Records of the Western Australian Museum **18**: 135–155 (1996).

Species composition and checklist of the demersal ichthyofauna of the continental slope off Western Australia (20–35°S)

A. Williams[1], P.R. Last[1], M.F. Gomon[2] and J.R. Paxton[3]

[1]CSIRO Division of Fisheries, GPO Box 1538, Tasmania 7001, Australia

[2]Museum of Victoria, PO Box 666E, Melbourne, Victoria 3001, Australia

[3]Australian Museum, 6 College Street, Sydney, New South Wales 2000, Australia

Abstract – The first regional collection of fishes from the continental slope off the west coast of Australia was taken between 1989 and 1991 during exploratory trawling. Collections were taken from 95 trawls completed during an exploratory fishing survey by a research vessel at latitudinally and depth-stratified stations, and from 56 trawls aboard commercial vessels. The region trawled was between latitudes 20–35°S in depths from 200 to about 1500 m.

The demersal slope fish fauna in this region is highly speciose: 388 species from 108 families were identified and these are presented in a checklist. Approximately 100 of these species are recorded from Australian waters for the first time and many represent undescribed taxa. We present criteria which establish the reliability of identifications in the checklist. Overall, the Macrouridae are the most speciose family with 50 species; 10 or more species were also recorded from the Squalidae (22 species), Alepocephalidae (17), Ophidiidae (17), Moridae (13), Triglidae (13), Scyliorhinidae (10) and Scorpaenidae (10).

The most abundant families (in numbers of individuals) in 200–600 m include the Acropomatidae, Trachichthyidae, Chlorophthalmidae and Scorpaenidae. Between 600 and 800 m, the Macrouridae, Bathyclupeidae, Chaunacidae and Neoscopelidae are most abundant, while the Macrouridae, Alepocephalidae, Oreosomatidae and Synaphobranchidae dominate depths below 800 m.

INTRODUCTION

In their recent treatment of the Australian fish fauna, Paxton *et al.* (1989) described the offshore waters of Western Australia as virtually unsampled from an ichthyological perspective. Fish collections had been made during an exploratory fishing survey by a Japanese trawler on the continental shelf and upper-continental slope to a depth of 600 m (Heald and Walker 1982). However, few specimens from that work are represented in museum collections and consequently species identifications cannot be verified. Similarly, few results from surveys undertaken by the Soviets in Western Australian waters between 1962 and 1974, (E. Nosov, TINRO, Vladivostok, Russia, pers. comm.) are available. Locality and depth of capture data in occasional descriptions of new species, e.g., Sazonov and Shcherbachev (1982) and Iwamoto and Shcherbachev (1991), indicated those cruises had fished on the western slope region. More recently, fish collections have been taken during exploratory fishing by Australian trawlers and foreign vessels in collaborative fishing ventures. These operations included a survey by the CSIRO Division of Fisheries' research vessel, FRV *Southern Surveyor*, based around a series of stations stratified by depth and latitude. This paper is based on collections of demersal fishes taken during these operations between 1989 and 1991.

Collections of deep water fishes from the Australian region have expanded rapidly in recent years following the commercial exploitation of continental slope resources. Commercial fishing has occurred primarily on the slope region of southeastern Australia and the Great Australian Bight (GAB) where blue grenadier (*Macruronus novaezelandiae*), gemfish (*Rexea solandri*) and orange roughy (*Hoplostethus atlanticus*) were targeted. The demersal fish faunas of these regions were documented in preliminary checklists: the mid-slope (~700–1200 m) region off southeastern Australia by Last and Harris (1981) and Koslow *et al.*, (1994); the GAB by Newton and Klaer (1991), and the upper continental slope (~500 m) off southeastern Australia by May and Blaber (1989). Many of the 448 new Australian records in Paxton *et al.* (1989) were deep water species.

In this paper we provide an overview of the faunal composition of fishes from the upper and

