
37 346005 *Lutjanus erythropterus* Bloch, 1790
37 346034 *Lutjanus fulviflamma* (Forsskal, 1775)
37 346043 *Lutjanus fulvus* (Bloch & Schneider, 1801)
37 346028 *Lutjanus gibbus* (Forsskal, 1775)
37 346030 *Lutjanus johnii* (Bloch, 1792)
37 346044 *Lutjanus kasmira* (Forsskal, 1775)
37 346010 *Lutjanus lemniscatus* (Valenciennes, 1828)
37 346008 *Lutjanus lutjanus* Bloch, 1790
37 346007 *Lutjanus malabaricus* (Bloch & Schneider, 1801)
37 346045 *Lutjanus monostigma* (Cuvier, 1828)
37 346006 *Lutjanus quinquelineatus* (Bloch, 1790)
37 346016 *Lutjanus rivulatus* (Cuvier, 1828)
37 346012 *Lutjanus russelli* (Bleeker, 1849)
37 346004 *Lutjanus sebae* (Cuvier, 1828)
37 346046 *Lutjanus semicinctus* Quoy & Gaimard, 1824
37 346057 *Lutjanus timorensis* (Quoy & Gaimard, 1824)
37 346003 *Lutjanus vitta* (Quoy & Gaimard, 1824)
37 346047 *Macolor macularis* Fowler, 1931
37 346048 *Macolor niger* (Forsskal, 1775)
37 346053 *Paracaesio stonei* Raj & Seeto, 1983
37 346049 *Paracaesio xanthurus* (Bleeker, 1869)
37 346054 *Pristipomoides argyrogrammicus* (Valenciennes, 1831)
37 346032 *Pristipomoides filamentosus* (Valenciennes, 1830)
37 346055 *Pristipomoides flavipinnis* Shinohara, 1963
37 346002 *Pristipomoides multidens* (Day, 1870)
37 346901 *Pristipomoides typus & multidens*
37 346019 *Pristipomoides typus* (Bleeker, 1852)
37 346056 *Pristipomoides zonatus* (Valenciennes, 1830)
37 346052 *Symphorichthys spilurus* (Gunther, 1874)
37 346017 *Symphorus nematophorus* (Bleeker, 1860)
37 346910 _ (Common name: Hussar)
37 346912 _ (Common name: Jobfish)
37 346911 _ (Common name: Sea Perch)
37 346901 _ (Common name: Sharptooth Snapper)

37 347000 --- **Family Nemipteridae** ---
37 347901 *Nemipterus* spp
37 347025 *Nemipterus aurifilum* (Ogilby, 1910)
37 347001 *Nemipterus bathybius* Snyder, 1911
37 347004 *Nemipterus celebicus* (Bleeker, 1854)
37 347005 *Nemipterus furcosus* (Valenciennes, 1830)
37 347014 *Nemipterus hexodon* (Quoy & Gaimard, 1824)
37 347019 *Nemipterus isacanthus* (Bleeker, 1873)
37 347016 *Nemipterus marginatus* (Valenciennes, 1830)
37 347026 *Nemipterus mesoprion* (Bleeker, 1853)
37 347002 *Nemipterus nematopus* (Bleeker, 1851)
37 347003 *Nemipterus peronii* (Valenciennes, 1830)
37 347036 *Nemipterus theodorei* Ogilby, 1916
37 347009 *Nemipterus virgatus* (Houttuyn, 1782)
37 347013 *Nemipterus zysron* (Bleeker, 1856-57)
37 347015 *Parascolopsis eriomma* (Jordan & Richardson, 1909)
37 347011 *Parascolopsis rufomaculatus* Russell, 1986
37 347010 *Parascolopsis tanyactis* Russell, 1986
37 347029 *Pentapodus* sp [in Russell, 1990]
37 347027 *Pentapodus emeryii* (Richardson, 1843)
37 347012 *Pentapodus nagasakiensis* (Tanaka, 1915)
37 347028 *Pentapodus paradiseus* (Gunther, 1859)
37 347007 *Pentapodus porosus* (Valenciennes, 1830)
37 347022 *Pentapodus vitta* Quoy & Gaimard, 1824
37 347020 *Scaevius milii* (Bory de St Vincent, 1823)

37 341012 *Leiognathus moretoniensis* (Ogilby, 1912)
37 341015 *Leiognathus ruconius* (Hamilton-Buchanan, 1822)
37 341004 *Leiognathus smithursti* (Ramsay & Ogilby, 1886)
37 341010 *Leiognathus splendens* (Cuvier, 1829)
37 341006 *Secutor insidiator* (Bloch, 1787)
37 341021 *Secutor interruptus* (Valenciennes, 1835)
37 341022 *Secutor megalolepis* Mochizuki & Hayashi, 1989

37 342000 --- **Family Bramidae** ---
37 342009 *Brama* sp [info from Last]
37 342900 *Brama* spp
37 342010 *Brama australis* Valenciennes, 1837
37 342001 *Brama brama* (Bonaterre, 1788)
37 342011 *Brama dussumieri* Cuvier, 1831
37 342012 *Brama myersi* Mead, 1972
37 342004 *Brama orcini* Cuvier, 1831
37 342005 *Eumegistus illustris* Jordan & Jordan, 1922
37 342013 *Pteraclis aesticola* (Jordan & Snyder, 1901)
37 342006 *Pteraclis velifera* (Pallas, 1769)
37 342007 *Pterycombus petersi* (Hilgendorf, 1878)
37 342008 *Taractes asper* Lowe, 1843
37 342014 *Taractes rubescens* (Jordan & Evermann, 1887)
37 342003 *Taractichthys longipinnis* (Lowe, 1843)
37 342015 *Taractichthys steindachneri* (Doderlein, 1883)
37 342002 *Xenobrama microlepis* Yatsu & Nakamura, 1989
37 342901 _ (Common name: Rays Bream)

37 343000 --- **Family Caristiidae** ---
37 343001 *Caristius* sp [Last, unpubl]
37 343002 *Platyberyx* sp [Last, unpubl]

37 344000 --- **Family Arripidae** ---
37 344001 *Arripis georgianus* (Valenciennes, 1831)
37 344002 *Arripis trutta* (Bloch & Schneider, 1801)
37 344004 *Arripis truttaceus* (Cuvier, 1829)
37 344005 *Arripis xylabion* Paulin, 1993
37 344900 _ (Comments: Arripis trutta/Arripis truttaceus)

37 345000 --- **Family Emmelichthyidae** ---
37 345901 *Emmelichthys* spp
37 345001 *Emmelichthys nitidus nitidus* Richardson, 1845
37 345004 *Emmelichthys struhsakeri* Heemstra & Randall, 1977
37 345900 *Plagiogeneion* spp
37 345002 *Plagiogeneion macrolepis* McCulloch, 1914
37 345003 *Plagiogeneion rubiginosus* (Hutton, 1875)

37 346000 --- **Family Caesionidae** ---
37 346024 *Caesio caerulaurea* Lacepede, 1802
37 346018 *Caesio cuning* (Bloch, 1791)
37 346037 *Caesio teres* Seale, 1906
37 346013 *Dipterygonotus balteatus* (Valenciennes, 1830)
37 346009 *Pterocaesio chrysozona* (Cuvier, 1830)
37 346050 *Pterocaesio digramma* (Bleeker, 1865)
37 346051 *Pterocaesio trilineata* Carpenter, 1987

37 346000 --- **Family Lutjanidae** ---
37 346036 *Aphareus furca* (Lacepede, 1802)
37 346001 *Aphareus rutilans* Cuvier, 1830
37 346027 *Aprion virescens* Valenciennes, 1830
37 346014 *Etelis carbunculus* Cuvier, 1828
37 346038 *Etelis coruscans* Valenciennes, 1862
37 346031 *Lipocheilus carnolabrum* (Chan, 1970)
37 346905 *Lutjanus*

37 351024 *Lethrinus amboinensis* Bleeker, 1854
37 351013 *Lethrinus atkinsoni* Seale, 1909
37 351025 *Lethrinus erythracanthus* Cuvier, 1830
37 351002 *Lethrinus genivittatus* Valenciennes, 1830
37 351017 *Lethrinus harak* (Forsskal, 1775)
37 351006 *Lethrinus laticaudis* Alleyne & Macleay, 1877
37 351007 *Lethrinus lentjan* (Lacepede, 1802)
37 351011 *Lethrinus microdon* (Valenciennes in Cuv & Val, 1830)
37 351009 *Lethrinus miniatus* (Bloch & Schneider, 1801)
37 351001 *Lethrinus nebulosus* (Forsskal, 1775)
37 351019 *Lethrinus obsoletus* (Forsskal, 1775)
37 351004 *Lethrinus olivaceus* Valenciennes, 1830
37 351015 *Lethrinus ornatus* Valenciennes, 1830
37 351012 *Lethrinus rubrioperculatus* Sato, 1978
37 351016 *Lethrinus semicinctus* Valenciennes, 1830
37 351014 *Lethrinus variegatus* (Valenciennes, 1830)
37 351020 *Lethrinus xanthochilus* Klunzinger, 1870
37 351026 *Monotaxis grandoculis* (Forsskal, 1775)
37 351027 *Wattsia mossambica* (Smith, 1957)

37 353000 --- **Family Sparidae** ---
37 353004 *Acanthopagrus australis* (Gunther, 1859)
37 353011 *Acanthopagrus berda* (Forsskal, 1775)
37 353003 *Acanthopagrus butcheri* (Munro, 1949)
37 353012 *Acanthopagrus latus* (Houttuyn, 1782)
37 353014 *Acanthopagrus palmaris* (Whitley, 1935)
37 353015 *Allotaius spariformis* (Ogilby, 1910)
37 353006 *Argyrops spinifer* (Forsskal, 1775)
37 353016 *Chrysoblephus gibbiceps* (Valenciennes, 1830)
37 353002 *Dentex tumifrons* (Temminck & Schlegel, 1842)
37 353001 *Pagrus auratus* (Bloch & Schneider, 1801)
37 353013 *Rhabdosargus sarba* (Forsskal, 1775)
37 353901 _ (Common name: Mixed bream)

37 354000 --- **Family Sciaenidae** ---
37 354001 *Argyrosomus hololepidotus* (Lacepede, 1802)
37 354020 *Atractoscion aequidens* (Cuvier, 1830)
37 354012 *Atrobucca brevis* Sasaki & Kailola, 1988
37 354011 *Atrobucca nibe* (Jordan & Thompson, 1911)
37 354008 *Austronibea oedogenys* Trewavas, 1977
37 354022 *Johnius* sp [info from Sasaki]
37 354009 *Johnius amblycephalus* (Bleeker, 1855)
37 354004 *Johnius laevis* Sasaki & Kailola, 1991
37 354021 *Johnius macropterus* (Bleeker, 1853)
37 354007 *Johnius vogleri* (Bleeker, 1853)
37 354023 *Nibea microgenys* Sasaki, 1992
37 354019 *Nibea soldado* (Lacepede, 1802)
37 354024 *Nibea squamosa* Sasaki, 1992
37 354006 *Otolithes ruber* (Schneider, 1801)
37 354003 *Protonibea diacanthus* (Lacepede, 1802)
37 354903 _ (Common name: Mulloway)

37 355000 --- **Family Mullidae** ---
37 355019 *Mulloides flavolineatus* (Lacepede, 1801)
37 355020 *Mulloides vanicolensis* (Valenciennes, 1831)
37 355006 *Parupeneus* sp [info from Last]
37 355900 *Parupeneus* spp
37 355021 *Parupeneus barberinoides* (Bleeker, 1852)
37 355022 *Parupeneus barberinus* (Lacepede, 1801)
37 355023 *Parupeneus bifasciatus* (Lacepede, 1801)
37 355016 *Parupeneus chryserpleuron* (Schlegel, 1843)
37 355012 *Parupeneus chryserydros*
37 355024 *Parupeneus ciliatus* (Lacepede, 1801)
37 355025 *Parupeneus cyclostomus* (Lacepede, 1801)
37 355004 *Parupeneus heptacanthus* (Lacepede, 1801)
37 355005 *Parupeneus indicus* (Shaw, 1803)
37 355026 *Parupeneus multifasciatus* (Quoy & Gaimard, 1825)
37 355027 *Parupeneus pleurostigma* (Bennett, 1830)

37 347030 *Scolopsis affinis* Peters, 1877
37 347031 *Scolopsis bilineatus* (Bloch, 1793)
37 347032 *Scolopsis lineatus* Quoy & Gaimard,1824
37 347033 *Scolopsis margaritifer* (Cuvier, 1830)
37 347006 *Scolopsis monogramma* (Kuhl & Van Hasselt, 1830)
37 347008 *Scolopsis taeniopterus* (Kuhl & Van Hasselt, 1830)
37 347034 *Scolopsis trilineatus* Kner, 1868
37 347018 *Scolopsis vosmeri* (Bloch, 1792)
37 347035 *Scolopsis xenochrous* Gunther, 1872

37 348000 --- **Family Lobotidae** ---
37 348001 *Lobotes surinamensis* (Bloch, 1790)

37 349000 --- **Family Gerreidae** ---
37 349007 *Gerres abbreviatus*
37 349009 *Gerres argyreus* (Bloch and Schneider, 1801)
37 349010 *Gerres australis* Castelnau, 1875
37 349011 *Gerres carinatus* Alleyne and Macleay, 1877
37 349006 *Gerres cf macrosoma*
37 349012 *Gerres cheverti* Alleyne and Macleay, 1877
37 349013 *Gerres darnleyensis* (Ogilby, 1913)
37 349003 *Gerres filamentosus* Cuvier, 1829
37 349014 *Gerres longicaudas* Alleyne and Macleay, 1877
37 349015 *Gerres ovatus* Gunther, 1859
37 349004 *Gerres oyena* (Forsskal, 1775)
37 349016 *Gerres philippinus* Gunther, 1862
37 349008 *Gerres poeti* Cuvier, 1830
37 349017 *Gerres profundus* Macleay, 1878
37 349018 *Gerres rostrata* (Alleyne and Macleay, 1877)
37 349019 *Gerres splendens* De Vis, 1884
37 349005 *Gerres subfasciatus* Cuvier, 1830
37 349001 *Parequula melbournensis* (Castelnau, 1872)
37 349002 *Pentaprion longimanus* (Cantor, 1849)

37 350000 --- **Family Haemulidae** ---
37 350003 *Diagramma pictum* (Thunberg, 1792)
37 350001 *Hapalogenys kishinouyei* Smith & Pope, 1906
37 350903 *Plectorhinchus* spp
37 350017 *Plectorhinchus celebicus* Bleeker, 1873
37 350014 *Plectorhinchus chaetodontoides* (Lacepede, 1800)
37 350020 *Plectorhinchus diagrammus* (Linnaeus, 1758)
37 350007 *Plectorhinchus flavomaculatus* (Ehr. in C. & V., 1830)
37 350012 *Plectorhinchus gibbosus* Lacepede, 1802
37 350022 *Plectorhinchus goldmanni* (Bleeker, 1853)
37 350018 *Plectorhinchus multivittatum* (Macleay, 1878)
37 350021 *Plectorhinchus obscurum* (Gunther, 1871)
37 350015 *Plectorhinchus orientalis* (Bloch, 1793)
37 350023 *Plectorhinchus picus* (Cuvier, 1830)
37 350005 *Plectorhinchus polytaenia* (Bleeker, 1852)
37 350013 *Plectorhinchus schotaf* (Forsskal, 1775)
37 350010 *Plectorhinchus sordidus* (Klunzinger, 1870)
37 350902 *Pomadasys* spp
37 350009 *Pomadasys argenteus* (Forsskal, 1775)
37 350019 *Pomadasys auritus* (Cuvier, 1830)
37 350011 *Pomadasys kaakan* (Cuvier, 1830)
37 350002 *Pomadasys maculatum* (Bloch, 1797)
37 350008 *Pomadasys trifasciatus* Fowler, 1937

37 351000 --- **Family Lethrinidae** ---
37 351021 *Gnathodentex aurolineatus* (Lacepede, 1802)
37 351023 *Gymnocranius* sp [in Carpenter & Allen, 1989]
37 351901 *Gymnocranius* spp
37 351018 *Gymnocranius audleyi* Ogilby, 1916
37 351010 *Gymnocranius elongatus* Senta, 1973
37 351022 *Gymnocranius euanus* Gunther, 1879
37 351005 *Gymnocranius grandoculis* (Valenciennes, 1830)
37 351003 *Gymnocranius griseus* (Schlegel, 1844)
37 351902 *Lethrinus* spp

37 361009 *Scorpis lineolatus* Kner, 1865
37 361019 *Scorpis violaceus* (Hutton, 1873)

37 362000 --- **Family Ephippidae** ---
37 362005 *Drepane punctata* (Linnaeus, 1758)
37 362002 *Platax batavianus* Cuvier, 1831
37 362007 *Platax orbicularis* (Forsskal, 1775) ?
37 362006 *Platax pinnatus* (Linnaeus, 1758) ?
37 362004 *Platax teira* (Forsskal, 1775)
37 362003 *Zabidius novaemaculatus* (McCulloch, 1916)

37 363000 --- **Family Scatophagidae** ---
37 363002 *Scatophagus argus* (Linnaeus, 1766)
37 363001 *Selenotoca multifasciatus* (Richardson, 1844-48)
37 363900 _ (Common name: "Dory")
37 363900 _ (Common name: Dory)

37 364000 --- **Family Rhinoprenidae** ---
37 364001 *Rhinoprenes pentanemus* Munro, 1964

37 365000 --- **Family Chaetodontidae** ---
37 365020 *Amphichaetodon howensis* (Waite, 1903)
37 365033 *Chaetodon adiergastos* Seale, 1910
37 365012 *Chaetodon assarius* Waite, 1905
37 365013 *Chaetodon aureofasciatus* Macleay, 1878
37 365019 *Chaetodon auriga* Forsskal, 1775
37 365034 *Chaetodon baronessa* Cuvier, 1831
37 365035 *Chaetodon bennetti* Cuvier, 1831
37 365036 *Chaetodon citrinellus* Cuvier, 1831
37 365037 *Chaetodon ephippium* Cuvier, 1831
37 365038 *Chaetodon flavirostris* Gunther, 1873
37 365039 *Chaetodon guentheri* Ahl, 1913
37 365040 *Chaetodon kleinii* Bloch, 1790
37 365041 *Chaetodon lineolatus* Cuvier, 1831
37 365042 *Chaetodon lunula* (Lacepede, 1803)
37 365043 *Chaetodon melannotus* Schneider, 1801
37 365044 *Chaetodon mertensii* Cuvier, 1831
37 365045 *Chaetodon meyeri* Bloch & Schneider, 1801
37 365006 *Chaetodon modestus* Schlegel, 1842
37 365046 *Chaetodon ocellicaudas* Cuvier, 1831
37 365047 *Chaetodon ornatissimus* Cuvier, 1831
37 365048 *Chaetodon oxycephalus* Bleeker, 1853
37 365049 *Chaetodon pelewensis* Kner, 1868
37 365050 *Chaetodon plebeius* Cuvier, 1831
37 365051 *Chaetodon punctatofasciatus* Cuvier, 1831
37 365052 *Chaetodon rafflesi* Bennett, 1830
37 365053 *Chaetodon rainfordi* McCulloch, 1923
37 365054 *Chaetodon reticulatus* Cuvier, 1831
37 365055 *Chaetodon semeion* Bleeker, 1855
37 365056 *Chaetodon speculum* Cuvier, 1831
37 365057 *Chaetodon tricinctus* Waite, 1901
37 365058 *Chaetodon trifascialis* Quoy & Gaimard, 1824
37 365059 *Chaetodon trifasciatus* Park, 1797
37 365060 *Chaetodon ulietensis* Cuvier, 1831
37 365061 *Chaetodon unimaculatus* Bloch, 1787
37 365062 *Chaetodon vagabundus* Linnaeus, 1758
37 365007 *Chelmon marginalis* Richardson, 1842
37 365015 *Chelmon muelleri* (Klunzinger, 1879)
37 365017 *Chelmon rostratus* (Linnaeus, 1758)
37 365066 *Chelmonops curiosus* Kuiter, 1986
37 365067 *Chelmonops howensis* (Waite, 1903)
37 365001 *Chelmonops truncatus* (Kner, 1859)
37 365018 *Coradion altivelis* McCulloch, 1916
37 365004 *Coradion chrysozonus* (Cuvier, 1831)
37 365068 *Forcipiger flavissimus* Jordan & McGregor, 1898
37 365069 *Forcipiger longirostris* (Broussonet, 1782)

37 355011 *Parupeneus pleurotaenia* (Playfair, 1866)
37 355028 *Parupeneus rubescens* (Lacepede, 1801)
37 355018 *Parupeneus signatus* (Gunther, 1867)
37 355015 *Parupeneus spilurus* (Bleeker, 1854)
37 355001 *Upeneichthys lineatus* (Bloch & Schneider, 1801)
37 355030 *Upeneichthys stotti* (Hutchins, 1990)
37 355029 *Upeneichthys vlamingii* (Cuvier, 1829)
37 355008 *Upeneus* sp 1 [in Sainsbury et al, 1985]
37 355010 *Upeneus asymmetricus* Lachner, 1954
37 355002 *Upeneus bensasi* (Temminck & Schlegel, 1843)
37 355009 *Upeneus luzonius* (Jordan & Seale, 1907)
37 355003 *Upeneus moluccensis* (Bleeker, 1855)
37 355007 *Upeneus sulphureus* Cuvier, 1829
37 355013 *Upeneus sundaicus* (Bleeker, 1855)
37 355014 *Upeneus tragula* Richardson, 1846
37 355031 *Upeneus vittatus* (Forsskal, 1775)

37 356000 --- **Family Monodactylidae** ---
37 356002 *Monodactylus argenteus* (Linnaeus, 1758)
37 356001 *Schuettea scalaripinnis* Steindachner, 1866
37 356003 *Schuettea woodwardi* (Waite, 1905)

37 357000 --- **Family Pempheridídae** ---
37 357012 *Leptobrama mulleri* Steindachner, 1879
37 357002 *Parapriacanthus elongatus* (McCulloch, 1911)
37 357004 *Parapriacanthus ransonneti* Steindachner, 1870
37 357007 *Pempheris* sp [unpubl info Jubb, Macquarie Uni]
37 357005 *Pempheris affinis* McCulloch, 1911
37 357006 *Pempheris analis* Waite, 1910
37 357008 *Pempheris compressa* (Shaw, 1790)
37 357003 *Pempheris klunzingeri* McCulloch, 1911
37 357009 *Pempheris moluca* Cuvier, 1829
37 357001 *Pempheris multiradiatus* Klunzinger, 1879
37 357010 *Pempheris oualensis* Cuvier, 1831
37 357011 *Pempheris schwenkii* Bleeker, 1855

37 358000 --- **Family Bathyclupeidae** ---
37 358001 *Bathyclupea gracilis* Fowler, 1938

37 359000 --- **Family Toxotidae** ---
37 359001 *Toxotes chatareus* (Hamilton, 1822)
37 359002 *Toxotes jaculatrix* (Pallas, 1767)
37 359003 *Toxotes lorentzi* Weber, 1911
37 359004 *Toxotes oligolepis* Bleeker, 1876

37 361000 --- **Family Kyphosidae** ---
37 361020 *Atypichthys latus* McCulloch & Waite, 1916
37 361010 *Atypichthys strigatus* (Gunther, 1860)
37 361016 *Girella cyanea* Macleay, 1881
37 361006 *Girella elevata* Macleay, 1881
37 361017 *Girella tephraeops* (Richardson, 1846)
37 361007 *Girella tricuspidata* (Quoy & Gaimard, 1824)
37 361008 *Girella zebra* (Richardson, 1846)
37 361012 *Kyphosus cornelii* (Whitley, 1944)
37 361013 *Kyphosus gibsoni* Ogilby, 1912
37 361001 *Kyphosus sydneyanus* (Gunther, 1886)
37 361014 *Kyphosus vaigiensis* (Quoy & Gaimard, 1824)
37 361005 *Microcanthus strigatus* (Cuvier, 1831)
37 361002 *Neatypus obliquus* Waite, 1905
37 361003 *Vinculum sexfasciatum* (Richardson, 1842)

37 361000 --- **Family Scorpididae** ---
37 361004 *Scorpis aequipinnis* Richardson, 1848
37 361015 *Scorpis georgianus* Valenciennes, 1832

37 372000 **--- Family Pomacentridae ---**
37 372003 *Abudefduf affinis* (Gunther, 1862)
37 372010 *Abudefduf septemfasciatus* (Cuvier, 1830)
37 372011 *Abudefduf sexfasciatus* (Lacepede, 1802)
37 372012 *Abudefduf sordidus* (Forsskal, 1775)
37 372013 *Abudefduf vaigiensis* (Quoy & Gaimard, 1824)
37 372014 *Abudefduf whitleyi* Allen & Robertson, 1974
37 372015 *Acanthochromis polyacanthus* (Bleeker, 1855)
37 372016 *Amblyglyphidodon aureus* (Cuvier, 1830)
37 372017 *Amblyglyphidodon curacao* (Bloch, 1787)
37 372018 *Amblyglyphidodon leucogaster* (Bleeker, 1847)
37 372019 *Amblypomacentrus breviceps* (Schlegel & Muller, 1839)
37 372020 *Amphiprion akindynos* Allen, 1972
37 372021 *Amphiprion chrysopterus* Cuvier, 1830
37 372007 *Amphiprion clarkii* (Bennett, 1830)
37 372022 *Amphiprion latezonatus* Waite, 1900
37 372023 *Amphiprion mccullochi* Whitley, 1929
37 372024 *Amphiprion melanopus* Bleeker, 1852
37 372025 *Amphiprion ocellaris* Cuvier, 1830
37 372026 *Amphiprion percula* (Lacepede, 1802)
37 372027 *Amphiprion perideraion* Bleeker, 1855
37 372028 *Amphiprion rubrocinctus* Richardson, 1842
37 372029 *Amphiprion sandaracinos* Allen, 1972
37 372030 *Cheiloprion labiatus* (Day, 1877)
37 372031 *Chromis abyssicola* Allen & Randall, 1985
37 372032 *Chromis agilis* Smith, 1960
37 372033 *Chromis alpha* Randall, 1988
37 372034 *Chromis amboinensis* (Bleeker, 1873)
37 372035 *Chromis analis* (Cuvier, 1830)
37 372036 *Chromis atripectoralis* Welander & Schultz, 1951
37 372037 *Chromis atripes* Fowler & Bean, 1928
37 372038 *Chromis chrysura* (Bliss, 1883)
37 372039 *Chromis cinerascens* (Cuvier, 1830)
37 372040 *Chromis delta* Randall, 1988
37 372041 *Chromis elerae* Fowler & Bean, 1928
37 372042 *Chromis flavomaculata* Kamohara, 1960
37 372004 *Chromis fumea* (Tanaka, 1917)
37 372002 *Chromis hypsilepsis* (Gunther, 1867)
37 372043 *Chromis iomelas* Jordan & Seale, 1906
37 372044 *Chromis klunzingeri* Whitley, 1929
37 372045 *Chromis lepidolepis* Bleeker, 1877
37 372046 *Chromis lineata* Fowler & Bean, 1928
37 372047 *Chromis margaritifer* Fowler, 1946
37 372048 *Chromis megalopsis* Allen, 1976
37 372049 *Chromis nitida* (Whitley, 1928)
37 372050 *Chromis retrofasiata* Weber, 1913
37 372051 *Chromis ternatensis* (Bleeker, 1856)
37 372052 *Chromis vanderbilti* (Fowler, 1941)
37 372053 *Chromis viridis* (Cuvier, 1830)
37 372054 *Chromis weberi* Fowler & Bean, 1928
37 372055 *Chromis westaustralis* Allen, 1976
37 372056 *Chromis xanthochira* (Bleeker, 1851)
37 372057 *Chromis xanthura* (Bleeker, 1854)
37 372058 *Chrysiptera biocellata* (Quoy & Gaimard, 1824)
37 372059 *Chrysiptera caeruleolineata* (Allen, 1973)
37 372060 *Chrysiptera cyanea* (Quoy & Gaimard, 1824)
37 372061 *Chrysiptera flavipinnis* (Allen *et al*., 1974)
37 372062 *Chrysiptera glauca* (Cuvier, 1830)
37 372063 *Chrysiptera hemicyanea* (Weber, 1913)
37 372064 *Chrysiptera leucopoma* (Lesson, 1830)
37 372065 *Chrysiptera notialis* (Allen, 1975)
37 372066 *Chrysiptera rex* (Snyder, 1909)
37 372067 *Chrysiptera rollandi* (Whitley, 1961)
37 372068 *Chrysiptera starcki* (Allen, 1973)
37 372069 *Chrysiptera talboti* (Allen, 1975)
37 372070 *Chrysiptera taupou* (Jordan & Seale, 1906)
37 372071 *Chrysiptera tricincta* (Allen & Randall, 1974)
37 372072 *Chrysiptera unimaculata* (Cuvier, 1830)
37 372073 *Dascyllus aruanus* (Linnaeus, 1758)
37 372009 *Dascyllus melanurus* Bleeker, 1854

37 365074 *Hemitaurichthys polylepis* (Bleeker, 1857)
37 365011 *Heniochus acuminatus* (Linnaeus, 1758)
37 365075 *Heniochus chrysostomus* Cuvier, 1831
37 365005 *Heniochus diphreutes* Jordan, 1903
37 365076 *Heniochus monoceros* Cuvier, 1831
37 365077 *Heniochus singularius* Smith & Radcliffe, 1911
37 365078 *Heniochus varius* (Cuvier, 1829)
37 365003 *Parachaetodon ocellatus* (Cuvier, 1831)
37 365900 _ (Common name: Chaetodon Reef Fish)

37 365000 --- **Family Pomacanthidae** ---
37 365016 *Apolemichthys trimaculatus* (Cuvier, 1831)
37 365021 *Centropyge aurantius* Randall & Wass, 1974
37 365022 *Centropyge bicolor* (Bloch, 1787)
37 365023 *Centropyge bispinosus* (Gunther, 1860)
37 365024 *Centropyge eibli* Klausewitz, 1963
37 365025 *Centropyge flavicauda* Fraser-Brunner, 1933
37 365026 *Centropyge flavissimus* (Cuvier, 1831)
37 365027 *Centropyge heraldi* Woods & Schultz, 1953
37 365028 *Centropyge loriculus* (Gunther, 1874)
37 365029 *Centropyge multifasciatus* (Smith & Radcliffe, 1911)
37 365030 *Centropyge nox* (Bleeker, 1853)
37 365031 *Centropyge tibicen* (Cuvier, 1831)
37 365032 *Centropyge vroliki* (Bleeker, 1853)
37 365063 *Chaetodontoplus ballinae* Whitley, 1959
37 365064 *Chaetodontoplus conspicillatus* (Waite, 1900)
37 365009 *Chaetodontoplus duboulayi* (Gunther, 1867)
37 365065 *Chaetodontoplus meredithi* Kuiter, 1990
37 365083 *Chaetodontoplus mesoleucus* (Bloch, 1787)
37 365008 *Chaetodontoplus personifer* (McCulloch, 1914)
37 365070 *Genicanthus lamarck* (Lacepede, 1802)
37 365071 *Genicanthus melanospilos* (Bleeker, 1857)
37 365072 *Genicanthus semicinctus* (Waite, 1900)
37 365073 *Genicanthus watanabei* (Yasuda & Tominaga, 1970)
37 365014 *Pomacanthus imperator* (Bloch, 1787)
37 365079 *Pomacanthus navarchus* (Cuvier, 1831)
37 365080 *Pomacanthus semicirculatus* (Cuvier, 1831)
37 365010 *Pomacanthus sexstriatus* (Cuvier, 1831)
37 365081 *Pomacanthus xanthometopon* (Bleeker, 1853)
37 365082 *Pygoplites diacanthus* (Boddaert, 1772)
37 365901 _ (Comments: Pomacanthidae Fam.)

37 366000 --- **Family Enoplosidae** ---
37 366001 *Enoplosus armatus* (Shaw, 1790)

37 367000 --- **Family Pentacerotidae** ---
37 367008 *Histiopterus typus* (Temminck & Schlegel, 1842)
37 367010 *Parazanclistius hutchinsi* Hardy, 1983
37 367001 *Paristiopterus gallipavo* Whitley 1945
37 367002 *Paristiopterus labiosus* (Gunther, 1871)
37 367003 *Pentaceropsis recurvirostris* (Richardson, 1845)
37 367004 *Pentaceros decacanthus* Gunther, 1859
37 367009 *Pseudopentaceros richardsoni* (Smith, 1844)
37 367005 *Zanclistius elevatus* (Ramsay & Ogilby, 1888)
37 367901 _ (Common name: Giant Boarfish)

37 369000 --- **Family Oplegnathidae** ---
37 369002 *Oplegnathus woodwardi* (Waite, 1900)

37 371000 --- **Family Cichlidae** ---
37 371001 *Oreochromis mossambicus* (Peters, 1852)
37 371002 *Tilapia mariae* Boulenger, 1899

37 373000 **--- Family Gadopsidae ---**
37 373002 *Gadopsis bispinosus* Sanger, 1984
37 373001 *Gadopsis marmoratus* Richardson, 1848

37 374000 **--- Family Cirrhitidae ---**
37 374002 *Amblycirrhitus bimacula* Jenkins, 1903
37 374001 *Cirrhitichthys aprinus* (Cuvier, 1829)
37 374003 *Cirrhitichthys falco* Randall, 1963
37 374004 *Cirrhitichthys oxycephalus* (Bleeker, 1855)
37 374005 *Cirrhitus pinnulatus* (Schneider, 1801)
37 374006 *Cyprinocirrhites polyactis* (Bleeker, 1875)
37 374007 *Neocirrhites armatus* Castelnau, 1873
37 374008 *Oxycirrhites typus* Bleeker, 1857
37 374009 *Paracirrhites arcatus* (Cuvier, 1829)
37 374010 *Paracirrhites forsteri* (Schneider, 1801)
37 374011 *Paracirrhites hemistictus* (Gunther, 1874)

37 375000 **--- Family Chironemidae ---**
37 375003 *Chironemus georgianus* Cuvier, 1829
37 375001 *Chironemus marmoratus* Gunther, 1860
37 375004 *Chironemus microlepis* Waite, 1916
37 375002 *Threpterius maculosus* Richardson, 1850

37 376000 **--- Family Aplodactylidae ---**
37 376001 *Aplodactylus arctidens* Richardson, 1839
37 376003 *Aplodactylus etheridgii* (Ogilby, 1889)
37 376004 *Aplodactylus westralis* Russell, 1987
37 376002 *Crinodus lophodon* (Gunther, 1859)

37 377000 **--- Family Cheilodactylidae ---**
37 377011 *Cheilodactylus ephippium* McCulloch & Waite, 1916
37 377009 *Cheilodactylus fuscus* Castelnau, 1879
37 377010 *Cheilodactylus gibbosus* Richardson, 1841
37 377001 *Cheilodactylus nigripes* Richardson, 1850
37 377012 *Cheilodactylus rubrolabiatus* Allen & Heemstra, 1976
37 377006 *Cheilodactylus spectabilis* (Hutton, 1872)
37 377008 *Cheilodactylus vestitus* (Castelnau, 1878)
37 377013 *Cheilodactylus vittatus* Garrett, 1864
37 377005 *Dactylophora nigricans* (Richardson, 1850)
37 377901 *Nemadactylus* spp
37 377002 *Nemadactylus douglasi* (Hector, 1875)
37 377003 *Nemadactylus macropterus* (Bloch & Schneider, 1801)
37 377004 *Nemadactylus valenciennesi* (Whitley, 1937)

37 378000 **--- Family Latridiidae ---**
37 378003 *Latridopsis ciliaris* (Bloch & Schneider, 1801)
37 378002 *Latridopsis forsteri* (Castelnau, 1872)
37 378001 *Latris lineata* (Schneider, 1801)
37 378004 *Mendosoma lineatum* Guichenot, 1848
37 378900 _ (Common name: Trumpeter)

37 380000 **--- Family Cepolidae ---**
37 380005 *Acanthocepola* sp [in Sainsbury et al, 1985]
37 380002 *Acanthocepola abbreviata* (Valenciennes, 1835)
37 380003 *Acanthocepola krusensterni* (Temminck & Schlegel, 1845)
37 380004 *Acanthocepola limbata* (Valenciennes, 1835)
37 380001 *Cepola australis* Ogilby, 1899
37 380006 *Owstonia maccullochi* Whitley, 1934
37 380007 *Owstonia pectinifer* (Myers, 1939)
37 380008 *Owstonia totomiensis* Tanaka, 1908

37 381000 **--- Family Mugilidae ---**
37 381001 *Aldrichetta forsteri* (Valenciennes, 1836)

37 372074 *Dascyllus reticulatus* (Richardson, 1846)
37 372075 *Dascyllus trimaculatus* (Ruppell, 1828)
37 372076 *Dischistodus fasciatus* (Cuvier, 1830)
37 372077 *Dischistodus melanotus* (Bleeker, 1853)
37 372078 *Dischistodus perspicillatus* (Cuvier, 1830)
37 372079 *Dischistodus prosopotaenia* (Bleeker, 1852)
37 372080 *Dischistodus pseudochrysopoecilus* (Allen *et al*., 1974)
37 372081 *Hemiglyphidodon plagiometopon* (Bleeker, 1852)
37 372082 *Lepidozygus tapeinosoma* (Bleeker, 1856)
37 372083 *Mecaenichthys immaculatus* (Ogilby, 1885)
37 372084 *Neoglyphidodon melas* (Cuvier, 1830)
37 372085 *Neoglyphidodon nigroris* (Cuvier, 1830)
37 372137 *Neoglyphidodon oxyodon* (Bleeker, 1857)
37 372086 *Neoglyphidodon polyacanthus* (Ogilby, 1889)
37 372087 *Neopomacentrus azysron* (Bleeker, 1877)
37 372088 *Neopomacentrus bankieri* (Richardson, 1846)
37 372089 *Neopomacentrus cyanomos* (Bleeker, 1856)
37 372090 *Neopomacentrus filamentosus* (Macleay, 1883)
37 372091 *Parma alboscapularis* Allen & Hoese, 1975
37 372092 *Parma bicolor* Allen & Larson, 1979
37 372093 *Parma mccullochi* Whitley, 1929
37 372005 *Parma microlepis* Gunther, 1862
37 372094 *Parma occidentalis* Allen & Hoese, 1975
37 372095 *Parma oligolepis* Whitley, 1929
37 372096 *Parma polylepis* Gunther, 1862
37 372097 *Parma unifasciata* (Steindachner, 1867)
37 372006 *Parma victoriae* (Gunther, 1863)
37 372098 *Plectroglyphidodon dickii* (Lienard, 1839)
37 372099 *Plectroglyphidodon imparipennis* (Vaillant *et al*., 1875)
37 372100 *Plectroglyphidodon johnstonianus* Fowler & Ball, 1924
37 372101 *Plectroglyphidodon lacrymatus* (Quoy & Gaimard, 1824)
37 372102 *Plectroglyphidodon leucozonus* (Bleeker, 1859)
37 372103 *Plectroglyphidodon phoenixensis* (Schultz, 1943)
37 372104 *Pomacentrus adelus* Allen, 1991
37 372105 *Pomacentrus alexanderae* Evermann & Seale, 1907
37 372106 *Pomacentrus amboinensis* Bleeker, 1868
37 372107 *Pomacentrus australis* Allen & Robertson, 1974
37 372108 *Pomacentrus bankanensis* Bleeker, 1853
37 372109 *Pomacentrus brachialis* Cuvier, 1830
37 372110 *Pomacentrus chrysurus* Cuvier, 1830
37 372111 *Pomacentrus coelestis* Jordan & Starks, 1901
37 372112 *Pomacentrus grammorhynchus* Fowler, 1918
37 372113 *Pomacentrus imitator* (Whitley, 1964)
37 372114 *Pomacentrus lepidogenys* (Fowler & Ball, 1928)
37 372116 *Pomacentrus limosus* Allen, 1992
37 372115 *Pomacentrus littoralis* Cuvier, 1830
37 372117 *Pomacentrus milleri* Taylor, 1964
37 372118 *Pomacentrus moluccensis* Bleeker, 1853
37 372119 *Pomacentrus nagasakiensis* Tanaka, 1917
37 372120 *Pomacentrus nigromanus* Weber, 1913
37 372121 *Pomacentrus nigromarginatus* Allen, 1973
37 372122 *Pomacentrus pavo* (Bloch, 1787)
37 372123 *Pomacentrus philippinus* Evermann & Seale, 1907
37 372124 *Pomacentrus reidi* Fowler & Bean, 1928
37 372128 *Pomacentrus richardsoni* (Snyder, 1909)
37 372125 *Pomacentrus tripunctatus* Cuvier, 1830
37 372126 *Pomacentrus vaiuli* Jordan & Seale, 1906
37 372127 *Pomacentrus wardi* Whitley, 1927
37 372129 *Premnas biaculeatus* (Bloch, 1790)
37 372001 *Pristotis jerdoni* (Day, 1873)
37 372130 *Stegastes albifasciatus* (Schlegel & Muller, 1839)
37 372131 *Stegastes apicalis* (De Vis, 1885)
37 372132 *Stegastes fasciolatus* (Ogilby, 1889)
37 372133 *Stegastes gascoynei* (Whitley, 1964)
37 372134 *Stegastes lividus* (Bloch & Schneider, 1801)
37 372135 *Stegastes nigricans* (Lacepede, 1802)
37 372136 *Stegastes obreptus* (Whitley, 1948)

37 384060 *Bodianus mesothorax* (Bloch & Schneider, 1801)
37 384007 *Bodianus perditio* (Quoy & Gaimard, 1834)
37 384061 *Bodianus unimaculatus* Gunther, 1862
37 384001 *Bodianus vulpinus* (Richardson, 1850)
37 384069 *Cheilinus* sp [Gomon, unpubl]
37 384063 *Cheilinus bimaculatus* Valenciennes, 1840
37 384179 *Cheilinus celebicus* Bleeker, 1853
37 384064 *Cheilinus chlorourus* (Bloch, 1791)
37 384065 *Cheilinus digrammus* (Laceepede, 1801)
37 384066 *Cheilinus fasciatus* (Bloch, 1791)
37 384030 *Cheilinus orientalis* Gunther, 1862
37 384067 *Cheilinus oxycephalus* Bleeker, 1853
37 384044 *Cheilinus trilobatus* Lacepede, 1801
37 384038 *Cheilinus undulatus* Ruppell, 1835
37 384068 *Cheilinus unifasciatus* Streets, 1877
37 384070 *Cheilio inermis* (Forsskal, 1775)
37 384013 *Choerodon* sp [info from Gomon]
37 384071 *Choerodon anchorago* (Bloch, 1791)
37 384005 *Choerodon cauteroma* Gomon & Allen, 1987
37 384004 *Choerodon cephalotes* (Castelnau, 1875)
37 384072 *Choerodon cyanodus* (Richardson, 1843)
37 384073 *Choerodon fasciatus* (Gunther, 1867)
37 384074 *Choerodon frenatus* Ogilby, 1910
37 384075 *Choerodon graphicus* (De Vis, 1885)
37 384076 *Choerodon japonicus* (Kamohara, 1958)
37 384077 *Choerodon jordani* (Snyder, 1908)
37 384008 *Choerodon monostigma* Ogilby, 1910
37 384039 *Choerodon rubescens* (Gunther, 1862)
37 384010 *Choerodon schoenleinii* (Valenciennes, 1839)
37 384009 *Choerodon sugillatum* Gomon, 1987
37 384042 *Choerodon venustus* (De Vis, 1884)
37 384006 *Choerodon vitta* Ogilby, 1910
37 384011 *Choerodon zamboangae* (Seale & Bean, 1907)
37 384086 *Cirrhilabrus* sp [in Hutchins & Swainston, 1986]
37 384079 *Cirrhilabrus cyanopleura* (Bleeker, 1851)
37 384080 *Cirrhilabrus exquisitus* Smith, 1957
37 384081 *Cirrhilabrus laboutei* Randall & Lubbock, 1982
37 384082 *Cirrhilabrus lineatus* Randall & Lubbock, 1982
37 384083 *Cirrhilabrus punctatus* Randall & Kuiter, 1989
37 384084 *Cirrhilabrus scottorum* Randall & Pyle, 1989
37 384085 *Cirrhilabrus temminckii* Bleeker, 1853
37 384087 *Conniella apterygia* Allen, 1983
37 384088 *Coris auricularis* (Valenciennes, 1839)
37 384089 *Coris aurilineata* Randall & Kuiter, 1982
37 384090 *Coris aygula* Lacepede, 1801
37 384091 *Coris bulbifrons* Randall & kuiter, 1982
37 384092 *Coris caudimacula* (Quoy & Gaimard, 1824)
37 384093 *Coris dorsomaculata* Fowler, 1908
37 384094 *Coris gaimardi* (Quoy & Gaimard, 1824)
37 384095 *Coris picta* (Bloch & Schneider, 1801)
37 384096 *Coris pictoides* Randall & Kuiter, 1982
37 384097 *Coris sandageri* Phillips, 1927
37 384098 *Coris schroederi* (Bleeker, 1858)
37 384099 *Cymolutes praetextatus* (Quoy & Gaimard, 1834)
37 384100 *Cymolutes torquatus* Valenciennes, 1840
37 384101 *Decodon pacificus* (Kamohara, 1952)
37 384102 *Diproctacanthus xanthurus* (Bleeker, 1856)
37 384103 *Dotalabrus alleni* Russell, 1988
37 384018 *Dotalabrus aurantiacus* (Castelnau, 1872)
37 384104 *Epibulus insidiator* (Pallas, 1770)
37 384105 *Eupetrichthys angustipes* Ramsay & Ogilby, 1888
37 384106 *Gomphosus varius* Lacepede, 1801
37 384107 *Halichoeres biocellatus* Schultz, 1960
37 384108 *Halichoeres brownfieldi* (Whitley, 1945)
37 384109 *Halichoeres chloropterus* (Bloch, 1791)
37 384037 *Halichoeres dussumieri* (Valenciennes, 1839)
37 384111 *Halichoeres hartzfeldi* Bleeker, 1853
37 384112 *Halichoeres hortulanus* (Lacepede, 1801)
37 384113 *Halichoeres margaritaceus* (Valenciennes, 1839)
37 384114 *Halichoeres marginatus* Ruppell, 1835