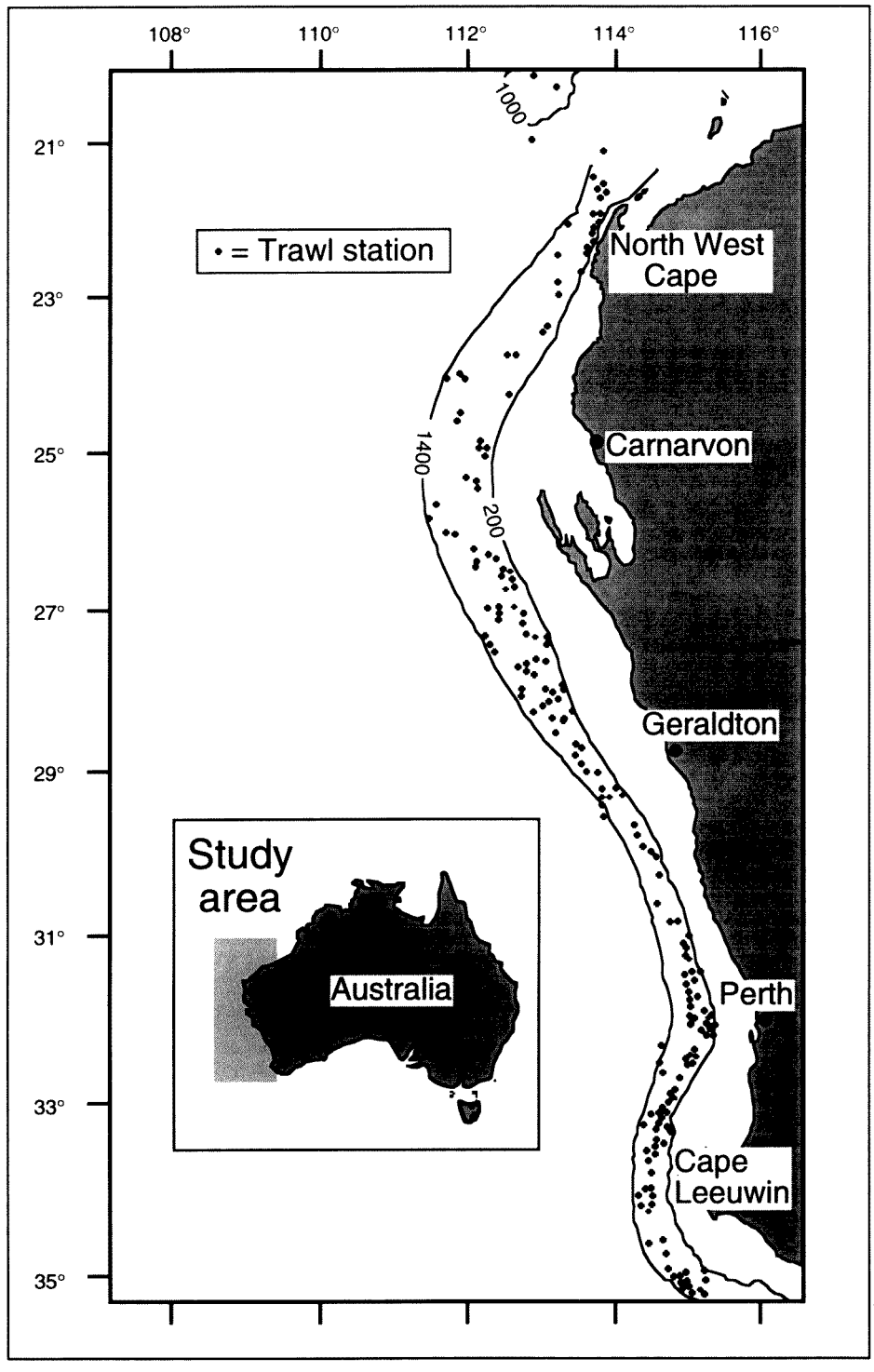

Figure 1 Map of the study area showing the approximate positions of the 200 m and 1400 m isobaths and the trawl stations from which fish collections were taken.

mid-slope region off the western coast of Australia, along with a checklist of species taken. Distributional range information and museum registration details are provided. The data are based primarily on a 30-day research survey undertaken in 1991, supplemented with collections from commercial fishing vessels. Samples were taken from an area between latitudes 20° and 35°S over a depth range of approximately 200–1500 m.

MATERIALS AND METHODS

Data collection and analysis

Fishes were collected from 95 demersal trawl stations during an exploratory survey (CSIRO Division of Fisheries, FRV *Southern Surveyor* research cruise SS01/91) and from 56 commercial trawls. Details of trawl stations are given in Table 1 and their approximate positions shown in a

Table 1 Position and depths of stations sampled with demersal trawls during this study. Vessel code refers to the CSIRO research vessel (RV) or commercial fishing vessels (CV).

Vessel	Latitude (°S)	Longitude (°E)	Depth (m) (start)	Depth (m) (end)	Vessel	Latitude (°S)	Longitude (°E)	Depth (m) (start)	Depth (m) (end)
RV	20°16'	113°13'	913	914	RV	32°04'	115°09'	270	285
RV	20°07'	112°55'	868	854	RV	32°02'	115°08'	510	510
RV	20°55'	112°51'	1139	1128	RV	32°02'	114°52'	700	1200
RV	21°28'	113°38'	1022	1023	RV	32°14'	115°06'	286	287
RV	21°37'	113°55'	328	328	RV	32°10'	115°08'	225	230
RV	21°39'	113°58'	209	215	RV	32°19'	114°28'	1280	1310
RV	21°44'	113°52'	320	290	RV	32°34'	114°27'	1030	1140
RV	21°44'	113°52'	274	273	RV	32°40'	114°28'	880	960
RV	21°50'	113°46'	685	650	RV	33°17'	114°12'	982	982
RV	21°54'	113°40'	1158	1100	RV	33°18'	114°31'	220	220
RV	22°00'	113°08'	1460	~1500	RV	33°17'	114°30'	468	430
RV	22°28'	113°12'	1258	1305	RV	33°24'	114°31'	203	204
RV	22°47'	113°13'	880	910	RV	33°22'	114°29'	399	350
RV	22°59'	113°14'	482	544	RV	33°25'	114°21'	817	780
RV	23°25'	113°03'	297	311	RV	33°49'	114°17'	1050	1050
RV	23°25'	113°03'	300	302	RV	34°12'	114°07'	1240	1225
RV	23°46'	112°36'	576	587	RV	34°39'	114°15'	890	890
RV	23°44'	112°35'	612	620	RV	34°56'	114°29'	900	958
RV	23°44'	112°35'	612	623	RV	34°59'	114°43'	738	750
RV	24°00'	111°54'	1060	1064	RV	35°04'	114°59'	870	920
RV	23°59'	111°54'	1061	1071	CV	35°08'	115°01'	1003	—
RV	24°09'	111°39'	1293	1320	CV	35°07'	115°01'	945	—
RV	24°30'	111°50'	892	905	CV	35°02'	115°02'	673	—
RV	24°30'	111°50'	895	901	CV	34°59'	114°53'	712	—
RV	24°51'	112°07'	467	478	CV	34°45'	114°26'	727	—
RV	24°52'	112°07'	444	468	CV	34°15'	114°20'	825	—
RV	24°55'	112°11'	318	344	CV	34°10'	114°16'	1030	—
RV	25°07'	112°09'	306	319	CV	33°58'	114°22'	870	—
RV	25°07'	112°09'	312	312	CV	33°44'	114°22'	740	—
RV	25°19'	111°56'	612	610	CV	33°17'	114°13'	976	—
RV	25°41'	111°30'	1115	1125	CV	33°20'	114°30'	435	—
RV	25°52'	111°27'	1254	1277	CV	33°13'	114°31'	440	—
RV	26°02'	111°39'	1000	1005	CV	33°06'	114°30'	596	—
RV	26°05'	111°46'	882	874	CV	32°52'	114°35'	571	—
RV	26°14'	112°03'	690	691	CV	30°57'	114°48'	470	—
RV	26°35'	112°29'	508	500	CV	29°50'	114°21'	413	—
RV	26°40'	112°32'	478	456	CV	29°43'	114°18'	450	—
RV	26°42'	112°41'	200	194	CV	28°48'	113°37'	457	—
RV	26°42'	112°38'	285	285	CV	28°06'	113°27'	649	—
RV	26°45'	112°36'	346	367	CV	28°13'	113°07'	616	—
RV	26°57'	112°22'	666	688	CV	27°49'	113°01'	437	—
RV	27°06'	112°22'	714	713	CV	26°59'	112°38'	435	—
RV	27°22'	112°10'	1009	996	CV	26°36'	112°09'	760	—
RV	27°28'	112°13'	750	900	CV	25°36'	112°10'	435	—
RV	27°32'	112°15'	1107	1140	CV	26°25'	112°20'	565	—
RV	27°32'	112°15'	1104	1110	CV	32°06'	115°10'	244	—
RV	28°00'	112°41'	945	946	CV	31°59'	115°12'	230	—
RV	28°04'	112°42'	854	853	CV	32°29'	114°53'	385	—
RV	28°16'	113°17'	520	520	CV	32°21'	114°59'	362	—
RV	27°17'	112°45'	510	520	CV	32°20'	114°59'	360	—
RV	27°08'	112°44'	438	370	CV	32°21'	114°59'	348	—
RV	27°04'	112°44'	303	333	CV	20°40'	113°43'	225	—
RV	27°23'	112°51'	306	279	CV	22°30'	113°35'	250	—
RV	27°38'	113°00'	248	252	CV	22°22'	113°40'	225	—
RV	29°15'	113°56'	320	325	CV	21°35'	113°40'	240	—
RV	29°20'	113°58'	490	505	CV	22°13'	113°44'	270	—
RV	29°21'	113°46'	942	970	CV	31°34'	115°00'	213	—
RV	29°22'	113°42'	1160	1167	CV	31°12'	114°56'	213	—
RV	29°28'	113°42'	1160	1160	CV	32°38'	114°47'	376	—
RV	29°35'	113°44'	1132	1136	CV	32°55'	114°39'	373	—
RV	29°51'	114°11'	770	760	CV	32°41'	114°47'	342	—
RV	30°01'	114°29'	255	265	CV	32°18'	114°58'	350	—
RV	30°00'	114°27'	380	380	CV	35°05'	114°53'	989	—
RV	30°00'	114°27'	480	490	CV	35°03'	114°51'	900	—
RV	30°16'	114°30'	684	684	CV	29°14'	113°52'	556	—
RV	30°39'	114°27'	1058	1080	CV	27°53'	113°08'	225	—
RV	30°51'	114°37'	893	887	CV	31°31'	114°53'	470	—
RV	31°16'	114°50'	613	614	CV	28°03'	113°15'	204	—
RV	31°17'	114°52'	475	512	CV	27°33'	112°58'	218	—
RV	31°44'	114°59'	390	485	CV	27°29'	112°50'	250	—
RV	32°02'	114°54'	670	640	CV	34°57'	114°56'	201	—
RV	31°53'	115°05'	411	550	CV	28°30'	112°55'	960	—
RV	31°55'	115°10'	320	850	CV	31°20'	114°54'	390	—
RV	32°09'	115°02'	484	470	CV	31°49'	115°01'	390	—
RV	32°07'	115°06'	308	295	CV	31°31'	114°57'	390	—
					CV	31°29'	114°55'	390	

diagram (Figure 1). In brief, sampling was carried out within the Western Deep Water Trawl Fishery (WDWTF), a management zone bounded in the north at 20°S by the 114°E meridian (North West Cape) and in the south at ~35°S by the 115°08'E meridian (Cape Leeuwin). Trawling operations involved the use of a variety of nets, although typically these nets had a large headline length (> 35.5 m) and heavy rubber-bobbin ground gear. Details of the net and trawl configuration used in the research survey are provided elsewhere (Williams *et al.*, submitted). A random-stratified sampling design was used for the survey based on six depth strata of 200 m within eight latitudinal strata of 100 nautical miles each. In addition, one trawl (#12) sampled in a depth range of 1460–1500+ m. Sixty five of the 95 stations were random-stratified; the remainder were targeted on fish schools detected by echosounder. About 90,000 fishes were caught during the research vessel survey, with the number of fish taken in the commercial catches unknown. About 90% of the fish species were recorded from survey operations.