37 381012 *Crenimugil crenilabis* (Forsskal, 1775)
37 381013 *Crenimugil labiosus* (Valenciennes, 1836)
37 381014 *Liza alata* (Steindachner, 1892)
37 381004 *Liza argentea* Quoy & Gaimard, 1825
37 381015 *Liza parmata* (Cantor, 1850)
37 381007 *Liza subviridis* (Valenciennes, 1836)
37 381008 *Liza vaigiensis* (Quoy & Gaimard, 1824)
37 381002 *Mugil cephalus* Linnaeus, 1758
37 381009 *Mugil georgii* Ogilby, 1897
37 381003 *Myxus elongatus* Gunther, 1861
37 381011 *Myxus petardi* (Castelnau, 1875)
37 381016 *Rhinomugil nasutus* (De Vis, 1883)
37 381010 *Valamugil buchanani* (Bleeker, 1853)
37 381006 *Valamugil cunnesius* (Valenciennes, 1836)
37 381017 *Valamugil seheli* (Forsslal, 1775)
37 381900 _ (Common name: Mullet (Fam))

37 382000 --- **Family Sphyraenidae** ---
37 382003 *Sphyraena acutipinnis* Day, 1876
37 382008 *Sphyraena barracuda* (Walbaum, 1792)
37 382010 *Sphyraena dentatus* Saville-Kent, 1893
37 382007 *Sphyraena flavicauda* Ruppell, 1835
37 382005 *Sphyraena forsteri* Cuvier, 1829
37 382004 *Sphyraena jello* Cuvier, 1829
37 382002 *Sphyraena novaehollandiae* Gunther, 1860
37 382001 *Sphyraena obtusata* Cuvier, 1829
37 382006 *Sphyraena putnamiae* Jordan & Seale, 1905
37 382009 *Sphyraena quenie* Klunzinger, 1870
37 382901 _ (Common name: Striped Sea Pike)

37 383000 --- **Family Polynemidae** ---
37 383004 *Eleutheronema tetradactylum* (Shaw, 1804)
37 383012 *Filimanus sealei* (Jordan & Richardson, 1910)
37 383011 *Parapolynemus verekeri* (Saville-Kent, 1889)
37 383006 *Polydactylus auratus* (McKay, 1970)
37 383007 *Polydactylus heptadactylus* (Cuvier, 1829)
37 383008 *Polydactylus indicus* (Shaw, 1804)
37 383005 *Polydactylus macrochir* (Gunther, 1867)
37 383790 *Polydactylus microstoma*
37 383002 *Polydactylus multiradiatus* (Gunther, 1860)
37 383001 *Polydactylus nigripinnis* Munro, 1964
37 383009 *Polydactylus plebius* (Broussonet, 1782)
37 383010 *Polydactylus sexfilis* (Valenciennes, 1831)
37 383902 _ (Comments: threadfin salmon)

37 384000 --- **Family Labridae** ---
37 384002 *Achoerodus gouldii* (Richardson, 1843)
37 384043 *Achoerodus viridis* (Steindachner, 1866)
37 384045 *Anampses caeruleopunctatus* Ruppell, 1829
37 384046 *Anampses elegans* Ogilby, 1889
37 384047 *Anampses femininus* Randall, 1972
37 384048 *Anampses geographicus* Valenciennes, 1840
37 384016 *Anampses lennardi* Scott, 1959
37 384049 *Anampses melagrides* Valenciennes, 1840
37 384050 *Anampses neoguinaicus* Bleeker, 1878
37 384051 *Anampses twistii* Bleeker, 1856
37 384025 *Austrolabrus maculatus* (Macleay, 1881)
37 384035 *Bodianus* sp [in Last et al, 1983]
37 384062 *Bodianus* sp [info from Gomon]
37 384052 *Bodianus anthioides* (Bennett, 1831)
37 384053 *Bodianus axillaris* (Bennett, 1831)
37 384054 *Bodianus bilunulatus* (Lacepede, 1802)
37 384055 *Bodianus bimaculatus* Allen, 1973
37 384056 *Bodianus diana* (Lacepede, 1802)
37 384057 *Bodianus frenchii* (Klunzinger, 1880)
37 384058 *Bodianus izuensis* Araga & Yoshino, 1975
37 384059 *Bodianus loxozonus* (Snyder, 1909)

37 384172 *Thalassoma trilobatum* (Lacepede, 1801)
37 384173 *Wetmorella albofasciata* Schultz & Marshall, 1954
37 384174 *Wetmorella nigropinnata* (Seale, 1901)
37 384175 *Xenojulis margaritaceous* (Macleay, 1884)
37 384014 *Xiphocheilus typus* Bleeker, 1856
37 384176 *Xyrichtys aneitensis* (Gunther, 1862)
37 384017 *Xyrichtys dea* Temminck & Schlegel, 1846
37 384012 *Xyrichtys jacksonensis* (Ramsay, 1881)
37 384177 *Xyrichtys pavo* Valenciennes, 1840
37 384178 *Xyrichtys pentadactylus* (Linnaeus, 1758)
37 384902 _ (Common name: Tuskfish)
37 384901 _ (Common name: Wrasse)

37 385000 --- **Family Odacidae** ---
37 385009 *Haletta semifasciata* (Valenciennes, 1840)
37 385005 *Neoodax balteatus* (Valenciennes, 1840)
37 385010 *Odax acroptilus* (Richardson, 1846)
37 385001 *Odax cyanomelas* (Richardson, 1850)
37 385008 *Siphonognathus argyrophanes* Richardson, 1858
37 385004 *Siphonognathus attenuatus* (Ogilby, 1897)
37 385006 *Siphonognathus beddomei* (Johnston, 1885)
37 385011 *Siphonognathus caninus* (Scott, 1976)
37 385007 *Siphonognathus radiatus* (Quoy & Gaimard, 1834)
37 385012 *Siphonognathus tanyourus* Gomon & Paxton, 1985

37 386000 --- **Family Scaridae** ---
37 386004 *Bolbometopon muricatum* (Valenciennes, 1840)
37 386005 *Calotomus carolinus* (Valenciennes, 1840)
37 386006 *Calotomus spinidens* (Quoy & Gaimard, 1824)
37 386007 *Cetoscarus bicolor* (Ruppell, 1829)
37 386008 *Hipposcarus longiceps* (Valenciennes, 1840)
37 386009 *Leptoscarus vaigiensis* (Quoy & Gaimard, 1824)
37 386010 *Scarus altipinnis* (Steindachner, 1879)
37 386032 *Scarus atropectoralis* Schultz, 1958
37 386011 *Scarus bleekeri* (de Beaufort, 1940)
37 386012 *Scarus chameleon* Choat & Randall, 1986
37 386013 *Scarus dimidiatus* Bleeker, 1859
37 386014 *Scarus flavipectoralis* Schultz, 1958
37 386015 *Scarus forsteni* (Bleeker, 1861)
37 386016 *Scarus frenatus* Lacepede, 1802
37 386017 *Scarus frontalis* Valenciennes, 1840
37 386001 *Scarus ghobban* Forsskal, 1775
37 386018 *Scarus globiceps* Valenciennes, 1840
37 386019 *Scarus longipinnis* Randall & Choat, 1980
37 386020 *Scarus microrhinos* Bleeker, 1854
37 386021 *Scarus niger* Forsskal, 1775
37 386033 *Scarus oedema* (Snyder, 1909)
37 386022 *Scarus oviceps* Valenciennes, 1840
37 386023 *Scarus prasiognathus* Valenciennes, 1839
37 386024 *Scarus psittacus* Forsskal, 1775
37 386025 *Scarus pyrrhurus* (Jordan & Seale, 1906)
37 386026 *Scarus quoyi* (Bleeker, 1862)
37 386027 *Scarus rivulatus* Valenciennes, 1840
37 386028 *Scarus rubroviolaceus* Bleeker, 1847
37 386029 *Scarus schlegeli* (Bleeker, 1861)
37 386030 *Scarus sordidus* Forsskal, 1775
37 386031 *Scarus spinus* (Kner, 1868)

37 388000 --- **Family Opistognathidae** ---
37 388003 *Opistognathus darwiniensis* Macleay, 1878
37 388004 *Opistognathus eximius* Ogilby, 1908
37 388002 *Opistognathus inornatus* Ramsay & Ogilby, 1887
37 388005 *Opistognathus jacksoniensis* (Macleay, 1881)
37 388001 *Opistognathus latitabundus* (Whitley, 1937)
37 388006 *Opistognathus maculatus* (Alleyne & Macleay, 1877)
37 388007 *Opistognathus papuensis* (Bleeker, 1868)
37 388008 *Opistognathus reticulatus* (McKay, 1969)

37 388009 *Stalix flavida* Smith-Vaniz, 1989
37 388010 *Stalix histrio* Jordan & Snyder, 1902

37 390000 --- **Family Pinguipedidae** ---
37 390020 *Parapercis* sp [in Gloerfelt-Tarp & Kailola, 1984]
37 390006 *Parapercis alboguttata* (Gunther, 1872)
37 390001 *Parapercis allporti* (Gunther, 1876)
37 390012 *Parapercis binivirgata* (Waite, 1904)
37 390013 *Parapercis clathrata* Ogilby, 1911
37 390790 *Parapercis colias*
37 390010 *Parapercis cylindrica* (Bloch, 1797)
37 390014 *Parapercis diplospilus* Gomon, 1981
37 390008 *Parapercis gushikeni* Yoshino, 1975
37 390004 *Parapercis haackei* (Steindachner, 1884)
37 390011 *Parapercis hexophtalma* (Cuvier, 1829)
37 390009 *Parapercis macrophthalma* (Pietschmann, 1911)
37 390015 *Parapercis millepunctata* (Gunther, 1860)
37 390007 *Parapercis mimaseana* (Kamohara, 1937)
37 390016 *Parapercis multiplicata* Randall, 1984
37 390005 *Parapercis nebulosa* (Quoy & Gaimard, 1825)
37 390002 *Parapercis ramsayi* Steindachner, 1884
37 390017 *Parapercis schauinslandi* (Steindachner, 1900)
37 390018 *Parapercis snyderi* Jordan & Starks, 1905
37 390019 *Parapercis xanthozona* (Bleeker, 1849)

37 393000 --- **Family Percophidae** ---
37 393001 *Bembrops aethalea* McKay, 1971
37 393005 *Bembrops filodorsalia* Okada & Suzuki, 1972
37 393006 *Bembrops indica* McKay, 1971
37 393007 *Branchiopsaron ozawai* McKay, 1971
37 393002 *Chironema* sp [in unpubl NW Shelf Guide, CSIRO]
37 393003 *Chironema chlorotaenia* McKay, 1971
37 393009 *Enigmapercis* sp [info from AMS]
37 393008 *Enigmapercis reducta* Whitley, 1936
37 393004 *Pteropsaron* sp [info from Last]
37 393010 *Spinapsaron barbatus* Okamura & Kishida, 1963
37 393011 *Squamicreedia obtusa* Rendahl, 1921

37 394000 --- **Family Trichonotidae** ---
37 394002 *Trichonotus* sp [in Randall et al, 1990]
37 394001 *Trichonotus setiger* (Bloch & Schneider, 1801)

37 395000 --- **Family Creediidae** ---
37 395002 *Creedia alleni* Nelson, 1983
37 395001 *Creedia haswelli* (Ramsay, 1881)
37 395003 *Creedia partimsqumigera* Nelson, 1983
37 395004 *Limnichthys donaldsoni* Schultz, 1960
37 395005 *Limnichthys fasciatus* Waite, 1904
37 395006 *Schizochirus insolens* Waite, 1904

37 397000 --- **Family Pholidichthyidae** ---
37 397001 *Pholidichthys leucotaenia* Bleeker, 1856

37 398000 --- **Family Leptoscopidae** ---
37 398002 *Crapatalus munroi* Last & Edgar, 1987
37 398003 *Lesueurina* sp [see Neira & Gaughan, 1989]
37 398001 *Lesueurina platycephala* Fowler, 1907

37 400000 --- **Family Uranoscopidae** ---
37 400019 *Gnathagnus cribratus* Kishimoto, 1989
37 400020 *Gnathagnus elongatus australiensis* Kishimoto, 1989
37 400001 *Gnathagnus innotabilis* Waite, 1904
37 400002 *Ichthyscopus barbatus* Mees, 1960

37 400010 *Ichthyscopus fasciatus* Haysom, 1957
37 400012 *Ichthyscopus insperatus* Mees, 1960
37 400021 *Ichthyscopus lebeck lebeck* (Bloch & Schneider, 1801)
37 400022 *Ichthyscopus lebeck sannio* Whitley, 1936
37 400006 *Ichthyscopus spinosus* Mees, 1960
37 400018 *Kathetostoma canaster* Gomon & Last, 1987
37 400003 *Kathetostoma laeve* (Bloch & Schneider, 1801)
37 400004 *Kathetostoma nigrofasciatum* Waite & McCulloch, 1915
37 400005 *Pleuroscopus pseudodorsalis* Barnard, 1927
37 400009 *Uranoscopus* sp 1 [in Sainsbury et al, 1985]
37 400016 *Uranoscopus* sp 2 [in Sainsbury et al, 1985]
37 400015 *Uranoscopus* sp 3 [in Sainsbury et al, 1985]
37 400007 *Uranoscopus bicinctus* Temminck & Schlegel, 1850
37 400023 *Uranoscopus cf japonicus* Houttuyn, 1782
37 400008 *Uranoscopus cognatus* Cantor, 1849
37 400024 *Uranoscopus kaianus* Gunther, 1880
37 400011 *Uranoscopus oligolepis* Bleeker, 1878
37 400025 *Uranoscopus terraereginae* Ogilby, 1910

37 401000 --- **Family Champsodontidae** ---
37 401006 *Champsodon atridorsalis* Ochiai & Nakamura, 1964
37 401005 *Champsodon guentheri* Regan, 1908
37 401002 *Champsodon longipinnis* Matsubara *et al.*, 1964
37 401007 *Champsodon machaeratus* Nemeth, 1994
37 401001 *Champsodon nudivittis* (Ogilby, 1895)
37 401008 *Champsodon pantolepis* Nemeth, 1994
37 401009 *Champsodon sagittus* Nemeth, 1994
37 401010 *Champsodon snyderi* Franz, 1910
37 401011 *Champsodon vorax* Gunther, 1867

37 402000 --- **Family Chiasmodontidae** ---
37 402001 *Chiasmodon niger* Johnson, 1864
37 402003 *Dysalotus alcocki* MacGilchrist, 1905
37 402002 *Dysalotus oligoscolus* Johnson & Cohen, 1974
37 402004 *Kali macrura* (Parr, 1933)
37 402005 *Kali normani* (Parr, 1931)
37 402006 *Pseudoscopelus altipinnis* Parr, 1933
37 402007 *Pseudoscopelus stellatus* Beebe, 1932

37 403000 --- **Family Bovichthyidae** ---
37 403001 *Bovichtus angustifrons* (Regan, 1913)
37 403004 *Pseudaphritis* sp [info from Last]
37 403003 *Pseudaphritis urvilli* (Valenciennes, 1831)

37 404000 --- **Family Nototheniidae** ---
37 404790 *Pleuragramma antarcticum* Boulenger, 1902
37 404791 *Trematomus eulepidotus* Regan, 1914

37 407000 --- **Family Channichthyidae** ---
37 407790 *Chaenodraco wilsoni* Regan, 1914
37 407791 *Champsocephalus gunnari* Lonnberg, 1905

37 408000 --- **Family Blenniidae** ---
37 408007 *Aspidontus dussumieri* (Valenciennes, 1836)
37 408008 *Aspidontus taeniatus* Quoy & Gaimard, 1834
37 408009 *Atrosalarias fuscus* (Ruppell, 1835)
37 408010 *Cirripectes alboapicalis* (Ogilby, 1899)
37 408011 *Cirripectes castaneus* (Valenciennes, 1836)
37 408012 *Cirripectes chelomatus* Williams & Mauge, 1983
37 408013 *Cirripectes filamentosus* (Alleyne & Macleay, 1877)
37 408014 *Cirripectes hutchinsi* Williams, 1988
37 408015 *Cirripectes polyzonus* (Bleeker, 1868)
37 408016 *Cirripectes quagga* (Fowler & Ball, 1924)
37 408017 *Cirripectes stigmaticus* Strasburg & Schultz, 1953

37 408018 *Crossosalarias macrospilus* Smith-Vaniz *et al.*, 1971
37 408019 *Ecsenius aequalis* Springer, 1988
37 408020 *Ecsenius alleni* Springer, 1988
37 408021 *Ecsenius australianus* Springer, 1988
37 408022 *Ecsenius bicolor* (Day, 1888)
37 408023 *Ecsenius fourmanoiri* Springer, 1972
37 408024 *Ecsenius frontalis* (Ehrenberg, 1836)
37 408025 *Ecsenius lineatus* Klausewitz, 1962
37 408026 *Ecsenius lividanalis* Chapman & Schultz, 1952
37 408027 *Ecsenius mandibularis* McCulloch, 1923
37 408028 *Ecsenius midas* Starck, 1969
37 408029 *Ecsenius oculatus* Springer, 1988
37 408030 *Ecsenius schroederi* McKinney & Springer, 1976
37 408031 *Ecsenius stictus* Springer, 1988
37 408032 *Ecsenius tigris* Springer, 1988
37 408033 *Ecsenius yaeyamensis* (Aoyagi, 1954)
37 408086 *Enchelyurus ater* (Gunther, 1877)
37 408034 *Enchelyurus flavipes* Peters, 1869
37 408035 *Enchelyurus kraussi* (Klunzinger, 1871)
37 408036 *Entomacrodus decussatus* (Bleeker, 1858)
37 408037 *Entomacrodus striatus* (Quoy & Gaimard, 1836)
37 408038 *Entomacrodus thalassinus* (Jordan & Seale, 1906)
37 408039 *Exallias brevis* (Kner, 1868)
37 408040 *Glyptoparus delicatulus* Smith, 1959
37 408041 *Hirculops cornifer* (Ruppell, 1830)
37 408042 *Istiblennius chrysopilos* (Bleeker, 1857)
37 408043 *Istiblennius edentulus* (Bloch & Schneider, 1801)
37 408044 *Istiblennius geminatus* (Alleyne & Macleay, 1877)
37 408045 *Istiblennius lineatus* (Valenciennes, 1836)
37 408046 *Istiblennius meleagris* (Valenciennes, 1836)
37 408047 *Istiblennius muelleri* (Klunzinger, 1879)
37 408048 *Istiblennius paulus* (Bryan & Herre, 1903)
37 408049 *Istiblennius periophthalmus* (Valenciennes, 1836)
37 408050 *Laiphognathus multimaculatus* Smith, 1955
37 408051 *Meiacanthus atrodorsalis* (Gunther, 1877)
37 408052 *Meiacanthus ditrema* Smith-Vaniz, 1976
37 408005 *Meiacanthus grammistes* (Valenciennes, 1836)
37 408053 *Meiacanthus lineatus* (De Vis, 1884)
37 408054 *Meiacanthus luteus* Smith-Vaniz, 1987
37 408055 *Meiacanthus naevius* Smith-Vaniz, 1987
37 408056 *Mimoblennius atrocinctus* (Regan, 1909)
37 408057 *Nannosalarias nativitatus* (Regan, 1909)
37 408058 *Omobranchus anolius* (Valenciennes, 1836)
37 408059 *Omobranchus elongatus* (Peters, 1855)
37 408060 *Omobranchus ferox* (Herre, 1927)
37 408061 *Omobranchus germaini* (Sauvage, 1883)
37 408062 *Omobranchus lineolatus* (Kner, 1868)
37 408063 *Omobranchus punctatus* (Valenciennes, 1836)
37 408064 *Omobranchus rotundiceps* (Macleay, 1881)
37 408065 *Omobranchus verticalis* Springer & Gomon, 1975
37 408066 *Omox biporos* Springer, 1972
37 408067 *Parablennius intermedius* (Ogilby, 1915)
37 408068 *Parablennius postoculomaculatus* Bath *et al.*, 1986
37 408002 *Parablennius tasmanianus* (Richardson, 1849)
37 408069 *Parenchelyurus hepburni* (Snyder, 1908)
37 408070 *Parenchelyurus hyena* (Whitley, 1953)
37 408071 *Petroscirtes breviceps* Valenciennes, 1836
37 408072 *Petroscirtes fallax* Smith-Vaniz, 1976
37 408073 *Petroscirtes lupus* (De Vis, 1886)
37 408074 *Petroscirtes mitratus* Ruppell, 1830
37 408003 *Petroscirtes variabilis* Cantor, 1850
37 408075 *Plagiotremus laudandus* (Whitley, 1961)
37 408004 *Plagiotremus rhinorhynchos* (Bleeker, 1852)
37 408076 *Plagiotremus tapeinosoma* (Bleeker, 1857)
37 408077 *Rhabdoblennius ellipes* (Jordan & Starks, 1906)
37 408078 *Salarias calvus* De Vis, 1884
37 408079 *Salarias fasciatus* (Bloch, 1786)
37 408080 *Salarias irroratus* Alleyne & Macleay, 1877
37 408081 *Salarias pallidus* Whitley, 1926
37 408082 *Salarias sinuosus* Snyder, 1908

37 408083 *Salarias spaldingi* Macleay, 1878
37 408084 *Stanulus seychellensis* Smith, 1959
37 408085 *Stanulus talboti* Springer, 1968
37 408087 *Xiphasia matsubarai* Okada & Suzuki, 1952
37 408001 *Xiphasia setifer* Swainson, 1839

37 411000 --- **Family Congrogadidae** ---
37 411003 *Blemnodesmus scapularis* Gunther, 1872
37 411002 *Congrogadoides amplimaculatus* Winterbottom, 1980
37 411001 *Congrogadoides spinifer* Borodin, 1933
37 411004 *Congrogadus subducens* (Richardson, 1843)
37 411005 *Haliophis malayanus* Weber, 1909