Aboard the research vessel, fish specimens retained for museum collections were sorted on ice and placed in 10% formalin solution at the earliest opportunity. On commercial vessels specimens were frozen and preserved later in the laboratory. Most of the material retained is deposited in the I.S.R. Munro Ichthyological Collection at the CSIRO Division of Fisheries Laboratories in Hobart (CSIRO), at the Australian Museum in Sydney (AMS), and the Museum of Victoria, Melbourne (NMV). A few voucher specimens are also lodged at the Western Australian Museum, Perth (WAM).

Numerical abundances were calculated from numbers and weights, and standardised by the area swept and duration of trawls. Abundance data relate only to the 65 random stratified stations from the research vessel survey.

As the purpose of this paper is to present information on demersal fishes, pelagic species from the following taxa were excluded from the checklist: Serrivomeridae, Nemichthyidae, Eurypharyngidae, Bathylagidae, Opisthoproctidae, Gonostomatidae, Sternoptychidae, Astronesthidae, Melanostomiidae, Malacosteidae, Chauliodontidae, Stomiidae, Idiacanthidae, Myctophidae, Notosudidae, Paralepididae, Omosudidae, Alepisauridae, Evermannellidae, Scopelarchidae, Rondeletiidae, Ogcocephalidae (only *Coelophrys* sp.), Ceratoidea, Macrouridae (only *Hymenocephalus* species, *Mesobius* species, *Squalogadus modificus*), Melamphaidae, Anoplogastridae, Carangidae, Bramidae, Chiasmodontidae, Gempylidae (only *Lepidocybium flavobrunneum*, *Ruvettus pretiosus*, *Thyrsitoides marleyi*) and Trichiuridae.

Taxonomic identifications

As noted by Paxton *et al.* (1989), the taxonomic understanding of Australian fishes has only just begun for some groups. This is especially true for those occurring in the continental slope region. Many of the species encountered in this study are poorly known; indeed many are recorded from Australian waters here for the first time and many of these are yet to be described. A continuity in field identifications was ensured by the preparation of identification sheets for each taxon and by updating them on a station by station basis. Our family classification follows Nelson (1994).

The order of reliability of identification of each species was provided using a five level system presently in use at the CSIRO fish collection. It takes into consideration the taxonomic experience of the identifier, their knowledge of the group considered, and the amount of effort given to making the identification. In this scheme identifications below level 2 are not considered fully reliable; an explanation is given in Table 2.

Table 2 Criteria for assessing the reliability of identifications based on the taxonomic expertise of the identifier and their intentions as used in the checklist.

Level 1: *Highly reliable identification* – Specimen identified by (**a**) an internationally recognised authority of the group, or (**b**) a specialist that is presently studying or has reviewed the group in the Australian region.

Level 2: *Identification made with high degree of confidence at all levels* – Specimen identified by a trained identifier who had prior knowledge of the group in the Australian region or used available literature to identify the specimen.

Level 3: *Identification made with high confidence to genus but less so to species* – Specimen identified by (**a**) a trained identifier who was confident of its generic placement but did not substantiate their species identification using the literature, or (**b**) a trained identifier who used the literature but still could not make a positive identification to species, or (**c**) an untrained identifier who used most of the available literature to make the identification.

Level 4: *Identification made with limited confidence* – Specimen identified by (**a**) a trained identifier who was confident of its family placement but unsure of generic or species identifications (no literature used apart from illustrations), or (**b**) an untrained identifier who had/used limited literature to make the identification.

Level 5: *Identification superficial* – Specimen identified by (**a**) a trained identifier who is uncertain of the family placement of the species (cataloguing identification only), (**b**) an untrained identifier using, at best, figures in a guide, or (**c**) where the status and expertise of the identifier is unknown.

RESULTS

Faunal overview

A total of 388 fish species from 108 families are recorded from the western continental slope region between the 200 and 1500 m isobaths (Appendix 1). A high number, around 100 species, are recorded from Australian waters for the first time, and many are undescribed.

The most species-rich family is the Macrouridae with 50 species; in our collections it has about 2.5 times the number of species of any other family and accounts for about one seventh of all species caught. Other speciose families, in decreasing order of numbers of species taken, are the Squalidae (22 species), Alepocephalidae (17), Ophidiidae (17), Moridae (13), Triglidae (13), Scyliorhinidae (10) and Scorpaenidae (10). Of the remaining families, 44, or over 40% of the total, are represented by only a single species. The composition of dominant families changes markedly in the shallower strata (200–600 m) but is dominated in depths exceeding 800 m primarily by macrourids, alepocephalids and oreosomatids (Table 3).

Dominant taxa within depth strata

Within the shallow upper-slope depth range (200–400 m) the numerically dominant families are the Acropomatidae, Trachichthyidae, and Macrourocyttidae (Table 3). Acropomatids are primarily *Malakichthys* sp. A, *Acropoma japonicum*, *Apogonops anomlous* and *Synagrops philippinensis* (~36%, 9%, 3% and 2% of total individuals, respectively). Trachichthyid representatives include *Gephyroberyx darwini* (23%) and a suite of small *Hoplostethus* species dominated by *H. latus* (less than 1%). The Macrurocyttidae is represented by a single species, *Zenion* sp. A.