37 412000 --- **Family Notograptidae** ---
37 412002 *Notograptus gregoryi* Whitley, 1941
37 412001 *Notograptus guttatus* Gunther, 1867
37 412003 *Notograptus livingstoni* Whitley, 1931

37 414000 --- **Family Ophiclinidae** ---
37 414007 *Ophiclinops hutchinsi* George & Springer, 1980
37 414001 *Ophiclinops pardalis* (McCulloch & Waite, 1918)
37 414004 *Ophiclinops varius* (McCulloch & Waite, 1918)
37 414008 *Ophiclinus antarcticus* Castelnau, 1872
37 414009 *Ophiclinus brevipinnis* George & Springer, 1980
37 414006 *Ophiclinus gabrieli* Waite, 1906
37 414002 *Ophiclinus gracilis* Waite, 1906
37 414003 *Ophiclinus ningulus* George & Springer, 1980
37 414010 *Ophiclinus pectoralis* George & Springer, 1980
37 414012 *Peronedys anguillaris* Steindachner, 1884
37 414011 *Stichanium clarkae* George & Springer, 1980
37 414005 *Stichanium dorsale* Gunther, 1867

37 415000 --- **Family Tripterygiidae** ---
37 415007 *Apopterygion alta* Kuiter, 1986
37 415001 *Brachynectes fasciatus* Scott, 1957
37 415008 *Ceratobregma acanthops* (Whitley, 1964)
37 415009 *Ceratobregma helenae* Holleman, 1987
37 415010 *Ceratobregma striata* Fricke, 1991
37 415012 *Enneapterygius atrogulare* (Gunther, 1873)
37 415030 *Enneapterygius hemimelas* (Kner & Steindachner, 1867)
37 415031 *Enneapterygius minutus* (Gunther, 1877)
37 415032 *Enneapterygius rufopileus* (Waite, 1904)
37 415011 *Enneapterygius tutuilae* Jordan & Seale, 1906
37 415002 *Forsterygion gymnotum* Scott, 1977
37 415003 *Forsterygion varium* (Schneider, 1801)
37 415014 *Helcogramma capidata* Rosenblatt, 1960
37 415015 *Helcogramma decurrens* McCulloch & Waite, 1908
37 415016 *Helcogramma ellioti* (Herre, 1944)
37 415033 *Helcogramma gymnauchen* (Weber, 1909)
37 415017 *Helcogramma hudsoni* (Jordan & Seale, 1906)
37 415018 *Helcogramma springeri* Hansen, 1986
37 415019 *Helcogramma striata* Hansen, 1986
37 415020 *Lepidoblennius haplodactylus* Steindachner, 1867
37 415021 *Lepidoblennius marmoratus* (Macleay, 1878)
37 415022 *Norfolkia brachylepis* (Schultz, 1960)
37 415005 *Norfolkia clarkei* (Morton, 1888)
37 415023 *Norfolkia cristata* Kuiter, 1986
37 415024 *Norfolkia incisa* Kuiter, 1986
37 415025 *Norfolkia squamiceps* (McCulloch & Waite, 1916)
37 415026 *Norfolkia thomasi* Whitley, 1964
37 415027 *Trianectes bucephalus* McCulloch & Waite, 1918
37 415034 *Ucla xenogrammus* Holleman, 1993

37 416000 --- **Family Clinidae** ---
37 416006 *Cristiceps argyropleura* Kner, 1865
37 416017 *Cristiceps aurantiacus* Castelnau, 1879

37 416007 *Cristiceps australis* Valenciennes, 1836
37 416015 *Heteroclinus* sp [info from Last]
37 416008 *Heteroclinus adelaidae* Castelnau, 1873
37 416018 *Heteroclinus antinectes* (Gunther, 1861)
37 416019 *Heteroclinus eckloniae* (McKay, 1970)
37 416020 *Heteroclinus equiradiatus* Milward, 1960
37 416010 *Heteroclinus heptaeolus* (Ogilby, 1885)
37 416011 *Heteroclinus johnstoni* (Saville-Kent, 1886)
37 416012 *Heteroclinus macropthalmus* Hoese, 1976
37 416021 *Heteroclinus marmoratus* (Klunzinger, 1872)
37 416022 *Heteroclinus nasutus* (Gunther, 1861)
37 416013 *Heteroclinus perspicillatus* (Valenciennes, 1836)
37 416014 *Heteroclinus puellarum* Scott, 1955
37 416023 *Heteroclinus roseus* (Gunther, 1861)
37 416009 *Heteroclinus tristis* (Klunzinger, 1872)
37 416024 *Heteroclinus whiteleggii* (Ogilby, 1894)
37 416016 *Heteroclinus wilsoni* (Lucas, 1890)

37 424000 --- **Family Schindleriidae** ---
37 424001 *Schindleria pietschmanni* (Schindler, 1930)
37 424002 *Schindleria praematura* (Schindler, 1930)

37 425000 --- **Family Ammodytidae** ---
37 425003 *Bleekeria vaga* McCulloch & Waite, 1916
37 425002 *Bleekeria viridianguilla* (Fowler, 1931)
37 425001 *Embolichthys mitsukurii* (Jordan & Evermann, 1903)

37 427000 --- **Family Callionymidae** ---
37 427016 *Callionymus annulatus* Weber, 1913
37 427011 *Callionymus belcheri belcheri* Richardson, 1844
37 427017 *Callionymus draconis* Nakabo, 1977
37 427020 *Callionymus enneactis parvus* (Nakabo, 1984)
37 427018 *Callionymus enneactis* Bleeker, 1879
37 427006 *Callionymus goodladi* (Whitley, 1944)
37 427007 *Callionymus grossi* Ogilby, 1910
37 427008 *Callionymus japonicus japonicus* Houttuyn, 1782
37 427036 *Callionymus japonicus scaber* McCulloch, 1926
37 427012 *Callionymus limiceps* Ogilby, 1908
37 427023 *Callionymus macdonaldi* Ogilby, 1911
37 427013 *Callionymus margaretae australis* Fricke, 1983
37 427019 *Callionymus meridionalis* Suwardji, 1965
37 427003 *Callionymus moretonensis* Johnson, 1971
37 427021 *Callionymus pleurostictus* Fricke, 1982
37 427022 *Callionymus russelli* Johnson, 1976
37 427024 *Callionymus sphinx* Fricke & Heckele, 1983
37 427010 *Callionymus sublaevis* McCulloch, 1926
37 427025 *Centrodraco insolitus* (McKay, 1971)
37 427005 *Dactylopus dactylopus* (Valenciennes, 1837)
37 427026 *Diplogrammus goramensis* (Bleeker, 1858)
37 427027 *Diplogrammus xenicus* (Jordan & Thompson, 1914)
37 427015 *Repomucenus calcaratus* (Macleay, 1881)
37 427030 *Synchiropus altivelis* (Temminck & Schlegel, 1850)
37 427028 *Synchiropus apricus* (McCulloch, 1926)
37 427029 *Synchiropus australis* (Nakabo & McKay, 1989)
37 427001 *Synchiropus calauropomus* (Richardson, 1844)
37 427031 *Synchiropus morrisoni* Schultz, 1960
37 427032 *Synchiropus ocellatus* (Pallas, 1770)
37 427014 *Synchiropus papilio* (Gunther, 1864)
37 427002 *Synchiropus phasis* (Gunther, 1880)
37 427033 *Synchiropus picturatus occidentalis* Fricke, 1983
37 427009 *Synchiropus rameus* (McCulloch, 1926)
37 427034 *Synchiropus splendidus* (Herre, 1927)
37 427035 *Synchiropus stellatus* Smith, 1963

37 428000 --- **Family Gobiidae** ---
37 428030 *Acanthogobius flavimanus* (Temminck & Schlegel, 1845)

37 428019 *Acentrogobius caninus* (Valenciennes, 1837)
37 428020 *Acentrogobius gracilis* (Bleeker, 1875)
37 428031 *Acentrogobius janthinopterus* (Bleeker, 1852)
37 428021 *Acentrogobius viridipunctatus* (Valenciennes, 1837)
37 428032 *Amblyeleotris callopareius* Polunin & Lubbock, 1979
37 428033 *Amblyeleotris diagonalis* (Polunin & Lubbock, 1977)
37 428034 *Amblyeleotris fasciata* (Herre, 1953)
37 428035 *Amblyeleotris fontanesii* (Bleeker, 1852)
37 428036 *Amblyeleotris guttata* (Fowler, 1938)
37 428037 *Amblyeleotris gymnocephala* (Bleeker, 1853)
37 428038 *Amblyeleotris macronema* Polunin & Lubbock, 1979
37 428039 *Amblyeleotris ogasawarensis* Yanagasawa, 1978
37 428040 *Amblyeleotris periophthalma* (Bleeker, 1853)
37 428041 *Amblyeleotris randalli* Hoese & Steene, 1978
37 428042 *Amblyeleotris rhyax* Polunin & Lubbock, 1979
37 428043 *Amblyeleotris steinitzi* (Klausewitz, 1974)
37 428044 *Amblyeleotris wheeleri* Polunin & Lubbock, 1977
37 428045 *Amblygobius bynoensis* (Richardson, 1844)
37 428046 *Amblygobius decussatus* (Bleeker, 1855)
37 428047 *Amblygobius nocturnus* (Herre, 1945)
37 428048 *Amblygobius phalaena* (Valenciennes, 1837)
37 428049 *Amblygobius rainfordi* (Whitley, 1940)
37 428050 *Amblygobius sphynx* (Valenciennes, 1837)
37 428051 *Amblyotrypauchen fraseri* Hora, 1924
37 428052 *Amoya madraspatensis* (Day, 1868)
37 428053 *Amoya moloanus* (Herre, 1927)
37 428054 *Amoya suluensis* (Herre, 1927)
37 428055 *Apocryptodon madurensis* Bleeker, 1849
37 428008 *Arenigobius bifrenatus* (Kner, 1865)
37 428002 *Arenigobius frenatus* (Gunther, 1861)
37 428056 *Arenigobius leftwichi* (Ogilby, 1910)
37 428057 *Asterropteryx ensiferus* (Bleeker, 1874)
37 428058 *Asterropteryx semipunctatus* Ruppell, 1828
37 428059 *Asterropteryx spinosus* (Goren, 1981)
37 428060 *Austrolethops wardi* Whitley, 1935
37 428061 *Awaous crassilabrus* (Gunther, 1861)
37 428062 *Barbuligobius boehlkei* Lachner & McKinney, 1974
37 428063 *Bathygobius albopunctatus* (Valenciennes, 1837)
37 428064 *Bathygobius coalitus* (Bennett, 1832)
37 428065 *Bathygobius cocosensis* (Bleeker, 1854)
37 428066 *Bathygobius cotticeps* (Steindachner, 1866)
37 428067 *Bathygobius cyclopterus* (Valenciennes, 1837)
37 428068 *Bathygobius fuscus* (Ruppell, 1830)
37 428069 *Bathygobius krefftii* (Steindachner, 1866)
37 428070 *Bathygobius laddi* (Fowler, 1931)
37 428071 *Bathygobius meggetti* (Hora & Mukerji, 1936)
37 428072 *Boleophthalmus birdsongi* Murdy, 1989
37 428073 *Boleophthalmus caeruleomaculatus* McCulloch *et al*., 1918
37 428074 *Brachyamblyopus rubrilineatus* (Saville-Kent, 1889)
37 428075 *Bryaninops amplus* Larson, 1985
37 428076 *Bryaninops erythrops* (Jordan & Seale, 1906)
37 428077 *Bryaninops isis* Larson, 1985
37 428078 *Bryaninops loki* Larson, 1985
37 428079 *Bryaninops natans* Larson, 1985
37 428080 *Bryaninops nexus* Larson, 1987
37 428081 *Bryaninops ridens* Smith, 1959
37 428082 *Bryaninops tigris* Larson, 1985
37 428083 *Bryaninops yongei* (Davis & Cohen, 1969)
37 428084 *Cabillus lacertops* Smith, 1959
37 428085 *Cabillus tongarevae* (Fowler, 1927)
37 428086 *Callogobius clitellus* McKinney & Lachner, 1978
37 428087 *Callogobius depressus* (Ramsay & Ogilby, 1886)
37 428088 *Callogobius hasseltii* (Bleeker, 1851)
37 428089 *Callogobius maculipinnis* (Fowler, 1918)
37 428003 *Callogobius mucosus* (Gunther, 1872)
37 428090 *Callogobius okinawae* (Snyder, 1908)
37 428091 *Callogobius sclateri* (Steindachner, 1880)
37 428092 *Chlamydogobius eremius* (Zietz, 1896)
37 428093 *Cryptocentroides cristatus* (Macleay, 1881)
37 428094 *Cryptocentroides insignis* (Seale, 1910)

37 428095 *Cryptocentrus bulbiceps* (Whitley, 1953)
37 428096 *Cryptocentrus caeruleomaculatus* (Herre, 1933)
37 428097 *Cryptocentrus cebuanus* Herre, 1927
37 428098 *Cryptocentrus cinctus* (Herre, 1936)
37 428099 *Cryptocentrus fasciatus* (Playfair & Gunther, 1867)
37 428100 *Cryptocentrus inexplicatus* (Herre, 1934)
37 428101 *Cryptocentrus insignitus* (Whitley, 1956)
37 428102 *Cryptocentrus leptocephalus* (Bleeker, 1876)
37 428103 *Cryptocentrus leucostictus* (Gunther, 1871)
37 428104 *Cryptocentrus maudae* Fowler, 1937
37 428105 *Cryptocentrus strigilliceps* (Jordan & Seale, 1906)
37 428106 *Ctenogobiops aurocingulus* (Herre, 1935)
37 428107 *Ctenogobiops crocineus* Smith, 1959
37 428108 *Ctenogobiops feroculus* Lubbock & Polunin, 1977
37 428109 *Ctenogobiops pomastictus* Lubbock & Polunin, 1977
37 428110 *Ctenogobiops tangaroae* Lubbock & Polunin, 1977
37 428111 *Discordipinna griessingeri* Hoese & Fourmanoir, 1978
37 428294 *Drombus* sp 8 [of Rennis, info from Larson]
37 428022 *Drombus globiceps* (Hora, 1923)
37 428112 *Drombus halei* Whitley, 1935
37 428113 *Drombus lepidothorax* Whitley, 1945
37 428023 *Drombus ocyurus* (Jordan & Seale, 1906)
37 428024 *Drombus triangularis* (Weber, 1911)
37 428114 *Eviota afelei* Jordan & Seale, 1906
37 428115 *Eviota albolineata* Jewett & Lachner, 1983
37 428116 *Eviota bifasciata* Lachner & Karanella, 1980
37 428117 *Eviota bimaculata* Lachner & Karnella, 1980
37 428118 *Eviota cometa* Jewett & Lachner, 1983
37 428119 *Eviota distigma* Jordan & Seale, 1906
37 428120 *Eviota fasciola* Karnella & Lachner, 1981
37 428121 *Eviota herrei* Jordan & Seale, 1906
37 428122 *Eviota infulata* (Smith, 1956)
37 428123 *Eviota inutilis* Whitley, 1943
37 428124 *Eviota melasma* Lachner & Karnella, 1980
37 428125 *Eviota monostigma* Fourmanoir, 1971
37 428126 *Eviota nebulosa* Smith, 1958
37 428127 *Eviota nigriventris* Giltay, 1933
37 428128 *Eviota pellucida* Larson, 1976
37 428129 *Eviota prasina* (Klunzinger, 1871)
37 428130 *Eviota prasites* Jordan & Seale, 1906
37 428131 *Eviota queenslandica* Whitley, 1932
37 428132 *Eviota sebreei* Jordan & Seale, 1906
37 428133 *Eviota sigillata* Jewett & Lachner, 1983
37 428134 *Eviota sparsa* Jewett & Lachner, 1983
37 428135 *Eviota spilota* Lachner & Karnella, 1980
37 428136 *Eviota variola* Lachner & Karnella, 1980
37 428137 *Eviota zebrina* Lachner & Karnella, 1978
37 428138 *Eviota zonura* Jordan & Seale, 1906
37 428139 *Exyrias bellissimus* (Smith, 1959)
37 428140 *Exyrias puntang* (Bleeker, 1851)
37 428141 *Favonigobius exquisitus* Whitley, 1950
37 428005 *Favonigobius lateralis* (Macleay, 1881)
37 428026 *Favonigobius melanobranchus* (Fowler, 1934)
37 428142 *Favonigobius punctatus* (Gill & Miller, 1990)
37 428143 *Favonigobius suppositus* (Sauvage, 1880)
37 428004 *Favonigobius tamarensis* (Johnston, 1883)
37 428144 *Feia nympha* Smith, 1959
37 428145 *Fusigobius duospilus* Hoese & Reader, 1985
37 428146 *Fusigobius neophytus* (Gunther, 1877)
37 428147 *Fusigobius signipinnis* Hoese & Obika, 1988
37 428148 *Glossogobius aureus* Akihito & Meguro, 1975
37 428149 *Glossogobius bicirrhosus* (Weber, 1894)
37 428025 *Glossogobius biocellatus* (Valenciennes, 1837)
37 428029 *Glossogobius celebius* (Valenciennes, 1837)
37 428027 *Glossogobius circumspectus* (Macleay, 1883)
37 428150 *Glossogobius concavifrons*
37 428151 *Glossogobius giuris* (Hamilton-Buchanan, 1822)
37 428152 *Gnatholepis caurensis* (Bleeker, 1853)
37 428153 *Gnatholepis inconsequens* Whitley, 1958
37 428154 *Gnatholepis scapulostigma* Herre, 1953

37 428155 *Gobiodon albofasciatus* Sawada & Arai, 1972
37 428156 *Gobiodon axillaris* De Vis, 1884
37 428157 *Gobiodon ceramensis* (Bleeker, 1852)
37 428158 *Gobiodon citrinus* (Ruppell, 1838)
37 428159 *Gobiodon heterospilos* (Bleeker, 1856)
37 428160 *Gobiodon histrio* (Valenciennes, 1837)
37 428161 *Gobiodon micropus* Gunther, 1861
37 428162 *Gobiodon okinawae* Sawada, Arai & Abe, 1973
37 428163 *Gobiodon quinquestrigatus* (Valenciennes, 1837)
37 428164 *Gobiodon rivulatus* (Ruppell, 1830)
37 428165 *Gobiopsis angustifrons* Lachner & McKinney, 1978
37 428166 *Gobiopsis aporia* Lachner & McKinney, 1978
37 428167 *Gobiopsis macrostoma* Steindachner, 1861
37 428168 *Gobiopterus mindanensis* (Herre, 1944)
37 428169 *Gobiopterus semivestitus* (Munro, 1949)
37 428170 *Hazeus elati* (Goren, 1984)
37 428171 *Hemigobius crassa* (Herre, 1945)
37 428172 *Hetereleotris* sp [info from Last]
37 428173 *Istigobius decoratus* (Herre, 1927)
37 428174 *Istigobius diadema* (Steindachner, 1877)
37 428175 *Istigobius goldmanni* (Bleeker, 1852)
37 428176 *Istigobius hoesei* Murdy & McEachran, 1982
37 428177 *Istigobius nigroocellatus* (Gunther, 1873)
37 428178 *Istigobius ornatus* (Ruppell, 1830)
37 428179 *Istigobius rigilius* (Herre, 1953)
37 428180 *Istigobius spence* (Smith, 1947)
37 428181 *Lobulogobius morrigu* Larson, 1982
37 428016 *Lobulogobius omanensis* Koumans, 1944
37 428182 *Lophogobius bleekeri* Popta, 1922
37 428183 *Lotilia graciliosa* Klausewitz, 1960
37 428184 *Lubricogobius ornatus* Fourmanoir, 1966
37 428185 *Lubricogobius pumilus* Larson & Hoese, 1980
37 428186 *Luposicya lupus* Smith, 1959
37 428187 *Macrodontogobius wilburi* Herre, 1936
37 428188 *Mahidolia mystacina* (Valenciennes, 1837)
37 428189 *Mugilogobius fontinalis* (Jordan & Seale, 1906)
37 428190 *Mugilogobius paludis* (Whitley, 1930)
37 428191 *Mugilogobius platystomus* (Gunther, 1872)
37 428192 *Mugilogobius stigmaticus* (De Vis, 1884)
37 428193 *Mugilogobius zebrina* (Herre, 1950)
37 428194 *Myersina nigrivirgata* Akihito & Meguro, 1983
37 428195 *Nesogobius* sp 1 [in Last et al, 1983]
37 428196 *Nesogobius* sp 2 [in Last et al, 1983]
37 428197 *Nesogobius* sp 3 [in Last et al, 1983]
37 428198 *Nesogobius* sp [info from Last]
37 428199 *Nesogobius* sp [info from Last]
37 428006 *Nesogobius hinsbyi* (Johnston, 1903)
37 428007 *Nesogobius pulchellus* (Castelnau, 1872)
37 428200 *Oligolepis acutipinnis* (Valenciennes, 1837)
37 428201 *Oligolepis stomias* (Smith, 1941)
37 428203 *Oplopomus caninoides* (Bleeker, 1852)
37 428202 *Oplopomus diacanthus* Schultz, 1943
37 428204 *Oplopomus oplopomus* (Valenciennes, 1837)
37 428205 *Oxuderces wirzi* (Koumans, 1938)
37 428206 *Oxyurichthys cornutus* (McCulloch & Waite, 1918)
37 428207 *Oxyurichthys microlepis* (Bleeker, 1849)
37 428208 *Oxyurichthys papuanus* (Valenciennes, 1837)
37 428209 *Palutrus pruniosus* (Jordan & Seale, 1906)
37 428210 *Pandaka lidwilli* (McCulloch, 1917)
37 428028 *Pandaka rouxi* (Weber, 1911)
37 428211 *Parachaeturichthys polynema* (Bleeker, 1853)
37 428212 *Paragobiodon echinocephalus* Ruppell, 1828
37 428213 *Paragobiodon lacunicolus* (Kendall *et al.*, 1911)
37 428214 *Paragobiodon melanosoma* (Bleeker, 1852)
37 428215 *Paragobiodon modestus* (Regan, 1908)
37 428216 *Paragobiodon xanthosomus* (Bleeker, 1852)
37 428217 *Parkraemeria ornata* Whitley, 1951
37 428218 *Periophthalmodon freycineti* (Valenciennes, 1837)
37 428219 *Periophthalmus argentilineatus* (Valenciennes, 1837)
37 428220 *Periophthalmus gracilis* Eggert, 1935

37 428221 *Periophthalmus minutus* Eggert, 1935
37 428222 *Periophthalmus novaeguineaensis* Eggert, 1935
37 428223 *Periophthalmus weberi* Eggert, 1935
37 428224 *Phyllogobius platycephalops* (Smith, 1964)
37 428235 *Pleurosicya* sp [see Randall et al, 1990]
37 428225 *Pleurosicya annandalei* Hornell & Fowler, 1922
37 428226 *Pleurosicya bilobata* (Koumans, 1941)
37 428015 *Pleurosicya boldinghi* Weber, 1913
37 428227 *Pleurosicya coerulea* Larson, 1990
37 428228 *Pleurosicya elongata* Larson, 1990
37 428229 *Pleurosicya fringilla* Larson, 1990
37 428230 *Pleurosicya labiata* (Weber, 1913)
37 428231 *Pleurosicya mossambica* Smith, 1959
37 428232 *Pleurosicya muscarum* (Jordan & Seale, 1906)
37 428233 *Pleurosicya plicata* Larson, 1990
37 428234 *Pleurosicya prognatha* Goren, 1984
37 428297 *Priolepis RW sp 8*
37 428236 *Priolepis cincta* (Regan, 1908)
37 428237 *Priolepis compita* Winterbottom, 1985
37 428296 *Priolepis fallacincta* Winterbottom & Birridge, 1992
37 428238 *Priolepis inhaca* (Smith, 1949)
37 428018 *Priolepis nuchifasciata* (Gunther, 1873)
37 428239 *Priolepis profunda* (Weber, 1909)
37 428011 *Priolepis semidoliatus* (Valenciennes, 1837)
37 428295 *Pseudogobius* sp 5 [Info from Larson]
37 428240 *Pseudogobius gastrospilos* (Bleeker, 1853)
37 428241 *Pseudogobius javanicus* (Bleeker, 1956)
37 428009 *Pseudogobius olorum* (Sauvage, 1880)
37 428242 *Psilogobius prolatus* Watson & Lachner, 1985
37 428243 *Redigobius balteatus* (Herre, 1935)
37 428244 *Redigobius bikolanus* (Herre, 1927)
37 428245 *Redigobius chrysosoma* (Bleeker, 1875)
37 428246 *Redigobius macrostoma* (Gunther, 1861)
37 428247 *Scartelaos histiophorus* (Valenciennes, 1837)
37 428248 *Schismatogobius insignum* (Herre, 1927)
37 428249 *Signigobius biocellatus* Hoese & Allen, 1977
37 428250 *Silhouettea evanida* Larson & Miller, 1985
37 428251 *Silhouettea hoesei* Larson & Miller, 1985
37 428252 *Silhouettea insinuans* Smith, 1959
37 428253 *Stonogobiops xanthorhinica* Hoese & Randall, 1982
37 428254 *Sueviota atrinasa* Winterbottom & Hoese, 1988
37 428255 *Sueviota lachneri* Winterbottom & Hoese, 1988
37 428256 *Sueviota larsonae* Winterbottom & Hoese, 1988
37 428257 *Taenioides cirratus* (Blyth, 1860)
37 428258 *Taenioides limicola* Smith, 1964
37 428259 *Taenioides mordax* (De Vis, 1883)
37 428260 *Taenioides purpurascens* (De Vis, 1884)
37 428261 *Tasmanogobius gloveri* Hoese, 1991
37 428262 *Tasmanogobius lasti* Hoese, 1991
37 428010 *Tasmanogobius lordi* Scott, 1935
37 428263 *Tomiyamichthys latruncularia* (Klausewitz, 1974)
37 428264 *Tridentiger trigonocephalus* (Gill, 1858)
37 428265 *Trimma emeryi* Winterbottom, 1985
37 428266 *Trimma hoesei* Winterbottom, 1984
37 428268 *Trimma microphthalma* (Tomiyama, 1936)
37 428269 *Trimma necopinus* (Whitley, 1959)
37 428270 *Trimma okinawae* (Aoyagi, 1949)
37 428271 *Trimma striata* (Herre, 1945)
37 428272 *Trimma taylori* Lobel, 1979
37 428273 *Trimma tevegae* Cohen & Davis, 1968
37 428267 *Trimma unisquamis* (Gosline, 1959)
37 428274 *Trimmatom eviotops* Schultz, 1943
37 428275 *Trimmatom macropodus* Winterbottom, 1989
37 428276 *Trimmatom nanus* Winterbottom & Emery, 1981
37 428277 *Trimmatom zapotes* Winterbottom, 1989
37 428278 *Trypauchen microcephalus* (Bleeker, 1860)
37 428279 *Trypauchenichthys typus* Bleeker, 1860
37 428280 *Valenciennea helsdingenii* (Bleeker, 1858)
37 428281 *Valenciennea immaculata* Ni Yong, 1981
37 428282 *Valenciennea longipinnis* (Lay & Bennett, 1839)

37 428283 *Valenciennea muralis* (Valenciennes, 1837)
37 428284 *Valenciennea puellaris* (Tomiyama, 1956)
37 428285 *Valenciennea sexguttata* (Valenciennes, 1837)
37 428286 *Valenciennea strigata* (Broussonet, 1782)
37 428287 *Valenciennea wardii* (Playfair, 1866)
37 428288 *Vanderhorstia ambanoro* (Fourmanoir, 1957)
37 428289 *Vanderhorstia elongata* Yanagasawa, 1978
37 428290 *Vanderhorstia mertensi* (Klausewitz, 1974)
37 428291 *Vanderhorstia ornatissima* Smith, 1959
37 428292 *Yoga pyrops* (Whitley, 1954)
37 428001 *Yongeichthys criniger* (Valenciennes, 1837)
37 428293 *Yongeichthys nebulosus* (Forsskal, 1775)

37 429000 --- **Family Eleotrididae** ---
37 429011 *Bostrychus sinensis* (Lacepede, 1801)
37 429012 *Bostrychus zonatus* Weber, 1908
37 429013 *Bunaka gyrinoides* (Bleeker, 1853)
37 429009 *Butis butis* (Hamilton-Buchanan, 1822)
37 429014 *Butis wardi* Whitley, 1939
37 429015 *Calumia gedeffroyi* (Gunther, 1877)
37 429016 *Eleotris acanthopoma* (Bleeker, 1853)
37 429017 *Eleotris fusca* (Bloch & Schneider, 1801)
37 429018 *Eleotris melanosoma* Bleeker, 1852
37 429019 *Giuris margaritacea* (Valenciennes, 1837)
37 429020 *Gobiomorphus australis* (Krefft, 1864)
37 429021 *Gobiomorphus coxii* (Krefft, 1864)
37 429022 *Hypseleotris aurea* Shipway, 1950
37 429023 *Hypseleotris compressus* Krefft, 1864
37 429024 *Hypseleotris ejuncida* Hoese & Allen, 1983
37 429025 *Hypseleotris galii* (Ogilby, 1898)
37 429026 *Hypseleotris kimberleyensis* Hoese & Allen, 1983
37 429027 *Hypseleotris klunzingeri* (Ogilby, 1898)
37 429028 *Hypseleotris regalis* Hoese & Allen, 1983
37 429029 *Incara multisquamatus* Rao, 1971
37 429030 *Kimberleyeleotris hutchinsi* Hoese & Allen, 1987
37 429031 *Kimberleyeleotris notata* Hoese & Allen, 1987
37 429032 *Milyeringa veritas* Whitley, 1948
37 429033 *Mogurnda adspersa* (Castelnau, 1878)
37 429034 *Mogurnda mogurnda* (Richardson, 1844)
37 429035 *Odonteleotris macrodon* (Bleeker, 1855)
37 429007 *Ophiocara porocephala* (Valenciennes, 1837)
37 429036 *Oxyeleotris aruensis* (Weber, 1911)
37 429037 *Oxyeleotris fimbriata* (Weber, 1908)
37 429038 *Oxyeleotris lineolata* (Steindachner, 1867)
37 429039 *Oxyeleotris nullipora* Roberts, 1978
37 429040 *Oxyeleotris selheimi* (Macleay, 1884)
37 429047 *Philypnodon* sp [in Glover, 1990]
37 429002 *Philypnodon grandiceps* (Krefft, 1864)
37 429041 *Prionobutis microps* (Weber, 1908)
37 429042 *Thalasseleotris adela* Hoese & Larson, 1987

37 429000 --- **Family Xenisthmidae** ---
37 429043 *Allomicrodesmus dorothea* Schultz, 1966
37 429044 *Tyson belos* Springer, 1983
37 429045 *Xenisthmus clara* (Jordan & Seale, 1906)
37 429046 *Xenisthmus polyzonatus* (Klunzinger, 1871)

37 432000 --- **Family Kraemeriidae** ---
37 432001 *Kraemeria merensis* Whitley, 1935

37 435000 --- **Family Microdesmidae** ---
37 435002 *Aioliops tetrophthalmus* Rennis & Hoese, 1987
37 435003 *Gunnellichthys curiosus* Dawson, 1968
37 435004 *Gunnellichthys monostigma* Smith, 1958
37 435005 *Gunnellichthys pleurotaenia* Bleeker, 1858
37 435006 *Gunnellichthys viridescens* Dawson, 1968

37 435007 *Nemateleotris decora* Randall & Allen, 1973
37 435008 *Nemateleotris magnifica* Fowler, 1928
37 435009 *Paragunnelichthys seychellensis* Dawson, 1967
37 435010 *Parioglossus formosus* (Smith, 1931)
37 435011 *Parioglossus marginalis* Rennis & Hoese, 1985
37 435012 *Parioglossus palustris* (Herre, 1945)
37 435013 *Parioglossus philippinus* (Herre, 1945)
37 435014 *Parioglossus rainfordi* McCulloch, 1921
37 435015 *Ptereleotris evides* (Jordan & Hubbs, 1925)
37 435016 *Ptereleotris grammica* Randall & Lubbock, 1982
37 435017 *Ptereleotris hanae* (Jordan & Snyder, 1901)
37 435018 *Ptereleotris heteroptera* (Bleeker, 1855)
37 435019 *Ptereleotris microlepis* (Bleeker, 1856)
37 435020 *Ptereleotris monoptera* Randall & Hoese, 1985
37 435021 *Ptereleotris uroditaenia* Randall & Hoese, 1985
37 435022 *Ptereleotris zebra* Fowler, 1938

37 436000 --- **Family Kurtidae** ---
37 436001 *Kurtus gulliveri* Castelnau, 1878

37 437000 --- **Family Acanthuridae** ---
37 437004 *Acanthurus albipectoralis* Allen & Ayling, 1987
37 437005 *Acanthurus auranticavus* Randall, 1956
37 437006 *Acanthurus bariene* Lesson, 1830
37 437007 *Acanthurus blochii* Valenciennes, 1835
37 437008 *Acanthurus dussumieri* Valenciennes, 1835
37 437002 *Acanthurus grammoptilus* Richardson, 1843
37 437009 *Acanthurus guttatus* Forster, 1801
37 437010 *Acanthurus lineatus* (Linnaeus, 1758)
37 437011 *Acanthurus mata* Cuvier, 1829
37 437012 *Acanthurus nigricans* (Linnaeus, 1758)
37 437013 *Acanthurus nigricauda* Duncker & Mohr, 1929
37 437014 *Acanthurus nigrofuscus* (Forsskal, 1775)
37 437015 *Acanthurus nigroris* Valenciennes, 1835
37 437016 *Acanthurus olivaceus* Forster, 1801
37 437017 *Acanthurus pyroferus* Kittlitz, 1834
37 437018 *Acanthurus thompsoni* (Fowler, 1923)
37 437019 *Acanthurus triostegus* (Linnaeus, 1758)
37 437020 *Acanthurus xanthopterus* Valenciennes, 1835
37 437021 *Ctenochaetus binotatus* Randall, 1955
37 437022 *Ctenochaetus striatus* (Quoy & Gaimard, 1825)
37 437023 *Ctenochaetus strigosus* (Bennett, 1828)
37 437024 *Naso annulatus* (Quoy & Gaimard, 1825)
37 437025 *Naso brachycentron* (Valenciennes, 1835)
37 437026 *Naso brevirostris* (Valenciennes, 1835)
37 437027 *Naso fageni* Morrow, 1954
37 437028 *Naso hexacanthus* (Bleeker, 1855)
37 437029 *Naso lituratus* (Forster, 1801)
37 437030 *Naso lopezi* Herre, 1927
37 437038 *Naso maculatus* Randall & Struhsaker, 1981
37 437003 *Naso tuberosus* Lacepede, 1802
37 437031 *Naso unicornis* (Forsskal, 1775)
37 437032 *Naso vlamingii* (Valenciennes, 1835)
37 437033 *Paracanthurus hepatus* (Linnaeus, 1766)
37 437034 *Prionurus maculatus* Ogilby, 1887
37 437035 *Prionurus microlepidotus* Lacepede, 1804
37 437001 *Zanclus cornutus* (Linnaeus, 1758)
37 437036 *Zebrasoma scopas* (Cuvier, 1829)
37 437037 *Zebrasoma veliferus* (Bloch, 1797)

37 438000 --- **Family Siganidae** ---
37 438007 *Siganus argenteus* (Quoy & Gaimard, 1825)
37 438004 *Siganus canaliculatus* (Park, 1797)
37 438008 *Siganus corallinus* (Valenciennes, 1835)
37 438009 *Siganus doliatus* Cuvier, 1830
37 438001 *Siganus fuscescens* (Houttuyn, 1782)
37 438005 *Siganus javus* (Linnaeus, 1766)

37 438010 *Siganus lineatus* (Valenciennes, 1835)
37 438011 *Siganus puellus* (Schlegel, 1852)
37 438012 *Siganus punctatissimus* Fowler & Bean, 1929
37 438003 *Siganus punctatus* (Schneider, 1801)
37 438013 *Siganus spinus* (Linnaeus, 1758)
37 438014 *Siganus trispilos* Woodland & Allen, 1977
37 438015 *Siganus unimaculatus* (Evermann & Seale, 1907)
37 438006 *Siganus vermiculatus* (Valenciennes, 1835)
37 438016 *Siganus virgatus* (Valenciennes, 1835)
37 438017 *Siganus vulpinus* (Schlegel & Muller, 1845)

37 439000 **--- Family Scombrolabracidae ---**
37 439015 *Scombrolabrax heterolepis* Roule, 1921

37 439000 **--- Family Gempylidae ---**
37 439017 *Diplosopinus multistriatus* Maul, 1948
37 439010 *Gempylus serpens* Cuvier, 1829
37 439008 *Lepidocybium flavobrunneum* (Smith, 1849)
37 439011 *Nealotus tripes* Johnson, 1865
37 439004 *Neopinnula orientalis* (Gilchrist & von Bonde, 1924)
37 439012 *Nesiarchus nasutus* Johnson, 1862
37 439005 *Paradiplospinus gracilis* (Brauer, 1906)
37 439013 *Promethichtys prometheus* (Cuvier, 1832)
37 439009 *Rexea antefurcata* Parin, 1989
37 439007 *Rexea bengalensis* (Alcock, 1894)
37 439006 *Rexea prometheoides* (Bleeker, 1856)
37 439002 *Rexea solandri* (Cuvier, 1831)
37 439014 *Rexichthys johnpaxtoni* Parin & Astakhov, 1987
37 439003 *Ruvettus pretiosus* Cocco, 1829
37 439001 *Thyrsites atun* (Euphrasen, 1791)
37 439016 *Thyrsitoides marleyi* Fowler, 1929
37 439018 *Tongaichthys robustus* Nakamura & Fujii, 1983

37 440000 **--- Family Trichiuridae ---**
37 440010 *Aphanopus intermedius* Parin, 1983
37 440007 *Assurger anzac* (Alexander, 1916)
37 440001 *Benthodesmus elongatus* (Clarke, 1879)
37 440011 *Benthodesmus tuckeri* Parin & Becker, 1970
37 440008 *Benthodesmus vitiazi* Parin & Becker, 1970
37 440002 *Lepidopus caudatus* (Euphrasen, 1788)
37 440009 *Lepturacanthus savala* (Cuvier, 1829)
37 440006 *Tentoriceps cristatus* (Klunzinger, 1884)
37 440004 *Trichiurus lepturus* Linnaeus, 1758

37 441000 **--- Family Scombridae ---**
37 441024 *Acanthocybium solandri* (Cuvier, 1831)
37 441021 *Allothunnus fallai* Serventy, 1948
37 441027 *Auxis rochei* Risso, 1810
37 441009 *Auxis thazard* (Lacepede, 1800)
37 441008 *Cybiosarda elegans* (Whitley, 1935)
37 441010 *Euthynnus affinis* (Cantor, 1849)
37 441019 *Gasterochisma melampus* Richardson, 1845
37 441025 *Grammatorcynus bicarinatus* (Quoy *et al.*, 1825)
37 441028 *Grammatorcynus bilineatus* (Ruppell, 1836)
37 441029 *Gymnosarda unicolor* (Ruppell, 1838)
37 441003 *Katsuwonus pelamis* (Linnaeus, 1758)
37 441023 *Rastrelliger faughni* Matsui, 1967
37 441012 *Rastrelliger kanagurta* (Cuvier, 1817)
37 441020 *Sarda australis* (Macleay, 1880)
37 441006 *Sarda orientalis* (Temminck & Schlegel, 1844)
37 441001 *Scomber australasicus* Cuvier, 1832
37 441791 *Scomber japonicus*
37 441790 *Scomber scombrus*
37 441007 *Scomberomorus commerson* (Lacepede, 1800)
37 441015 *Scomberomorus munroi* Collette & Russo, 1980
37 441014 *Scomberomorus queenslandicus* Munro, 1943
37 441018 *Scomberomorus semifasciatus* (Macleay, 1884)

37 441005 *Thunnus alalunga* (Bonnaterre, 1788)
37 441002 *Thunnus albacares* (Bonnaterre, 1788)
37 441004 *Thunnus maccoyii* (Castelnau, 1872)
37 441011 *Thunnus obesus* (Lowe, 1839)
37 441026 *Thunnus thynnus* (Linnaeus, 1758)
37 441013 *Thunnus tonggol* (Bleeker, 1851)
37 441909 _ (Common name: Bonito)
37 441792 _ (Common name: Indo-Pacific Mackerel)

37 442000 --- **Family Xiphiidae** ---
37 442001 *Xiphias gladius* Linnaeus, 1758

37 443000 --- **Family Luvaridae** ---
37 443001 *Luvarus imperialis* Rafinesque, 1810

37 444000 --- **Family Istiophoridae** ---
37 444005 *Istiophorus platypterus* (Shaw & Nodder, 1792)
37 444006 *Makaira indica* (Cuvier, 1832)
37 444003 *Makaira mazara* (Jordan & Snyder, 1901)
37 444007 *Tetrapterus angustirostris* Tanaka, 1915
37 444002 *Tetrapterus audax* (Phillipi, 1887)

37 445000 --- **Family Centrolophidae** ---
37 445004 *Centrolophus niger* (Gmelin, 1789)
37 445001 *Hyperoglyphe antarctica* (Carmichael, 1818)
37 445015 *Icichthys australis* Haedrich, 1966
37 445007 *Psenopsis humerosa* Munro, 1958
37 445016 *Psenopsis obscura* Haedrich, 1967
37 445003 *Schedophilus huttoni* (Waite, 1910)
37 445014 *Schedophilus labrynthica* McAllister & Randall, 1975
37 445047 *Schedophilus maculatus* Gunther, 1860

37 445901 *Seriolella* spp
37 445005 *Seriolella brama* (Gunther, 1860)
37 445011 *Seriolella caerulea* Guichenot, 1848
37 445006 *Seriolella punctata* (Forster in B & S, 1801)
37 445002 *Tubbia tasmanica* Whitley, 1943

37 446000 --- **Family Nomeidae** ---
37 446012 *Amarsipus carlsbergi* Haedrich, 1969
37 446006 *Cubiceps baxteri* McCulloch, 1923
37 446010 *Cubiceps caeruleus* Regan, 1914
37 446008 *Cubiceps pauciradiatus* Gunther, 1872
37 446004 *Cubiceps squamiceps* (Lloyd, 1909)
37 446013 *Cubiceps whiteleggii* (Waite, 1894)
37 446009 *Nomeus gronovii* (Gmelin, 1788)
37 446014 *Parapsenes rotundus* (Smith, 1949)
37 446011 *Psenes arafurensis* Gunther, 1889
37 446015 *Psenes cyanophrys* Valenciennes, 1833
37 446016 *Psenes hillii* Ogilby, 1915
37 446001 *Psenes pellucidus* Lutken, 1880

37 447000 --- **Family Ariommatidae** ---
37 447003 *Ariomma* sp [in Sainsbury et al, 1985]
37 447900 *Ariomma* spp
37 447007 *Ariomma indica* (Day, 1870)

37 448000 --- **Family Stromateidae** ---
37 448750 _ (Common name: Pomfret)

37 449000 --- **Family Tetragonuridae** ---
37 449001 *Tetragonurus cuvieri* Risso, 1910

37 457000 **--- Family Psettodidae ---**
37 457001 *Psettodes erumei* (Bloch & Schneider, 1801)
37 457900 _ (Common name: Indian Turbot)

37 458000 **--- Family Citharidae ---**
37 458001 *Brachypleura novaezeelandiae* Gunther, 1862

37 460000 **--- Family Bothidae ---**
37 460027 *Arnoglossus andrewsi* Kurth, 1954
37 460028 *Arnoglossus armstrongi* Scott, 1975
37 460021 *Arnoglossus aspilos praeteritus* Whitley, 1950
37 460029 *Arnoglossus bassensis* Norman, 1926
37 460040 *Arnoglossus elongatus* Weber, 1913
37 460043 *Arnoglossus fisoni* (Ogilby, 1898)
37 460034 *Arnoglossus japonicus* Hubbs, 1915
37 460030 *Arnoglossus muelleri* (Klunzinger, 1872)
37 460020 *Arnoglossus polyspilus* (Gunther, 1880)
37 460044 *Arnoglossus tenuis* Gunther, 1880
37 460045 *Arnoglossus waitei* Norman, 1926
37 460057 *Asterorhombus fijiensis* (Norman, 1931)
37 460046 *Asterorhombus intermedius* (Bleeker, 1866)
37 460047 *Bothus mancus* (Broussonet, 1782)
37 460042 *Bothus myriaster* Temminck & Schlegel, 1846
37 460048 *Bothus pantherinus* Ruppell, 1828
37 460049 *Chascanopsetta lugubris* Alcock, 1894
37 460058 *Crossorhombus bowensis* Hensley & Randall, 1993
37 460019 *Crossorhombus kanekonis* (Tanaka, 1918)
37 460024 *Engyprosopon* sp 1 [in Sainsbury et al, 1985]
37 460014 *Engyprosopon* sp 2 [in Sainsbury et al, 1985]
37 460050 *Engyprosopon bleekeri* (Macleay, 1881)
37 460012 *Engyprosopon grandisquama* (Temm. & Schl., 1846)
37 460039 *Engyprosopon longipelvis* Amaoka, 1969
37 460013 *Engyprosopon maculipinna* (Folwer, 1934)
37 460016 *Grammatobothus pennatus* (Ogilby, 1913)
37 460010 *Grammatobothus polyophthalmus* (Bleeker, 1866)
37 460006 *Kamoharia megastoma* (Kamohara, 1936)
37 460051 *Laeops lanceolata* Franz, 1910
37 460022 *Laeops parviceps* Gunther, 1880
37 460001 *Lophonectes gallus* Gunther, 1880
37 460052 *Mancopsetta milfordi* Penrith, 1965
37 460053 *Parabothus kiensis* (Tanaka, 1918)
37 460033 *Psettina gigantea* Amaoka, 1963
37 460017 *Psettina iijimae* (Jordan & Starks, 1904)
37 460026 *Psettina tosana* Amaoka, 1963
37 460032 *Pseudorhombus* sp 1 cf dupliciocellatus
37 460054 *Pseudorhombus anomalus* Ogilby, 1912
37 460038 *Pseudorhombus argus* Weber, 1913
37 460009 *Pseudorhombus arsius* (Hamilton, 1822)
37 460015 *Pseudorhombus diplospilus* Norman, 1926
37 460004 *Pseudorhombus dupliciocellatus* Regan, 1905
37 460008 *Pseudorhombus elevatus* Ogilby, 1912
37 460002 *Pseudorhombus jenynsii* (Bleeker, 1855)
37 460035 *Pseudorhombus megalops* Fowler, 1934
37 460055 *Pseudorhombus moorei* Thominot, 1880
37 460056 *Pseudorhombus multimaculatus* Gunther, 1862
37 460025 *Pseudorhombus quinquocellatus* Weber *et al.*, 1929
37 460011 *Pseudorhombus spinosus* McCulloch, 1914
37 460031 *Pseudorhombus tenuirastrum* (Waite, 1899)