The Chlorophthalmidae is the dominant family in the 400–600 m stratum but represents only 20% of individuals. Of the five species collected, *Chlorophthalmus nigripinnis* and *Chlorophthalmus* sp. C are most numerous (13% and 6%, respectively) and, as with the other chlorophthalmid species, are restricted to the shallow and mid-depths of the upper-slope. The prevalence of the Acropomatidae in this depth range is due to *Apogonops anomolus* (13%) and *Malakichthys* sp. A (3%). The Scorpaenidae is among the most speciose families taken on the western slope region. It is represented by several species in this depth range with *Helicolenus barathri* accounting for about 7% of individuals. The most abundant macrourids in this depth range are *Caelorinchus* species, the most numerous being *C. maurofasciatus*, *C. mirus* and *C. parvifasciatus*.

Macrourids are numerically dominant in depths below 600 m. *Caelorinchus maurofasciatus* (11%), *Malacocephalus laevis* (8%), *Nezumia* sp. A (6%), *Ventrifossa macropogon* (6%) and *Lepidorhynchus denticulatus* (2%) have the highest numbers of individuals in 600–800 m. The species with the highest number of individuals is *Bathyclupea* sp. A (Bathyclupeidae), accounting for about 20% of the total catch. The Chaunacidae is represented mostly by *Chaunax* cf. *fimbriatus* (8%) and the Neoscopelidae by an unidentified species, *Neoscopelus* sp. A (4%).

In depths greater than 800 m the Macrouridae is the most speciose family, accounting for between 41% and 50% of the individuals in each of the three mid-slope strata. *Cetonurus globiceps*, *Gadomus* sp.

Table 3 Numerically dominant four families in each 200 m depth stratum. Figures are the percentage of the total number of individuals per stratum (based on survey data only).

Depth stratum (m)	200–400	400–600	600–800	800–1000	1000–1200	1200–1400
Acropomatidae (temperate sea basses)	50	17				
Trachichthyidae (sawbellies)	24					
Macrurocyttidae (dwarf dories)	5					
Gempylidae (snake mackerels)	3					
Chlorophthalmidae (greeneyes)		20				
Scorpaenidae (scorpionfishes)		10				
Macrouridae (grenadiers)		8	42	41	50	49
Bathyclupeidae (bathyclupeids)			19			
Chaunacidae (coffinfishes)			8			
Neoscopelidae (new lanternfishes)			6	10		
Oreosomatidae (oreo dories)				10	12	
Alepocephalidae (slickheads)				14	12	7
Synaphobranchidae (basketwork eels)					10	7
Ipnopidae (tripodfishes)						7
Mean number of fish per standard trawl	3229	510	223	202	157	160
Number of samples	12	12	10	15	11	5

B, three unidentified species of *Trachonurus* and *Bathygadus cottoides* have the greatest number of specimens; several species of the genera *Caelorinchus, Coryphaenoides, Nezumia* and *Ventrifossa* are also well represented. Several species account for the prominence of the Alepocephalidae. In 800–1000 m *Xenodermichthys copei* and *Rouleina guentheri* are the most abundant (10% and 3% respectively); in the two deepest strata *Alepocephalus triangularis, A.* cf. *productus* and *Narcetes lloydii* each make up between 1 and 4% of numbers. Oreosomatids are represented by four species, but *Allocyttus verrucosus* is the most abundant, making up 10% and 12% of numbers in the 800–1000 m and 1000–1200 m strata, respectively. The Synaphobranchidae, comprising four species, ranks fourth and third in the two deepest strata (1000–1200 m and 1200–1400 m). *Diastobranchus capensis* and *Synaphobranchus brevidorsalis* are most numerous with a combined proportion of about 7% of numbers in each stratum; *S. affinis* and *S. kaupi* contribute about 3% of the total number of individuals between 1000–1200 m. *Neoscopelus macrolepidotus* (Neoscopelidae) accounts for 10% of the total number of specimens taken in the 800–1000 m stratum and *Bathypterois ventralis* (Bathypteroidae) 7% of the numbers in the 1200–1400 m stratum.

Other groups are prominent in terms of species numbers or biomass but account for relatively few individuals. Overall, the Squalidae, with 22 species, ranks second in terms of numbers of species and, in the six strata sampled, ranks eleventh, sixth, ninth, seventh, eighth and eleventh, respectively, in numbers of individuals. *Squalus megalops* and *S. mitsukurii* are the dominant squalids on the upper-slope (1–3% and ~1% of numbers, respectively), with *Deania calcea* relatively common (~1%) on the shallow mid-slope, and *Zameus squamulosus* widespread and relatively common (~1%) in the 800–1500 m range. The Triglidae is represented by 13 species, dominated by members of *Lepidotrigla* and *Satyrichthys*. This family is restricted mainly to the shallow and mid-range of the upper-slope with only the distribution of *S.* cf. *investigatoris* extending below 500 m. Representatives of the Ophidiidae range from the upper-slope to the deep mid-slope. The upper-slope species, *Dannevigia tusca* and *Genypterus blacodes*, are relatively large but rare in this region, whereas several of the deep-dwelling species are more numerous and contribute to the prominent ranking of this family (fifth and seventh) in the two deepest strata. In these strata, the dominant species, *Monomitopus* sp. A, accounts for ~1–3% of total numbers of individuals.