37 461000 **--- Family Pleuronectidae ---**
37 461016 *Ammotretis brevipinnis* Norman, 1926
37 461007 *Ammotretis elongatus* McCulloch, 1914
37 461004 *Ammotretis lituratus* (Richardson, 1843)
37 461012 *Ammotretis macrolepis* McCulloch, 1914
37 461001 *Ammotretis rostratus* Gunther, 1862
37 461017 *Ammotretis tudori* McCulloch, 1914
37 461795 *Atheresthes* spp

37 461002 *Azygopus pinnifasciatus* Norman, 1926
37 461790 *Colistium guntheri*
37 461018 *Lepidoblepharon ophthalmolepis* Weber, 1913
37 461019 *Nematops macrochirus* Norman, 1931
37 461020 *Nematops microstoma* Gunther, 1880
37 461796 *Pelotretis flavilatus*
37 461794 *Peltorhamphus novaezelandiae*
37 461792 *Pleuronectes platessa*
37 461013 *Poecilopsetta* sp [in Sainsbury et al, 1985]
37 461021 *Poecilopsetta plinthus* (Jordan & Starks, 1904)
37 461022 *Poecilopsetta praelonga* Alcock, 1894
37 461009 *Psammodiscus ocellatus* Gunther, 1862
37 461793 *Reinhardtius hippoglossoides*
37 461023 *Rhombosolea leporina* Gunther, 1862
37 461024 *Rhombosolea plebia* (Richardson, 1843)
37 461003 *Rhombosolea tapirina* Gunther, 1862
37 461006 *Samaris cristatus* Gray, 1831
37 461015 *Samariscus huysmani* Weber, 1913
37 461025 *Samariscus triocellatus* Woods, 1966
37 461011 *Taratretis derwentensis* Last, 1978
37 461900 _ (Common name: Bay Flounder)
37 461791 _ (Common name: Flounder)

37 462000 --- **Family Soleidae** ---
37 462011 *Aesopia* sp [in Sainsbury et al, 1985]
37 462001 *Aesopia cornuta* Kaup, 1858
37 462019 *Aseraggodes bahamondei* Randall & Melendez, 1987
37 462020 *Aseraggodes haackeanus* (Steindachner, 1883)
37 462021 *Aseraggodes klunzingeri* (Weber, 1908)
37 462012 *Aseraggodes melanospilus* (Bleeker, 1854)
37 462016 *Aseraggodes melanostictus* (Peters, 1876)
37 462002 *Aseraggodes normani* Chabanaud, 1930
37 462038 *Aseraggodes ramsaii* (Ogilby, 1889)
37 462007 *Dexillichthys muelleri* (Steindachner, 1879)
37 462022 *Euryglossa breviceps* (Ogilby, 1910)
37 462023 *Euryglossa fitzroiensis* (De Vis, 1883)
37 462024 *Euryglossa orientalis* (Bloch & Schneider, 1801)
37 462025 *Euryglossa salinarum* (Ogilby, 1910)
37 462026 *Euryglossa selheimi* (Macleay, 1882)
37 462027 *Haplozebrias fasciatus* (Macleay, 1882)
37 462028 *Microbuglossus humilis* (Cantor, 1850)
37 462029 *Pardachirus hedleyi* Ogilby, 1916
37 462009 *Pardachirus pavoninus* (Lacepede, 1802)
37 462030 *Pardachirus poropterus* (Bleeker, 1851)
37 462008 *Pardicula setifer* (Paradice, 1927)
37 462005 *Phyllichthys punctatus* McCulloch, 1916
37 462031 *Phyllichthys sclerolepis* (Macleay, 1878)
37 462032 *Rendahlia jaubertensis* (Rendahl, 1921)
37 462790 *Solea vulgaris*
37 462015 *Soleichthys heterorhinos* (Bleeker, 1856)
37 462034 *Soleichthys lineatus* (Ramsay, 1883)
37 462033 *Soleichthys microcephalus* (Gunther, 1862)
37 462006 *Strabozebrias cancellatus* (McCulloch, 1916)
37 462039 *Strabozebrias munroi* Whitley, 1966
37 462014 *Synaptura annularis* (Fowler, 1933)
37 462035 *Synaptura aspilos* Bleeker, 1852
37 462017 *Synaptura nigra* Macleay, 1880
37 462018 *Synclidopus macleayanus* (Ramsay, 1881)
37 462003 *Zebrias craticula* (McCulloch, 1916)
37 462036 *Zebrias penescalaris* Gomon, 1987
37 462004 *Zebrias quagga* (Kaup, 1858)
37 462010 *Zebrias scalarias* (Macleay, 1882)
37 462037 *Zebrias zebrinus* (Teminck & Schlegel, 1846)

37 463000 --- **Family Cynoglossidae** ---
37 463010 *Cynoglossus* sp cf joyneri [in Sainsbury et al, 1985]
37 463013 *Cynoglossus bilineatus* (Lacepede, 1801)
37 463015 *Cynoglossus broadhursti* Waite, 1905

37 463016 *Cynoglossus heterolepis* Weber, 1910
37 463006 *Cynoglossus kopsi* (Bleeker, 1851)
37 463008 *Cynoglossus macrophthalmus* Norman, 1926
37 463003 *Cynoglossus maculipinnis* Rendahl, 1921
37 463017 *Cynoglossus ogilbyi* Norman, 1926
37 463018 *Cynoglossus puncticeps* (Richardson, 1846)
37 463019 *Paraplagusia acumineata* (Bloch, 1787)
37 463001 *Paraplagusia bilineata* (Bloch, 1784)
37 463007 *Paraplagusia blochii* (Bleeker, 1851)
37 463002 *Paraplagusia longirostris* Chapleau, *et al.*, 1991
37 463022 *Paraplagusia sinerama* Chapleau & Renaud, 1993
37 463014 *Symphurus* sp A [info from Last]
37 463021 *Symphurus* sp B [info from Last]
37 463020 *Symphurus australis* McCulloch, 1907

37 464000 --- **Family Triacanthidae** ---
37 464008 *Pseudotriacanthus strigilifer* (Cantor, 1850)
37 464002 *Triacanthus biaculeatus* (Bloch, 1786)
37 464009 *Triacanthus nieuhofi* Bleeker, 1852
37 464007 *Tripodichthys angustifrons* Tyler, 1968
37 464006 *Tripodichthys blochi* (Bleeker, 1852)
37 464005 *Tripodichthys oxycephalus* (Bleeker, 1851)
37 464001 *Trixiphichthys weberi* (Chaudhuri, 1910)

37 464000 --- **Family Triacanthodidae** ---
37 464010 *Bathyphylax bombifrons* Mysers, 1934
37 464011 *Bathyphylax omen* Tyler, 1966
37 464012 *Halimochirurgus alcocki* Weber, 1913
37 464013 *Halimochirurgus centriscoides* Alcock, 1899
37 464004 *Macrorhamphosodes platycheilus* Fowler, 1934
37 464014 *Macrorhamphosodes uradoi* (Kamohara, 1933)
37 464015 *Paratriacanthodes herrei* Myers, 1934
37 464016 *Paratriacanthodes retrospinis* Fowler, 1934
37 464003 *Triacanthodes ethiops* Alcock, 1894
37 464017 *Tydemania navigatoris* Weber, 1913

37 465000 --- **Family Balistidae** ---
37 465011 *Abalistes stellaris* (Bloch & Schneider, 1801)
37 465047 *Balistapus undulatus* (Park, 1797)
37 465031 *Balistoides conspicillum* (Bloch & Schneider, 1801)
37 465048 *Balistoides viridescens* (Bloch & Schneider, 1801)
37 465058 *Melichthys vidua* (Solander, 1844)
37 465061 *Odonus niger* (Ruppell, 1837)
37 465071 *Pseudobalistes flavimarginatus* (Ruppell, 1829)
37 465027 *Pseudobalistes fuscus* (Bloch & Schneider, 1801)
37 465028 *Rhinecanthus aculeatus* (Linnaeus, 1758)
37 465072 *Rhinecanthus lunula* Randall & Steene, 1983
37 465073 *Rhinecanthus rectangulus* (Bloch & Schneider, 1801)
37 465074 *Rhinecanthus verrucosus* (Linnaeus, 1758)
37 465078 *Sufflamen bursa* (Bloch & Schneider, 1801)
37 465079 *Sufflamen chrysopterus* (Bloch & Schneider, 1801)
37 465014 *Sufflamen fraenatus* (Latreille, 1804)
37 465080 *Xanthichthys auromarginatus* (Bennett, 1831)
37 465016 *Xanthichthys lineopunctatus* (Hollard, 1854)
37 465900 _ (Common name: Brown Lined Trigger Fish)

37 465000 --- **Family Monacanthidae** ---
37 465001 *Acanthaluteres brownii* (Richardson, 1846)
37 465043 *Acanthaluteres spilomelanurus* (Quoy & Gaimard, 1824)
37 465002 *Acanthaluteres vittiger* (Castelnau, 1873)
37 465044 *Acreichthys radiatus* (Popta, 1901)
37 465042 *Acreichthys tomentosus* (Bleeker, 1865)
37 465022 *Aluterus monoceros* (Linnaeus, 1758)
37 465045 *Aluterus scriptus* (Osbeck, 1765)
37 465046 *Amanses scopas* Cuvier, 1829
37 465010 *Anacanthus barbatus* Gray, 1831

37 465025 *Brachaluteres jacksonianus* (Quoy & Gaimard, 1824)
37 465049 *Brachaluteres taylori* Woods, 1966
37 465050 *Cantherhines dumerili* (Hollard, 1854)
37 465041 *Cantherhines fronticinctus* (Playfair & Gunther, 1867)
37 465051 *Cantherhines pardalis* (Ruppell, 1837)
37 465052 *Cantheschenia grandisquamis* Hutchins, 1977
37 465053 *Cantheschenia longipinnis* (Fraser-Brunner, 1941)
37 465013 *Chaetodermis penicilligerus* (Cuvier, 1817)
37 465054 *Colurodontis paxmani* Hutchins, 1977
37 465039 *Eubalichthys bucephalus* (Whitley, 1931)
37 465018 *Eubalichthys caeruleoguttatus* Hutchins, 1977
37 465055 *Eubalichthys cyanoura* Hutchins, 1987
37 465034 *Eubalichthys gunnii* (Gunther, 1870)
37 465003 *Eubalichthys mosaicus* (Ramsay & Ogilby, 1886)
37 465032 *Eubalichthys quadrispinis* Hutchins, 1977
37 465008 *Meuschenia australis* (Donovan, 1824)
37 465035 *Meuschenia flavolineata* Hutchins, 1977
37 465036 *Meuschenia freycineti* (Quoy & Gaimard, 1824)
37 465040 *Meuschenia galii* (Waite, 1905)
37 465004 *Meuschenia hippocrepis* (Quoy & Gaimard, 1824)
37 465059 *Meuschenia trachylepis* (Gunther, 1870)
37 465060 *Meuschenia venusta* Hutchins, 1977
37 465009 *Monacanthus chinensis* (Osbeck, 1765)
37 465006 *Nelusetta ayraudi* (Quoy & Gaimard, 1824)
37 465062 *Oxymonacanthus longirostris* (Bloch & Schneider, 1801)
37 465063 *Paraluteres prionurus* (Bleeker, 1851)
37 465064 *Paramonacanthus choirocephalus* (Bleeker, 1852)
37 465024 *Paramonacanthus filicauda* (Gunther, 1880)
37 465017 *Paramonacanthus japonicus* (Tilesius, 1810)
37 465030 *Paramonacanthus nipponensis* (Komohara, 1939)
37 465065 *Paramonacanthus otisensis* Whitley, 1931
37 465005 *Parika scaber* (Schneider, 1801)
37 465066 *Pervagor alternans* (Ogilby, 1899)
37 465067 *Pervagor aspricaudus* (Hollard, 1854)
37 465068 *Pervagor janthinosoma* (Bleeker, 1854)
37 465069 *Pervagor melanocephalus* (Bleeker, 1853)
37 465070 *Pervagor nigrolineatus* (Herre, 1927)
37 465029 *Pseudomonacanthus elongatus* Fraser-Brunner, 1940
37 465020 *Pseudomonacanthus peroni* (Hollard, 1854)
37 465075 *Rudarius excelsus* Hutchins, 1977
37 465076 *Rudarius minutus* Tyler, 1970
37 465007 *Scobinichthys granulatus* (Shaw, 1790)
37 465077 *Stephanolepis* sp [in Allen & Swainston, 1988]
37 465037 *Thamnaconus degeni* (Regan, 1903)
37 465012 *Thamnaconus hypargyreus* (Cope, 1871)
37 465038 *Thamnaconus modestoides* (Barnard, 1927)
37 465019 *Thamnaconus striatus* (Kotthaus, 1979)
37 465026 *Thamnaconus tessellatus* (Gunther, 1880)
37 465901 _ (Comments: Mixed Leatherjackets)

37 466000 --- **Family Ostraciidae** ---
37 466015 *Anoplocapros amygdaloides* Fraser-Brunner, 1941
37 466002 *Anoplocapros inermis* (Fraser-Brunner, 1935)
37 466010 *Anoplocapros lenticularis* (Richardson, 1841)
37 466016 *Anoplocapros robustus* (Fraser-Brunner, 1941)
37 466003 *Aracana aurita* (Shaw, 1798)
37 466001 *Aracana ornata* (Gray, 1838)
37 466014 *Caprichthys gymnura* McCulloch & Waite, 1915
37 466011 *Capropygia unistriata* (Kaup, 1855)
37 466023 *Kentrocapros flavofasciatus* (Kamohara, 1938)
37 466004 *Lactoria cornuta* (Linnaeus, 1758)
37 466007 *Lactoria diaphana* (Bloch & Schneider, 1801)
37 466018 *Lactoria fornasini* (Bianconi, 1846)
37 466013 *Ostracion cubicus* Linnaeus, 1758
37 466019 *Ostracion meleagris* Shaw, 1796
37 466020 *Ostracion solorensis* Bleeker, 1853
37 466021 *Polyplacapros tyleri* Fujii & Uyeno, 1979
37 466005 *Rhynchostracion nasus* (Bloch, 1785)
37 466009 *Rhynchostracion rhinorhynchus* (Bleeker, 1852)

37 466022 *Tetrosomus concatenatus* (Bloch, 1786)
37 466006 *Tetrosomus gibbosus* (Linnaeus, 1758)
37 466008 *Tetrosomus reipublicae* (Ogilby, 1913)

37 467000 **--- Family Tetraodontidae ---**
37 467010 *Anchisomus multistriatus* Richardson, 1854
37 467024 *Arothron aerostaticus* (Jenyns, 1842)
37 467005 *Arothron firmamentum* (Temminck & Schlegel, 1850)
37 467033 *Arothron hispidus* (Linnaeus, 1758)
37 467034 *Arothron immaculatus* (Bloch & Schneider, 1801)
37 467020 *Arothron manilensis* (de Proce, 1822)
37 467035 *Arothron mappa* (Lesson, 1830)
37 467064 *Arothron meleagris* (Bloch & Schneider, 1801)
37 467027 *Arothron nigropunctatus* (Bloch & Schneider, 1801)
37 467021 *Arothron reticularis* (Bloch & Schneider, 1801)
37 467014 *Arothron stellatus* (Bloch & Schneider, 1801)
37 467036 *Canthigaster amboinensis* (Bleeker, 1865)
37 467037 *Canthigaster bennetti* (Bleeker, 1854)
37 467038 *Canthigaster callisterna* (Ogilby, 1889)
37 467013 *Canthigaster coronata* (Vaillant & Sauvage, 1875)
37 467039 *Canthigaster epilampra* (Jenkins, 1903)
37 467040 *Canthigaster janthinoptera* (Bleeker, 1855)
37 467041 *Canthigaster ocellicincta* Allen & Randall, 1977
37 467018 *Canthigaster rivulata* (Schlegel, 1850)
37 467042 *Canthigaster solandri* (Richardson, 1844)
37 467043 *Canthigaster valentini* (Bleeker, 1853)
37 467015 *Chelonodon patoca* (Hamilton-Buchanan, 1822)
37 467044 *Contusus brevicaudas* Hardy, 1981
37 467001 *Contusus richei* (Freminville, 1813)
37 467008 *Lagocephalus inermis* (Temminck & Schlegel, 1850)
37 467023 *Lagocephalus lagocephalus* (Linnaeus, 1758)
37 467012 *Lagocephalus lunaris* (Bloch & Schneider, 1801)
37 467007 *Lagocephalus sceleratus* (Gmelin, 1788)
37 467017 *Lagocephalus spadiceus* (Richardson, 1844)
37 467045 *Liosaccus aerobaticus* Whitley, 1928
37 467046 *Marilyna darwinii* (Castelnau, 1873)
37 467047 *Marilyna meraukensis* (de Beaufort, 1955)
37 467032 *Marilyna pleurosticta* (Gunther, 1872)
37 467002 *Omegophora armilla* (McCulloch & Waite, 1915)
37 467048 *Omegophora cyanopunctata* Hardy & Hutchins, 1981
37 467049 *Polyspina piosae* (Whitley, 1955)
37 467050 *Reicheltia halsteadi* (Whitley, 1957)
37 467051 *Sphoeroides liosomus* Regan, 1909
37 467052 *Sphoeroides marmoratus* (Castelnau, 1873)
37 467053 *Sphoeroides oblongus* (Bloch, 1786)
37 467004 *Sphoeroides pachygaster* (Muller & Troschel, 1848)
37 467019 *Takifugu poecilonotus* (Temminck & Schlegel, 1850)
37 467003 *Tetractenos glaber* (Freminville, 1813)
37 467054 *Tetractenos hamiltoni* (Gray & Richardson, 1843)
37 467031 *Tetraodon erythrotaenia* Bleeker, 1853
37 467055 *Tetraodon staigeri* Castelnau, 1878
37 467056 *Torquigener altipinnis* (Ogilby, 1891)
37 467057 *Torquigener andersonae* Hardy, 1983
37 467026 *Torquigener hicksi* Hardy, 1983
37 467058 *Torquigener hypselogeneion* (Bleeker, 1852)
37 467009 *Torquigener pallimaculatus* Hardy, 1983
37 467029 *Torquigener parcusipinus* Hardy, 1983
37 467059 *Torquigener paxtoni* Hardy, 1983
37 467060 *Torquigener perlevis* (Ogilby, 1908)
37 467030 *Torquigener pleurogramma* (Regan, 1903)
37 467061 *Torquigener squamicauda* (Ogilby, 1911)
37 467062 *Torquigener tuberculiferus* (Ogilby, 1912)
37 467063 *Torquigener vicinus* Whitley, 1930
37 467028 *Torquigener whitleyi* (Paradice, 1927)
37 467022 *Tylerius spinosissimus* (Regan, 1908)

37 468000 **--- Family Triodontidae ---**
37 468001 *Triodon macropterus* Lesson, 1829

37 469000 --- **Family Diodontidae** ---
37 469002 *Allomycterus pilatus* Whitley, 1931
37 469014 *Chilomycterus reticulatus* (Linnaeus, 1758)
37 469008 *Cyclichthys hardenbergi* (de Beaufort, 1939)
37 469007 *Cyclichthys orbicularis* (Bloch, 1785)
37 469003 *Cyclichthys spilostylus* (Leis & Randall, 1982)
37 469013 *Dicotylichthys punctulatus* Kaup, 1855
37 469005 *Diodon holacanthus* Linnaeus, 1758
37 469015 *Diodon hystrix* Linnaeus, 1758
37 469016 *Diodon liturosus* Shaw, 1804
37 469001 *Diodon nicthemerus* Cuvier, 1818
37 469010 *Lophodiodon calori* (Bianconi, 1855)
37 469004 *Tragulichthys jaculiferus* (Cuvier, 1818)

37 470000 --- **Family Molidae** ---
37 470003 *Masturus lanceolatus* (Lienard, 1840)
37 470002 *Mola mola* Linnaeus, 1758
37 470001 *Mola ramsayi* (Giglioli, 1883)
37 470004 *Ranzania laevis* (Pennant, 1776)

The following codes apply to fish and seafood species, both local and imported, marketed in Australia. This list has been extracted from version 3 of the 'Marketing Names Guide'.

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
A		
Acanthopagrus australis	**BREAM - Yellowfin**	00 353004
Acanthopagrus berda	**BREAM - Pikey**	00 353011
Acanthopagrus butcheri	**BREAM - Black**	00 353003
Aethaloperca species	**COD - Rock**	00 311901
Aldrichetta forsteri	**MULLET**	00 381900
Allocyttus niger	**OREO - Black**	00 266901
Allocyttus verrucosus	**OREO - Black**	00 266901
Ammotretis species	**FLOUNDER - Bay**	00 461900
Anguilla australis	**EEL - Shortfin**	00 056001
Anguilla reinhardtii	**EEL - Longfin**	00 056002
Anyperodon species	**COD - Rock**	00 311901
Aprion microlepis	**SNAPPER - King**	00 346032
Aprion virescens	**JOBFISH - Green**	00 346027
Argyrosomus hololepidotus	**MULLOWAY**	00 354903
Arius graeffei	**CATFISH - Blue**	00 188005
Arius midgleyi	**COBBLER - Silver**	00 188010
Arrhamphus sclerolepis	**GARFISH - Northern**	00 234900
Arripis georgianus	**AUSTRALIAN HERRING**	00 344001
Arripis trutta	**AUSTRALIAN SALMON**	00 344900
Arripis truttaceus	**AUSTRALIAN SALMON**	00 344900
Atheresthes species	**FLOUNDER - Arrowtooth**	00 461795
Atractoscion aequidens	**TERAGLIN**	00 354020
Auxis thazard	**MACKEREL - Frigate**	00 441009
B		
Beryx decadactylus	**IMPERADOR**	00 258001
Beryx splendens	**ALFONSINO**	00 258002
Bidyanus bidyanus	**PERCH - Silver**	00 321008
Brama species	**RAYS BREAM**	00 342901
C		
Callorhinchus milii	**ELEPHANT FISH**	00 043001
Caranx sexfasciatus	**TREVALLY - Great**	00 337039
Carassius auratus	**GOLDFISH**	00 165001
Carcharhinus brachyurus	**SHARK - Bronze Whaler**	00 018001
Carcharhinus obscurus	**SHARK - Bronze Whaler**	00 018001
Carcharhinus species	**SHARK - Black Tip**	00 018901
Centroberyx affinis	**REDFISH**	00 258003
Centroberyx gerrardi	**REDFISH - Bight**	00 258004

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Centroberyx lineatus	**SWALLOWTAIL**	00 258005
Centrophorus harrisoni	**DOGFISH - Endeavour**	00 020902
Centrophorus moluccensis	**DOGFISH - Endeavour**	00 020902
Centrophorus uyato	**DOGFISH - Endeavour**	00 020902
Cephalopholis species	**COD - Coral**	00 311904
Cheilinus trilobatus	**WRASSE - Maori**	00 384044
Cheilinus undulatus	**WRASSE - Maori**	00 384044
Chelidonichthys kumu	**GURNARD - Red**	00 288001
Choerodon cephalotes	**TUSKFISH**	00 384902
Choerodon schoenleinii	**TUSKFISH**	00 384902
Choerodon venustus	**TUSKFISH**	00 384902
Clupea harengus	**HERRING**	00 085790
Cnidoglanis macrocephalus	**COBBLER**	00 192001
Colistium guntheri	**BRILL**	00 461790
Conger verreauxi	**EEL - Conger**	00 067007
Conger wilsoni	**EEL - Conger**	00 067007
Cromileptes altivelis	**COD - Barramundi**	00 311044
Cyprinus carpio	**CARP - European**	00 165003
Cyttus australis	**DORY - Silver**	00 264002
Cyttus traversi	**DORY - King**	00 264001
D		
Dannevigia tusca	**TUSK**	00 228001
Dasyatididae family	**RAY**	00 990001
E		
Eleutheronema tetradactylum	**THREADFIN - Blue**	00 383004
Emmelichthys species	**REDBAIT**	00 345901
Engraulis australis	**ANCHOVY**	00 086001
Epigonus telescopus	**CARDINAL FISH**	00 327035
Epinephelus species	**COD - Rock**	00 311901
Euthynnus affinis	**TUNA - Mackerel**	00 441010
F		
Furgaleus macki	**SHARK - Whiskery**	00 017003
G		
Gadus macrocephalus	**COD - Pacific**	00 226791
Gadus morhua	**COD - Atlantic**	00 226790
Galaxias maculatus	**WHITEBAIT**	00 990002
Galeorhinus galeus	**SHARK - School**	00 017008
Genypterus species	**LING**	00 228901
Girella tricuspidata	**LUDERICK**	00 361007
Glaucosoma hebraicum	**DHUFISH - West Australian**	00 320004
Glaucosoma species	**PERCH - Pearl**	00 320901

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Gnathanodon speciosus	**TREVALLY - Golden**	00 337012
Grammatorcynus bicarinatus	**MACKEREL - Shark**	00 441025
H		
Haletta semifasciata	**WHITING - Grass**	00 385009
Hameulidae species	**SWEETLIP**	00 350000
Helicolenus barathri	**OCEAN PERCH**	00 287901
Helicolenus percoides	**OCEAN PERCH**	00 287901
Hemiramphus robustus	**GARFISH - Northern**	00 234900
Hoplostethus atlanticus	**ROUGHY - Orange**	00 255009
Hyperlophus vittatus	**SPRAT - Sandy**	00 085005
Hyperoglyphe antarctica	**BLUE EYE**	00 445001
Hyporhamphus australis	**GARFISH - Eastern Sea**	00 234014
Hyporhamphus melanochir	**GARFISH - Southern**	00 234001
Hyporhamphus regularis	**GARFISH - River**	00 234012
K		
Katsuwonus pelamis	**TUNA - Skipjack**	00 441003
L		
Labridae family	**WRASSE**	00 384901
Lampris guttatus	**MOONFISH**	00 268900
Lampris regius	**MOONFISH**	00 268900
Lates calcarifer	**BARRAMUNDI**	00 310006
Lates niloticus	**PERCH - Nile**	00 310790
Latridopsis species	**TRUMPETER**	00 378900
Latris lineata	**TRUMPETER - Striped**	00 378001
Lepidopus caudatus	**RIBBONFISH**	00 440002
Lepidotrigla species	**GURNARD - Butterfly**	00 288901
Lethrinus species	**EMPEROR**	00 351902
Liza species	**MULLET**	00 381900
Liza vaigiensis	**MULLET - Diamond Scale**	00 381008
Lotella species	**COD - Southern Rock**	00 224003
Lovettia sealii	**WHITEBAIT**	00 990002
Lutjanus adetii	**HUSSAR**	00 346033
Lutjanus sebae	**EMPEROR - Red**	00 346004
Lutjanus species	**PERCH - Sea**	00 346905
M		
Maccullochella species	**COD - Murray**	00 311903
Macquaria ambigua	**PERCH - Golden**	00 311075
Macruronus novaezelandiae	**GRENADIER - Blue**	00 227001
Melanogrammus aeglefinus	**HADDOCK**	00 226792
Merlangius merlangus	**WHITING - North Sea**	00 226794
Merluccius australis	**HAKE - Southern**	00 227002

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Merluccius capensis	**HAKE - Cape**	00 227790
Merluccius gayi	**HAKE - Pacific**	00 227791
Merluccius hubbsi	**HAKE - South Atlantic**	00 227792
Meuschenia freycineti	**LEATHERJACKET - Reef**	00 465036
Micromesistius australis	**BLUE WHITING - Southern**	00 226795
Monacanthidae family	**LEATHERJACKET**	00 465901
Mora moro	**RIBALDO**	00 224002
Mugil cephalus	**MULLET - Sea**	00 381002
Mugil species	**MULLET**	00 381900
Mullidae species	**RED MULLET**	00 355000
Mustelus species	**SHARK - Gummy**	00 017901
Myliobatididae family	**RAY**	00 990001
Myxus species	**MULLET**	00 381900
N		
Nelusetta ayraudi	**OCEAN JACKET**	00 465006
Nemadactylus species	**MORWONG**	00 377901
Nemadactylus valenciennesi	**MORWONG - Blue**	00 377004
Nematalosa erebi	**BREAM - Bony**	00 085019
Nematalosa vlaminghi	**BREAM - Bony**	00 085019
Neocyttus rhomboidalis	**OREO - Spiky**	00 266001
Neoplatycephalus conatus	**FLATHEAD - Deepwater**	00 296002
Neoplatycephalus richardsoni	**FLATHEAD - Tiger**	00 296001
Notorhynchus cepedianus	**SHARK - Broadnose**	00 005002
O		
Oncorhynchus mykiss	**TROUT**	00 094900
Oncorhynchus species	**SALMON**	00 094750
Oplegnathus woodwardi	**CONWAY**	00 369002
P		
Pagrus auratus	**SNAPPER**	00 353001
Pampus species	**POMFRET**	00 448750
Parapercis colias	**COD - Blue**	00 390790
Parika scaber	**LEATHERJACKET - Velvet**	00 465005
Paristiopterus gallipavo	**BOARFISH - Giant**	00 367901
Paristiopterus labiosus	**BOARFISH - Giant**	00 367901
Pelotretis flavilatus	**SOLE - Lemon**	00 461796
Peltorhamphus novaezelandiae	**SOLE - New Zealand**	00 461794
Pentaceropsis recurvirostris	**BOARFISH**	00 367003
Pentaceros decacanthus	**BOARFISH - Big spined**	00 367004
Perca fluviatilis	**REDFIN**	00 329001
Plagiogeneion species	**RUBYFISH**	00 345900
Platycephalid species	**FLATHEAD**	00 296902
Platycephalus arenarius	**FLATHEAD - Northern Sand**	00 296021

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Platycephalus bassensis	**FLATHEAD - Sand**	00 296003
Platycephalus caeruleopunctatus	**FLATHEAD - Bluespot**	00 296007
Platycephalus fuscus	**FLATHEAD - Dusky**	00 296004
Platycephalus indicus	**FLATHEAD - Bartailed**	00 296033
Platycephalus laevigatus	**FLATHEAD - Rock**	00 296006
Platycephalus speculator	**FLATHEAD - Southern**	00 296037
Plectropomus species	**TROUT - Coral**	00 311905
Pleuronectes platessa	**PLAICE**	00 461792
Pollachius virens	**COLEY**	00 226796
Polydactylus microstoma	**THREADFIN**	00 383790
Polydactylus sheridani	**THREADFIN - King**	00 383005
Polyprion americanus	**HAPUKU**	00 311902
Polyprion oxygeneios	**HAPUKU**	00 311902
Pomadasys species	**GRUNTER**	00 350902
Pomatomus saltator	**TAILOR**	00 334002
Priacanthus species	**BULLSEYE - Red**	00 326901
Prionace glauca	**SHARK - Blue Whaler**	00 018004
Pristidae family	**RAY**	00 990001
Pristiophorus species	**SHARK - Saw**	00 023900
Pristipomoides filamentosus	**JOBFISH**	00 346912
Pristipomoides multidens	**JOBFISH**	00 346912
Protonibea diacanthus	**JEWFISH - Black**	00 354003
Pseudocaranx dentex	**TREVALLY - Silver**	00 337062
Pseudocyttus maculatus	**OREO - Smooth**	00 266003
Pseudophycis bachus	**COD - Red**	00 224006
Pseudophycis barbata	**COD - Southern Rock**	00 224003
Pterygotrigla polyommata	**LATCHET**	00 288006
R		
Rachycentron canadus	**KINGFISH - Black**	00 335001
Rajidae family	**SKATE**	00 031900
Reinhardtius hippoglossoides	**TURBOT - Greenland**	00 461793
Rexea solandri	**GEMFISH**	00 439002
Rhabdosargus sarba	**TARWHINE**	00 353013
Rhinobatidae family	**RAY**	00 990001
Rhombosolea plebeia	**FLOUNDER - New Zealand**	00 461791
Rhombosolea leporina	**FLOUNDER - New Zealand**	00 461791
Rhombosolea retiaria	**FLOUNDER - New Zealand**	00 461791
Rhombosolea tapirina	**FLOUNDER - Greenback**	00 461003
Rhynchobatidae family	**RAY**	00 990001
Ruvettus pretiosus	**ESCOLAR**	00 439003
S		
Salmo salar	**SALMON - Atlantic**	00 094001
Salmo trutta	**TROUT**	00 094900

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Sarda australis	**BONITO - Australian**	00 441020
Sarda orientalis	**BONITO - Oriental**	00 441006
Sardinops neopilchardus	**PILCHARD**	00 085002
Scaridae family	**PARROT FISH**	00 386000
Scoliodon laticaudus	**DOGSHARK - Indian**	00 018790
Scomber australasicus	**MACKEREL - Blue**	00 441001
Scomber japonicus	**MACKEREL - Chub**	00 441791
Scomber scombrus	**MACKEREL - Atlantic**	00 441790
Scomberoides species	**QUEENFISH**	00 337905
Scomberomorus commerson	**MACKEREL - Spanish**	00 441007
Scomberomorus munroi	**MACKEREL - Spotted**	00 441015
Scomberomorus queenslandicus	**MACKEREL - School**	00 441014
Scomberomorus semifasciatus	**MACKEREL - Grey**	00 441018
Scomberomorus species	**MACKEREL - Indo Pacific**	00 441792
Sebastes marinus	**OCEAN PERCH - Atlantic**	00 287790
Sebastes mentella	**OCEAN PERCH - Atlantic**	00 287790
Sebastes viviparus	**OCEAN PERCH - Atlantic**	00 287790
Selenotoca multifasciata	**BUTTERFISH**	00 363001
Seriola hippos	**SAMSON FISH**	00 337007
Seriola lalandi	**KINGFISH - Yellowtail**	00 337006
Seriolella brama	**WAREHOU - Blue**	00 445005
Seriolella punctata	**WAREHOU - Silver**	00 445006
Siganus spinus	**TREVALLY - Black**	00 438013
Sillaginodes punctatus	**WHITING - King George**	00 330001
Sillago bassensis	**WHITING - School**	00 330901
Sillago ciliata	**WHITING - Sand**	00 330010
Sillago flindersi	**WHITING - School**	00 330901
Sillago maculata	**WHITING - Trumpeter**	00 330004
Sillago robusta	**WHITING - School**	00 330901
Sillago schomburgkii	**WHITING - Yellowfin**	00 330012
Silliginidae species	**WHITEBAIT - Asian**	00 ?????
Solea vulgaris	**SOLE - Dover**	00 462790
Sphyraena novaehollandiae	**PIKE**	00 382002
Sphyraena species	**PIKE - Striped Sea**	00 382901
Spratelloides robustus	**SPRAT - Blue**	00 085003
Squalus acanthias	**DOGFISH - White Spotted**	00 020008
Squalus megalops	**DOGFISH - Spikey**	00 020006
Squalus mitsukurii	**DOGFISH - Green Eye**	00 020007
Squatina species	**SHARK - Angel**	00 024900
T		
Tandanus tandanus	**CATFISH - Freshwater**	00 192006
Taractichthys species	**RAYS BREAM**	00 342901
Theragra chalcogramma	**POLLACK - Alaska**	00 226793
Thunnus alalunga	**ALBACORE**	00 441005

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Thunnus albacares	**TUNA - Yellowfin**	00 441002
Thunnus maccoyii	**TUNA - Southern Bluefin**	00 441004
Thunnus obesus	**TUNA - Bigeye**	00 441011
Thunnus tonggol	**TUNA - Longtail**	00 441013
Thyrsites atun	**BARRACOUTA**	00 439001
Tinca tinca	**TENCH**	00 165002
Trachinotus species	**DART**	00 337904
Trachurus declivis	**MACKEREL - Jack**	00 337002
U		
Upeneichthys lineatus	**RED MULLET**	00 355000
Uranoscopidae family	**STARGAZER**	00 400000
Urolophidae family	**RAY**	00 990001
V		
Valamugil species	**MULLET**	00 381900
Variola species	**TROUT - Coral**	00 311905
Velifer multiradiatus	**VEILFIN**	00 269001
X		
Xenobrama species	**RAYS BREAM**	00 342901
Z		
Zanclistius elevatus	**BOARFISH - Black Spotted**	00 367005
Zenopsis nebulosus	**DORY - Mirror**	00 264003
Zeus faber	**DORY - John**	00 264004

CRUSTACEANS

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
A		
Alpheus species	**PRAWN**	00 701926
Artemia species	**SHRIMP - Brine**	00 701924
Atypopenaeus species	**PRAWN**	00 701926
C		
Chaceon bicolor	**CRAB**	00 702904
Charybdis cruciata	**CRAB**	00 702904
Cherax albidus	**YABBY**	00 704005
Cherax crassimanus	**YABBY**	00 704005

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Cherax depressus	**YABBY**	00 704005
Cherax destructor	**YABBY**	00 704005
Cherax glaber	**YABBY**	00 704005
Cherax plebejus	**YABBY**	00 704005
Cherax preissi	**YABBY**	00 704005
Cherax quadricarinatus	**REDCLAW**	00 704003
Cherax quinquecarinatus	**YABBY**	00 704005
Cherax rotundus	**YABBY**	00 704005
Cherax tenuimanus	**MARRON**	00 704004
Chionoecetes bairdii	**CRAB - Snow**	00 702906
Chionoecetes opilio	**CRAB - Snow**	00 702906
G		
Geryon affinis	**CRAB**	00 702904
Glyphocrangon species	**PRAWN**	00 701926
H		
Haliporoides sibogae	**PRAWN - Royal Red**	00 701004
I		
Ibacus alticrentus	**LOBSTER**	00 703906
Ibacus peronii	**BUG - Balmain**	00 703028
J		
Jasus edwardsii	**ROCK LOBSTER -Southern**	00 703014
Jasus verreauxi	**ROCK LOBSTER- Eastern**	00 703013
L		
Linuparus trigonus	**LOBSTER**	00 703906
M		
Macrobrachium species	**PRAWN - Freshwater**	00 701073
Metanephrops species	**SCAMPI**	00 703905
Metapenaeopsis species	**PRAWN**	00 701926
Metapenaeus bennettae	**PRAWN - Bay**	00 701340
Metapenaeus endeavouri	**PRAWN - Endeavour**	00 701903
Metapenaeus ensis	**PRAWN - Endeavour**	00 701903
Metapenaeus insolitus	**PRAWN - Bay**	00 701340
Metapenaeus species	**PRAWN - School**	00 701341
N		
Nephropsis species	**SCAMPI**	00 703905
O		
Ocypode ceratophthalmus	**CRAB**	00 702904

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Ovalipes species	**CRAB - Sand**	00 702901
P		
Paeropsis species	**PRAWN**	00 701926
Panulirus penicillatus	**ROCK LOBSTER -Tropical**	00 703904
Panulirus cygnus	**ROCK LOBSTER -Western**	00 703999
Panulirus homarus	**ROCK LOBSTER -Tropical**	00 703904
Panulirus longipes	**ROCK LOBSTER -Tropical**	00 703904
Panulirus ornatus	**ROCK LOBSTER -Tropical**	00 703904
Panulirus polyphagus	**ROCK LOBSTER -Tropical**	00 703904
Panulirus versicolor	**ROCK LOBSTER -Tropical**	00 703904
Parapenaeopsis species	**PRAWN**	00 701926
Penaeus esculentus	**PRAWN - Tiger**	00 701900
Penaeus indicus	**PRAWN - Banana**	00 701925
Penaeus japonicus	**PRAWN - Tiger**	00 701900
Penaeus latisulcatus	**PRAWN - King**	00 701923
Penaeus longistylus	**PRAWN - King**	00 701923
Penaeus merguiensis	**PRAWN - Banana**	00 701925
Penaeus monodon	**PRAWN - Black Tiger**	00 701908
Penaeus plebejus	**PRAWN - King**	00 701923
Penaeus semisulcatus	**PRAWN - Tiger**	00 701900
Penaeus species	**PRAWN**	00 701926
Polycheles typhlops	**LOBSTER**	00 703906
Portunus pelagicus	**CRAB - Blue Swimmer**	00 702003
Pseudocarcinus gigas	**CRAB - Giant**	00 701001
R		
Ranina ranina	**CRAB - Spanner**	00 702002
S		
Scylla serrata	**CRAB - Mud**	00 702001
Scyllarides haanii	**LOBSTER**	00 703906
Scyllarides squammosus	**LOBSTER**	00 703906
T		
Thenus orientalis	**BUG - Moreton Bay**	00 700002
Trachypenaeus species	**PRAWN**	00 701926

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
MOLLUSCS		
A		
Amusium species	**SCALLOP - Saucer**	00 651006
Anadara species	**COCKLE**	00 657901
C		
Chlamys asperrimus	**SCALLOP**	00 900208
Chlamys bifrons	**SCALLOP**	00 900208
Crassostrea gigas	**OYSTER - Pacific**	00 653002
Crassostrea species	**OYSTER**	00 653003
H		
Haliotis conicopora	**ABALONE - Brownlip**	00 662004
Haliotis iris	**PAUA**	00 662005
Haliotis laevigata	**ABALONE - Greenlip**	00 662002
Haliotis roei	**ABALONE - Roe's**	00 662003
Haliotis rubra	**ABALONE - Blacklip**	00 662001
K		
Katelysia species	**COCKLE**	00 657901
L		
Littorina unifasciata	**PERIWINKLE**	00 664001
Loligo chinensis	**SQUID - Asian**	00 620006
Loligo edulis	**CALAMARI - Northern**	00 620002
Loligo formosa	**SQUID - Asian**	00 620006
Loligo opalescens	**SQUID - Californian**	00 620007
M		
Meretrix meretrix	**CLAM - Baby**	00 659002
Meretrix species	**CLAM - Baby**	00 659002
Moroteuthis loennbergi	**SQUID**	00 624001
Mytilus edulis	**MUSSEL - Blue**	00 652001
N		
Nototodarus gouldi	**SQUID - Arrow**	00 600001
Nototodarus sloani	**SQUID - Arrow**	00 600001
O		
Octopus species	**OCTOPUS**	00 601001
Ostrea angasi	**OYSTER - Native**	00 653004
P		
Pecten fumatus	**SCALLOP - Commercial**	00 651005

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
Perna canaliculus	**MUSSEL - Green**	00 652002
Pinctada species	**OYSTER - Pearl**	00 653005
Plebidonax species	**PIPI**	00 654001
Pteria species	**OYSTER**	00 653003
S		
Saccostrea commercialis	**OYSTER - Sydney Rock**	00 653001
Saccostrea species	**OYSTER**	00 653003
Sepia species	**CUTTLEFISH**	00 610008
Sepioteuthis australis	**CALAMARI - Southern**	00 600003
Sepioteuthis lessoniana	**CALAMARI - Northern**	00 620002
T		
Tectus niloticus	**TROCHUS**	00 665001
Turbo species	**TURBO**	00 663003

MISCELLANEOUS

SCIENTIFIC NAME	MARKETING NAME	AUSTRALIAN SPECIES CODE
C		
Catostylus species	**JELLYFISH**	00 670001
H		
Holothuria species	**BECHE-DE-MER**	00 708100
P		
Phyllorhiza species	**JELLYFISH**	00 670001
U		
Urchin species	**URCHIN - SEA**	00 708001

Appendix C

'FISHLIST' FUNCTIONAL SPECIFICATION AND PRELIMINARY DESIGN SPECIFICATION - NOVEMBER 1990

Appendix C

FISHLIST

Species Codes for Australian Aquatic Fauna and Flora

Functional Specification

and

Preliminary Design Specification

November, 1990

Functional Specification

1. Title

1.1. The short title of the system is: "FISHLIST".

1.2. The full title of the system is:
"Species Codes for Australian Aquatic Fauna and Flora".

2. Date

This functional specification is dated 20th November, 1990

3. Preparation

This specification was prepared by Graeme Morris and Peter Last of the CSIRO Marine Laboratories.

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4. General Description

4.1. Primary Objective

The FISHLIST system is to maintain a list containing a single, structured 8-digit numeric code for each species of marine and freshwater animal or plant (fish, crustacea, molluscs, algae, seagrass, etc) found (actually or potentially) in Australian waters, or imported as a seafood product. The system will also hold, as appropriate,

for each species, one or more scientific names (genus and specific names, with qualifier if necessary and reference if available), as well as common names and/or recommended marketing names.