Dominant taxa at different latitudes

The shallow upper-slope (~200–400 m) fauna north of Shark Bay includes many tropical Indo–West Pacific species and species whose distributions include the outer shelf area of northwestern Australia (e.g., Sainsbury *et al.* 1985). The most abundant components in survey trawls include *Dentex tumifrons, Acropoma japonicum, Malakichthys* sp. A, *Synagrops philippinensis* and *Nemipterus bathybius*; commercial catches from this region are dominated by the lutjanid *Etelis carbunculus* with a by-catch of other tropical lutjanids, serranids and priacanthids. The shallow upper-slope fauna south of Perth comprises mainly temperate fishes whose distributions also encompass the outer shelf. Dominant elements include *Dannevigia tusca, Neosebastes thetidis, Pterygotrigla polyommata, Neoplatycephalus conatus, Lepidoperca filamenta, Zanclistius elevatus, Oplegnathus woodwardi, Nemadactylus macropterus,* and *Nelusetta ayraudi.*

A similar overlap of warm and cool water species is evident on the deeper reaches of the upper-slope (~400–800 m), but the most abundant species are generally more widely distributed. Abundant tropical/sub-tropical species include *Synagrops japonicus, Setarches guentheri, Epigonus macrops, Bathyclupea* sp. A and *Champsodon* cf. *longipinnis*. The dominant temperate elements of the deeper upper-slope fauna include some species which did not occur further north than the southernmost section of the west coast, and others which ranged northward well into warm waters. The former group includes several species endemic to southern Australia (e.g., *Galeus boardmani,* Urolophus *expansus* and *Lepidoperca filamenta*), and other species with restricted southern Australian and New Zealand distributions (*Chlorophthalmus nigripinnis, Caelorinchus maurofasciatus, Lepidorhynchus denticulatus* and *Helicolenus* cf. *percoides*). Temperate species with distributions extending into waters north of Shark Bay (~26°S) include *Hoplostethus latus, Pentaceros decacanthus, Zenopsis nebulosus* and *Notopogon xenosoma*. Other abundant species have temperate/subtropical distributions: *Caelorinchus mirus, Apogonops anomolous, Rexea solandri, Euclichthys polynemus, Tripterophycis gilchristi* and *Malacocephalus laevis.*

Fishes from mid-slope depths (~800–1500 m) are typically wide ranging with southern circumglobal, Indo–Atlantic or cosmopolitan distributions. Some, however, exhibit restricted latitudinal ranges, primarily confined to the region between Cape Leeuwin and Shark Bay. Tropical mid-slope species that are both abundant and have restricted distributions include *Anacanthobatis* sp. A, *Bathypterois guentheri, B. ventralis, Lamprogrammus* cf. *niger* and *Mataeocephalus acipenserinus*. The abundant, wide-ranging species are *Pavoraja* sp. B, *Synaphobranchus brevidorsalis, Aldrovandia affinis, A. phalacra, Alepocephalus triangularis, Xenodermichthys*

copei, Monomitopus sp. A and *Scombrolabrax heterolepis*. Slope fishes that are abundant on the southern temperate Australian mid-slope and widely distributed on the west coast (extending north beyond Shark Bay) include *Centroscymnus owstoni, Deania calcea, Diastobranchus capensis, Synaphobranchus affinis, S. kaupi, Alepocephalus* cf. *productus, Rouleina guentheri, Neoscopelus macrolepidotus, Antimora rostrata, Bathygadus cottoides, Cetonurus globiceps, Coryphaenoides serrulatus, Neocyttus rhomboidalis* and *Allocyttus verrucosus*.

Many other species which are abundant on the temperate Australian mid-slope did not appear to occur north of Cape Leeuwin (~35°S). Conspicuous by their absence are the species which are commercially important in southeastern Australia. *Hoplostethus atlanticus* (orange roughy) and *Pseudocyttus maculatus* (smooth oreo) were even scarce in our more southern collections, whilst *Allocyttus niger* (black oreo) was not taken at all.

DISCUSSION

The high species richness is the most striking feature of the slope fish fauna in this region, and it is likely that further sampling with a variety of gears would substantially enlarge the number of species. Williams *et al.* (submitted) noted that sampling density during this study was low overall and that uncommon or aggregated species may have been missed. Furthermore, the selectivity of large-mesh trawls fitted with heavy ground gear most likely undersampled small species and groups which retain close contact with the bottom.

The great abundance of the Macrouridae (grenadiers) is also noteworthy. Despite their dominance, the group was poorly known in Australia at the time of the survey: only 32 of the 57 Australian species recorded by Paxton *et al.* (1989) were identified. It is apparent from our collections that at least 60 species are found on the Western Australian slope region (Iwamoto and Williams in prep.).

The west coast fish fauna is a mixture of warm and cold water species at all upper and mid-slope depths. However, latitudinal separation of tropical and sub-tropical species from temperate species is less evident as sampling depth increases. On the upper-slope (600–800 m) there is a change in the top-ranked families between 200 m depth strata, whereas on the mid-slope (800–1400 m) the Macrouridae, and to a lesser extent, Alepocephalidae, Oreosomatidae and Synaphobranchidae, are dominant throughout. In all strata, except for the 400–600 m stratum, the most abundant family accounts for 40–50% of individuals.

These ecological themes are developed in a second paper. In that work, the patterns of diversity, biomass and assemblage structure of this slope fish fauna are discussed and compared to others from slope regions off southeastern Australia and the northern hemisphere (Williams *et al.* submitted).