4.2. Operation

The primary driving force for use of this list is people who need codes for species about which they want to store information (eg catch) in a database. Users are responsible for identification of their species. This may be by using the recognised literature and keys to find an accepted scientific name for the species, or by comparing it with voucher or other specimens to find a match (see the Appendix headed "What is a species?" for further details on this process). From this identification, they will use the FISHLIST system to find a code, either by direct access, or by request to the taxonomy section or by reference to a printed copy of the list. Note that, because some identification keys may be old and species names change (see the Appendix), the name for which the user is trying to find a code may no longer be current, even though the species is on the list, now under a different name. In such a case, it is important that the user be able to search through previous (non-current but still legal) names.

In the case where a species name is not on the list, the user will request the taxonomy section of CSIRO Division of Fisheries to add it. A voucher specimen should accompany the request. CSIRODF will check (using FISHLIST, the literature and their knowledge and expertise) that it is not a species which is already on the list under a different name. If it is on the list under a different name, and the name that the requester has supplied is not on FISHLIST as a valid synonym, it will be added (for next time!) and the requester will be advised. If the species is one which is not yet on FISHLIST, it will be added by the taxonomy section of CSIRODF.

There will be cases where a species code is required (to use for storing information in a database), but the fish has not been fully identified. These may be new species or may, after investigation, turn out to be species which are already on the list. These fish are assigned a "temporary" code which is not one of the normal series of codes. It is expected that, when the fish is identified, it will either be one that already has a number or will be assigned a new code in the normal series if it is a new species.

Printed copies of the list will be needed for external users to consult to find codes from names. Machine-readable copies of the list will be needed by other computer systems holding databases using the codes so that they can translate the codes into names.

5. Data integrity rules

Referential integrity

5.1. Before a family code can be added, its category (suprafamilial) code must exist. A category must not be deleted if families exist for that category.

5.2. Before a species code can be added, its family code must exist. A family code must not be deleted if species exist for that family.

Scientific names

5.3. The structure of a scientific name is as follows:

Genus species qualifiers Authority

eg *Thunnus maccoyii* (Castlenau, 1872)
eg *Sillago robusta* Stead, 1908
eg *Hyporhamphus regularis ardelio* (Whitley, 1931)

5.3.1. The genus name is always a single word and its first letter is always capitalised.

5.3.2. The species name is usually one word but may be more and has no capitals.

5.3.3. The qualifiers field may be used for such entries as:

"cf xxxxxxx"

It is usually absent.

5.3.4. The authority is of the form:

Surname, YYYY, or

(Surname, YYYY) - the brackets indicate that a change has been made since the original description. The name and date do not, however, change.

where YYYY is a year.

The first letter of the surname is capitalised.

5.3.5. To be a legal and complete species name, the genus, species and authority must be present. However, there will be occasions where an entry may be made to the list with one or more of these missing.

5.3.6. The genus and species name are either italicised or underlined.

5.4. The same genus must not occur in two different families.

5.5. It is possible for a species to have no scientific name

Species codes

5.6. Particular patterns of codes may only be assigned by particular people:

ccfff001 - ccfff799:	CSIRO taxonomist
ccfff800 - ccfff899:	Any user - FISHLIST will not hold these numbers and should stop any attempt to use them on the central list.
ccfff900 - ccfff990:	CSIRO taxonomist
ccfff991 - ccfff999:	Defined - no one to redefine
cc950000 - cc979999:	Not currently used.
cc980000 - cc989999:	Any user - FISHLIST will not hold these numbers and should stop any attempt to use them on the central list.
cc990000 - cc999999:	CSIRO taxonomist.

cc = 01 to 99 (category)
fff = 001 to 949 (family)

Common/marketing names

5.7. Common names are valid only for a States or part thereof.

5.8. Marketing names are valid Australia-wide.

5.9. Marketing names are a subset of common names, ie a marketing name is always a legal common name in all States.

5.10. A common name or a marketing name may encompass more than one species.

5.11. It is possible for a species to have no common name

5.12. It is possible for a species to have no marketing name

Current/legal

5.13. At any time, there may be more than one scientific name related to the code for a family or species. Some of these will be legal synonyms and others will be names used in the past which are no longer accepted. However, there will always be only one "current" name (the senior synonym).

5.14. A category may have more than one name but only one will be "current".

5.15. At any time, there may be more than one common name in any one State or area related to the code for a family or species. Some of these will be legal names and others will be names used in the past which are no longer accepted. There may be more than one "current" legal common name.

5.16. At any time, there may be only one acceptable marketing name for any species.

5.17. Only one record for each primary key in each table (except common/marketing names) may be 'current'.

5.18. Any record which is 'current' must also be legal.

5.19. The same scientific name may not be in current use for two species.

5.20. A species may be defined by more than one specimen, (eg in more than one place), but one will be identified as 'current'.

5.21. A vacated code may not be reused

6. Design considerations

6.1. Because of possible misspellings (and slight changes of spelling over time) all comparisons of names should use an algorithm like SOUNDEX.

6.2. It must not be possible for a person to add or modify a record without updating the appropriate audit trail items in the record.

6.3. All history must be kept, in a form easily accessible to users, except where the entries were originally incorrect due to mistyping and could not have caused confusion to outside users.

6.4. The system must, when it is (or could be) expecting an addition, ask first for the name and then return a suggested species code and status. If the species is on the list, the code will be the current code and status will be "Already on list". If it is not on the list, the code will be the next available code in the appropriate series (actual species, commercial).

6.5. The system must automatically maintain the "currency" information (dates, etc). Users must not be permitted to accidentally change this data.

6.6. A coding system must be available to use for species which have been caught and need to be added to a catch database, but have not yet been fully identified. The numbers assigned for this purpose are a subset of the 8-digit coding system and consist of the species numbers 800-899 within every family and families 960-969 within each category. These numbers will never be used on the central list and their meaning will be internal to the database or organisation within which they are used. It is the expectation that they will later be converted to a different, permanent, number.

6.7. Changes which could cause confusion to users must be notified by way of regular, automatically generated, reports. These changes include:

6.7.1. addition of new species

6.7.2. changes in currency of names (addition of new, current name or promotion of previously legal name to be current name).

6.7.3. deletion of a name as a legal name

6.8. The system must include facilities for transfer of lists of species in appropriate formats to other systems, in particular to AFZIS.

6.9. The fact that CSIRO maintains this list on behalf of many external users must be kept in mind. The nature of this list as a "service" to others, rather than a completely internal facility implies some constraints.

6.10. Structure and meaning of the species codes

The species code is an 8-digit numeric code, structured as follows:

1st 2 digits — Category code

Not yet completely defined.

00 is reserved to provide compatibility with the current 6-digit codes, which will stay in circulation for a changeover period. See later section on "Conversion".

Categories for which codes will be assigned include be fish, crustaceans, molluscs, echinoderms, coelenterates, ascidians, algae, seagrasses, etc.

Next 3 digits (3-5) — Family code.

The family codes used for fish are based on a system used at the Australian Museum and since adopted by other museums in Australia. An attempt will be made to assign the codes for other groups as systematically as possible.

Family codes 990-999 in each category are reserved for (usually commercial) groupings of species which span families (eg shark).

Family codes 980-989 in each category are reserved for the same purpose as 990-999 (groups which span families) but are to be used for locally-defined groups on a temporary basis, similar to species numbers 800-899 below.

Last 3 digits (6-8) Species number

This is a consecutive species number within the family. This applies up to species number 799 within the family (ccfff799) and then special coding systems take over. Numbers 800 to 899 within the family are reserved to be used locally as temporary codes for species that have not been rigorously identified. The expectation is that these will be reassigned to a permanent species number in the range 000 to 799 in time. Numbers 900 to 999 within the family are reserved for identifiable and nameable commercial groupings within the family (eg 00441904 is tuna, a subgroup of species within family 441, category 00).

6.11. In this system, the species is to be identified by the specimen or specimens lodged in the CSIRODFR reference collection and this entity will be what the code relates to (see Appendix A). This correspondence between code and specimen will be continually added to but would only be changed in exceptional circumstances (eg a specimen moved to a different family, a specimen found to be 2 species, two or more specimens on the list found to be one species).

7. Users

The list is used by a large and expanding number of governmental and industry groups for the identification of marine species in computer databases. In particular, it is used for species coding in the Australian Fishing Zone Information System, which is used to store all logbook data from Commonwealth-managed fisheries. It is now by far the most widely used list for the purpose in Australia and is rapidly assuming its originally envisaged role of a standard Australian list.

7.1. CSIRO Taxonomy section

Primary responsibility for maintenance and integrity of the list rests with the taxonomy section of the CSIRO Division of Fisheries, although outside organisations often initiate the requests which add new species to the list.

7.2. CSIRO scientists

CSIRO scientists will often need to find a code for a species that they have caught on a research cruise. The CSIRO catch database identifies a species by its species code on FISHLIST. The CSIRO scientists will also be responsible for providing specimens for the reference collection to assist in future identification of the species.

This will also mean that CSIRO scientists may identify existing species by comparison with specimens, rather than by reference to the literature or keys.

7.3. Operators of external databases

In the same way as CSIRO scientists use FISHLIST codes for storing species information in catch databases, many other organisations use the same codes. They are more remote from the CSIRO specimens which help in species identification, so will often determine the species code from the species name, after some other form of identification. To assist with providing meaningful output (names instead of codes), people designing such databases will need access to machine-readable copies of cross references between codes and current names.

7.4. Users of databases

Users of both the CSIRO database and external databases will sometimes need to have access to species codes to formulate queries against the databases where species information is stored using FISHLIST codes, although most databases will offer a simplified way of doing this without knowing codes, for routine queries. In cases where output from the databases is provided in the form of species codes, users will need access to FISHLIST codes to interpret this information.

8. Interfaces with other systems

8.1. Input

There is no input from other computerised systems. New species or updates to the list are generated in various ways but always manually entered.

8.2. Output

Complete species lists in machine-readable form must be available for database systems holding catch and effort information. In particular, the AFZIS system maintained by the Australian Fisheries Service must receive regular updates of the complete list with numbers, current scientific and common names only, in a form easily accessed by its catch and effort subsystem. Other systems will require updates of either the complete list or subsets yet to be defined. No such other systems have been specifically identified at this time.

9. Operations

9.1. Insert

9.1.1. Add new species to list

9.1.2. Add new scientific name
- current
- not current

9.1.3. Add new common name
- current
- not current

9.1.4. Add new marketing name
- current
- not current

9.2. Update (probably done by insert of new "current" record)

9.2.1. Change scientific name
- genus
- specific name

9.2.2. Correct error

9.2.3. Revision of family
- previously separate species lumped together
- previously single species split

9.3. Report

9.3.1. Query on name
- species
  - scientific
    - current
    - ever used
  - common/marketing
    - current
    - ever used
- family

9.3.2. Query on species code

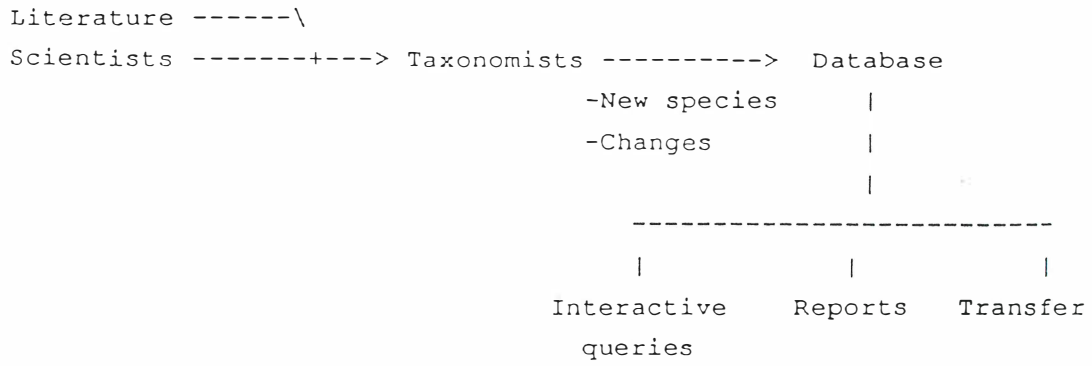
9.3.3. Query on location of specimen

9.3.4. Printed reports
- alphabetical list by scientific name
- alphabetical list by common name
- numeric listing

(The reports should have options to print only current or full historical information)

9.3.5. Transfer list of species to another computer
- complete
  - current
  - historical
- subset based on codes in another database

10. Data flow



11. Volumes

There are currently about 3500 species entries on the list. With the addition of synonymies, it can be expected that there will be about 7000 scientific names and approximately the same number of common names.

Past experience indicates that there will be of the order of:

30 additions of new species per year
20 changes of scientific name per year

It could be expected that there will need to be a transfer of the complete list to AFZIS (assuming that they are on different hardware/software platforms) approximately every 2 months.

We have no information to suggest the volume of interactive queries since it is not a feature currently available (all access is through printed copies of the list). It could be expected to be small initially and may then become the major form of access.

12. Present system

12.1. Description

The list currently exists as a series of sequential files, each containing a list of species name/code correspondences. A combined list is generated as required from these individual lists. Each list was originally maintained for a particular purpose by a particular scientist, in consultation with a central person who attempted to ensure that codes were not duplicated. In many cases, these scientists have now either left the Division or have moved on to new projects and have little interest in maintaining the lists. There is no longer much point in keeping these separate lists.

The combined list is made available in three forms. Two of these are for people to read and use as reference documents. The difference between them is that one is sorted into alphabetical order by species scientific name and the other is sorted by code number. The third form is a computer file structured for reading by computer programs. This is used, for example, by the Australian Fishing Zone Information System (AFZIS) for species identification.

Currently the species code is a 6-digit code, constructed in basically the same method as proposed above for the last 6 digits of the 8-digit code. However, it is only systematic for fish species (codes 000000 - 470999), and the "family" codes above 599 have been used in a fairly ad hoc manner for all non-fish species.

12.2. Recognised problems

It has been recognised for some time that the current FISHLIST system, which was developed over 10 years ago, is inadequate for present needs. It was never properly designed but merely evolved and sat on top of other requirements. The 6-digit coding system (see later), while entirely adequate for fishes, has not lent itself to the addition of other marine animals, which have been added in a non-systematic manner. The system does not maintain satisfactory information on changes made to the list, nor does it keep adequate information on synonyms for species names, resulting often in requests for addition of "new" species which are merely the same species under an older name which may have been deleted from the list.

12.3. Major differences between present system and proposed system

Changes fall into the following areas:

12.3.1. Species codes will relate much more strictly to an Australian specimen of the species rather than to the name, and the list will be maintained with that convention in mind.

12.3.2. Species codes will be 8 digits and will handle non-fish species properly and systematically (ie in families similar to the structure for fish species) while maintaining the fish species codes substantially untouched (only the addition of a two digits category code).

12.3.3. The history of changes other than typing errors will be kept.

13. Conversion

The current proposal is to include all 6-digit codes as legal 8-digit codes for a conversion period of several years. This will be accomplished by assigning them a "category code" of 00, which will not change the value of the code. This list of 6-digit codes will no longer be maintained nor added to.

All 6-digit codes relating to fish species will be duplicated into an 8-digit code with the appropriate category code for fish added to the front.

All 6-digit codes relating to non-fish species will need to be changed to 8-digit codes systematically within the appropriate categories.

14. Funding

The CSIRO Division of Fisheries Research has been given a grant by the Fisheries Industry Research and Development Trust Fund to:
- develop a new system for maintaining the list
- systematically investigate the taxonomic aspects of the list.

15. Time frame

The project has funding for two years starting from 1 July, 1990. Most of the effort (and money) will be spent on the taxonomic exercise and a taxonomist has been hired to carry out this task. It is desirable to have this computer system in operation as soon as possible, although it is recognised that the taxonomist can do useful work without it being completed. It is envisaged that this system should be in operation before the end of June, 1991.

16. Target platform (hardware and software)

Since the Division already has ORACLE as its database system, it is expected that the system will be developed using this. Currently, it is installed on a MicroVax II at the Cleveland (Brisbane) laboratory at is expected that FISHLIST will be developed on this Vax. Since the system will finally need to run at the Division's Hobart site, which currently only has ORACLE on a Macintosh computer and has no database system on its main Vax facility, it is expected that FISHLIST will be, for its initial use, ported to a PC running ORACLE.

Areas yet to be addressed include:

16.1. Whether we provide network access for interactive queries

16.2. Whether it is possible to provide users with copies of the complete system as a PC application as well as data.

17. Operational considerations

17.1. Misidentifications

The list needs to be maintained in such a way as to cause minimum pain to external users. In particular, the relationship between code and species as defined above must be borne in mind. It must be remembered that external users will usually not have access even to local specimens maintained by CSIRO.

17.1.1. Misidentification of the local specimen

If it is discovered that the local specimen, to which the code on the list refers, has been misidentified, it will probably be necessary, in order to avoid confusion, to make the current code number invalid (and never reuse it) and create either one or two new numbers. One would be for the original specimen, with new identifying information. The other would be for the species that it was thought the specimen referred to. However, this second one would only be added if:

- this species was known to occur in Australian waters, and
- a specimen was provided.

The reason for invalidating the existing number is because it needs to be assumed that external users may have correctly identified the species from information available to them and used the code on the list corresponding to the name. Invalidation of the number will bring the problem to their attention when next their copies of the list are updated. Users should also be specifically informed, particularly where they are likely to have used the code. Users will need to change all entries in their databases which refer to this species.

17.1.2. Misidentification of a species to be coded (against the local specimen)

This may be caused either because the local specimen is wrong and the species is right (in which case the action above should be initiated), or because of "operator error" causing a local misidentification and therefore miscoding of the species in a user's database. In this case, of course, when the mistake is later found, the user will be responsible for repairing their databases in which they have used the incorrect code.

17.2. Taxonomic dynamism

Revisions of the list will occur where species are renumbered. This will occur through taxonomic revisions of families. Normally, this will be expected to affect all people involved in identifying specimens of families affected by the revision and it is natural to change the codes to reflect the new understanding of the taxonomy. At the least, however, users must be informed of these changes, preferably in advance.

17.3. User registration

Several operations above require that all users be able to be contacted, either to inform them of changes or to provide regular updates to the list. This will mean that a list of known users will need to be maintained for this purpose.

18. Security

This system holds no confidential data and access will be unrestricted. However, modifications must be restricted to a single source, the CSIRO taxonomist and full audit trails of changes must be kept by the database management software, as well as the history kept within the records themselves.

1. Initial database design

Record	Item	Type	Size	Nulls?	Meaning
Category	Category_code	INTEGER	2	No	
	Category_name	CHAR	20	No	
	Category_desc	CHAR	240	Yes	
Family_scientific_name	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Family_scientific_name	CHAR	20	No	
	(plus others - see below)				
Family_common_name	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Family_common_name	CHAR	20	No	
	(plus others - see below)				
Family_description	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Family_description	CHAR	240	Yes	
	(plus others - see below)				
Species	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Species_number	INTEGER	3	No	
	Species_code	Virtual			Concatenation of category_code, family_code, species_number
	Specimen_location_code	INTEGER	4	No	
	Specimen_reference	CHAR	20	No	
	Photo_reference	CHAR	20	Yes	
	Description	CHAR	240	Yes	

	Previous_code	INTEGER	8	Yes	
	Holotype_location_code	INTEGER	4	Yes	
	Holotype_reference	CHAR	20	Yes	
	(plus others - see below)				
Species_scientific_name	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Species_number	INTEGER	3	No	
	Genus	CHAR	20	Yes	
	Specific name	CHAR	20	Yes	
	Scientific_name	Virtual			Concatenation of genus and species_name
	Name_qualifier	CHAR	100	Yes	
	Authority	CHAR	100	Yes	
	Full_scientific_name	Virtual			Concatenation of scientific name, qualifier and authority
	(plus others - see below)				
Species_common_name	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Species_number	INTEGER	3	No	
	State code	CHAR	3	No	
	Subarea code	CHAR	30	Yes	
	Common_name	CHAR	30	Yes	
	(plus others - see below)				
Species_common_name	Category_code	INTEGER	2	No	
	Family_code	INTEGER	3	No	
	Species_number	INTEGER	3	No	
	State code	CHAR	3	No	
	(plus others - see below)				
Commercial_group	Group_species_code	INTEGER	8	No	
	Member_species_code	INTEGER	8	No	

User	Organisation	CHAR	30	Yes
	Name	CHAR	240	Yes
	Position	CHAR	240	Yes
	Address	CHAR	240	Yes
	Phone	CHAR	240	Yes
	Fax	CHAR	240	Yes
Location	Location_code	INTEGER	4	No
	Location_name	CHAR	20	No
	Contact_person	CHAR	240	Yes
	Position	CHAR	240	Yes
	Address	CHAR	240	Yes
	Phone	CHAR	240	Yes
	Fax	CHAR	240	Yes
	Other_contact_methods	CHAR	240	Yes
	(plus others - see below)			

All records except "category" have the following additional items since there may be multiple occurrences of the record for each value of the primary key. Only one occurrence is "current" for any primary key value, but there may be many "legal" values, as well as "illegal" values.

Current	LOGICAL	No
Current_from	DATE	Yes
Current_to	DATE	Yes
Legal	LOGICAL	No
Legal_from	DATE	Yes
Legal_to	DATE	Yes

All records have the following audit trail items. For them to be useful, the system must have a way to ensure that they are updated for any insert and/or update operation on the record.

Date_entered	DATE		No
Person_who_entered	CHAR	30	No
Date_modified	DATE		Yes
Person_who_modified	CHAR	30	Yes
Modification_description	CHAR	240	Yes

FISHERIES RESEARCH & DEVELOPMENT CORPORATION RESEARCH GRANT

Interim Final Statement of Receipts and Expenditure

As at 20 December 1994

Name of Grantee:	CSIRO - Division of Fisheries.	FRDC Funds:-	
Title of Project:	Modification & upgrade of the current species coding system for Australian fisheries data.	Prior to 93/94	$20,210
		1993/94	$0
			$20,210
CSIRO Project No:	DF24TADTH - - PE		
FRDC Project No:	90/105	Received as at 20/12/94:	$15,158

Receipts:	Balance bought forward from 30 June 1994		$1,570
	Total advances received: July 1993 - June 1994		$0
		TOTAL	$1,570
Less Expenditure:			
	Salaries	$0	
	Travel	$0	
	Operating	$0	
	Capital	$0	
	TOTALS	$0	$0
Cash Balance as at 20 December 1994			$1,570

Comments: The balance of available funds together with the outstanding final 25% payment, are still required to cover publication costs.

A final audited acquittal report will be provided when final costs have been incurred.

Certified by responsible officer:

Greg Lyden
for Finance Manager
20-Dec-94

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