ACKNOWLEDGEMENTS

The authors express their gratitude to the following experts who provided identifications for certain groups of fishes: Drs. Tomio Iwamoto (Macrouridae), Yuri Sazonov (Alepocephalidae, Platytroctidae and Macrouridae), Barry Hutchins (Monacanthidae), Tony Harold (Bregmacerotidae) and Hisashi Imamura (*Bembras*). We thank the officers, crew and scientific staff of the FRV *Southern Surveyor* for their help during the trawl survey and numerous people from the fishing industry for the opportunity to sample from their fishing vessels. Dave Wright, Dave Evans, Dr Vicki Wadley, Dr Sebastian Rainer and Naomi Clear (CSIRO) assisted in making collections of fishes from commercial fishing vessels; Dave Wright, Alastair Graham and Gordon Yearsley (CSIRO), Mark McGrouther (AMS), Kevin Smith and Sue Morrison (WAM) helped to process and catalogue fish specimens; Gordon Yearsley, Karen Gowlett-Holmes, Dr Vivienne Mawson (CSIRO) and two anonymous referees critically reviewed an earlier version of the manuscript. This work was part of a project supported by the Fisheries Industries Research and Development Committee, Grant No.1988/74.

REFERENCES

Heald, D.I. and Walker, M.H. (1982). *'Taiyo Maru 71' Demersal trawling cruise in Western Australian coastal waters south of 21°, July–September, 1979.* Report No. 51, Department of Fisheries and Wildlife, Western Australia.

Iwamoto, T. and Shcherbachev, Y.N. (1991). Macrourid fishes of the subgenus *Chalinura*, genus *Coryphaenoides*, from the Indian Ocean. *Proceedings of the California Academy of Sciences* **47**: 207–233.

Koslow, J.A., Bulman, C.M. and Lyle, J.M. (1994). The mid-slope demersal fish community off south-eastern Australia. *Deep Sea Research* **41**: 113–141.

Last, P.R. and Harris, J.G.K. (1981). New locality records and preliminary information on demersal fish faunal assemblages in Tasmanian waters. *Papers and Proceedings of the Royal Society of Tasmania* **115**: 189–209.

May, J.L. and Blaber, S.J.M. (1989). Benthic and pelagic fish biomass of the upper continental slope off eastern Tasmania. *Marine Biology* **101**: 11–25.

Nelson, J.S. (1994). *Fishes of the World.* Third edition. John Wiley and Sons, Inc., New York.

Newton, G. and Klaer, N. (1991). Deep-sea demersal fisheries resources of the Great Australian Bight: a multivesssel trawl survey. *Bureau of Rural Resources Bulletin No. 10.* Australian Government Publishing Service, Canberra.

Paxton, J.R., Hoese, D.F., Allen, G.R. and Hanley, J.E. (1989). *Zoological Catalogue of Australia, Vol. 7, PISCES–Petromyzontidae to Carangidae.* Australian Government Publishing Service, Canberra.

Sainsbury, K.J., Kailola, P.J. and Leyland, G.G. (1985). *Continental Shelf Fishes of Northern and Northwestern Australia.* Clouston and Hall, and Peter Pownall Fisheries Information Service, Canberra.

Sazonov, Y.I. and Shcherbachev, Y.N. (1982). A preliminary review of grenadiers related to the genus *Cetonurus* Günther (Gadiformes, Macrouridae). Descriptions of new taxa related to the genera *Cetonurus* Günther and *Kumba* Marshall (in Russian, with English summary.) *Voprosy Ikhtiologii, Akad. Nauk SSR,* **22** (5): 707–21.

Williams, A., Koslow, J.A. and Last, P.R. (submitted). Diversity, biomass and assemblage structure of the demersal fish fauna of the continental slope off western Australia (20–35°S). *Marine Ecology Progress Series.*

Manuscript received 29 February 1996; accepted 25 July 1996.

Appendix 1 Checklist of demersal fishes collected from the western Australian continental slope in 200–1500 m between 20°S and 35°S. ID level refers to the reliability criteria detailed in Table 2; new record (*) refers to the first record of a species in Australian waters (Aust). Distributional limits of species based on our collections are shown by minimum and maximum depths, latitudes and longitudes; registration numbers identify museum voucher specimens in the CSIRO (H- codes), AMS (I-codes), WAM (P- codes) collections; '–' indicates no specimen was registered or retained; 'photo' indicates where non-retained specimens were photographed.

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
HEXANCHIDAE									
Heptranchias perlo (Bonnaterre, 1788)	1		318	484	24°53'	112°08'	32°10'	115°03'	H2013-02
HETERODONTIDAE									
Heterodontus zebra (Gray, 1831)	1		221	229	22°22'	113°39'	22°22'	113°39'	P.30424-001
ALOPIIDAE									
Alopias pelagicus Nakamura, 1935	3		240	240	21°35'	113°40'	21°35'	113°40'	photo
PARASCYLLIDAE									
Parasyclium sp. A (of Last and Stevens, 1994)	1		245	245	32°08'	115°08'	32°08'	115°08'	H2360-01
SCYLIORHINIDAE									
Apristurus longicephalus Nakaya, 1975	1		685	685	21°51'	113°47'	21°51'	113°47'	H2549-08
Apristurus sp. A (of Last and Stevens, 1994)	3		328	1060	21°38'	113°56'	34°57'	114°29'	H2592-02
Apristurus sp. B (of Last and Stevens, 1994)	3		942	942	29°22'	113°47'	29°22'	113°47'	H2624-01
Apristurus sp. D (of Last and Stevens, 1994)	1		1240	1240	34°13'	114°07'	34°13'	114°08'	H2623-03
Apristurus sp. F (of Last and Stevens, 1994)	2		1030	1050	32°35'	114°27'	33°50'	114°17'	H2615-01
Apristurus sp. G (of Last and Stevens, 1994)	1		684	942	26°15'	112°03'	30°17'	114°30'	H2573-01
Asymbolus sp. F (of Last and Stevens, 1994)	1		225	400	32°10'	115°08'	33°23'	114°30'	H2613-01
Cephaloscyllium fasciatum Chan, 1966	1		320	320	29°16'	113°57'	29°16'	113°57'	H2590-07
Galeus boardmani (Whitley, 1928)	1		213	510	24°53'	112°08'	33°23'	111°54'	H2591-10
Galeus gracilus Compangno and Stevens, 1993	1		467	467	24°51'	112°07'	24°51'	112°07'	–
TRIAKIDAE									
Galeorhinus galeus (Linnaeus, 1758)	1		213	213	31°34'	114°59'	31°34'	114°59'	–
Iago garricki (Fourmanoir and Rivaton, 1979)	2		467	467	24°51'	112°07'	24°51'	112°07'	H2564-09
Mustelus antarcticus Günther, 1870	1		225	225	32°10'	115°08'	32°10'	115°08'	H2613-15
Mustelus sp. B (of Last and Stevens, 1994)	3		297	346	23°25'	113°04'	27°23'	112°52'	H2356-02
CARCHARHINIDAE									
Carcharhinus altimus (Springer, 1950)	1		240	240	21°35'	113°40'	21°35'	113°40'	photo
Galeocerdo cuvier (Péron and Lesueur, 1822)	1		240	240	21°35'	113°40'	21°35'	113°40'	photo
SQUALIDAE									
Centrophorus granulosus (Bloch and Scheider, 1801)	1		868	868	20°08'	112°55'	20°08'	112°55'	H2543-05
Centrophorus moluccensis Bleeker, 1860	1		320	510	31°53'	115°06'	32°10'	115°03'	H2564-07
Centrophorus squamosus (Bonnaterre, 1788)	1		882	882	26°05'	111°47'	26°05'	111°47'	H2572-01
Centrophorus uyato (Rafinesque, 1810)	1		200	854	24°51'	112°07'	34°59'	114°44'	H2606-01

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
Centroscyllium kamoharai Abe, 1966	2		942	1254	23°60'	111°54'	33°18'	114°31'	H2560-02
Centroscymnus crepidater (Bocage and Capello, 1864)	1		870	880	32°40'	114°28'	35°05'	114°60'	H1815-02
Centroscymnus owstoni Garman, 1906	1		868	1254	20°08'	112°55'	35°05'	114°60'	H2570-10
Dalatias licha (Bonnaterre, 1788)	1		373	508	26°36'	112°29'	32°55'	114°39'	–
Deania calcea (Lowe, 1839)	1		738	900	30°52'	114°37'	35°05'	114°60'	–
Deania quadrispinosa (McCulloch, 1915)	1		738	854	28°04'	112°43'	34°59'	114°44'	H2357-04
Etmopterus brachyurus Smith and Radcliffe, 1912	1		475	612	25°19'	111°56'	31°17'	114°53'	H2604-01
Etmopterus lucifer Jordan and Snyder, 1902	1		738	817	33°26'	114°21'	34°59'	114°44'	H2625-04
Etmopterus pusillus (Lowe, 1839)	3		320	882	26°05'	111°47'	33°26'	114°21'	H2621-04
Etmopterus sp. A (of Last and Stevens, 1994)	1		320	850	25°36'	112°10'	31°57'	115°09'	H2572-02
Etmopterus sp. B (of Last and Stevens, 1994)	1		870	880	32°40'	114°28'	35°05'	114°60'	H2616-10
Euprotomicrus bispinatus (Quoy and Gaimard, 1824)	1		913	913	20°16'	113°13'	20°16'	113°13'	H2541-01
Squalus megalops (Macleay, 1881)	1		203	510	24°53'	112°08'	33°24'	114°31'	H2566-01
Squalus mitsukurii Jordan and Snyder, 1903	3		220	670	24°51'	112°07'	33°19'	114°32'	H2564-01
Squalus sp. C (of Last and Stevens, 1994)	1		300	300	23°25'	113°04'	23°25'	113°04'	H2014-01
Squalus sp. D (of Last and Stevens, 1994)	1		209	478	21°39'	113°58'	27°23'	112°52'	H2547-06
Squalus sp. E (of Last and Stevens, 1994)	1		312	508	25°08'	112°09'	31°55'	115°10'	H2032-01
Zameus squamulosus (Günther, 1877)	1		854	1254	20°08'	112°55'	32°35'	114°27'	H2560-03
PRISTIOPHORIDAE									
Pristiophorus cirratus (Latham, 1794)	3		203	400	30°00'	114°28'	33°24'	114°31'	H2620-05
SQUATINIDAE									
Squatina tergocellata McCulloch, 1914	1		203	400	29°16'	113°57'	33°24'	114°31'	H3053-02
Squatina sp. B (of Last and Stevens, 1994)	1		312	312	25°08'	112°09'	25°08'	112°09'	H2567-01
NARCINIDAE									
Narcine sp. B (of Last and Stevens, 1994)	1		209	346	21°39'	113°58'	32°05'	115°09'	H3054-03
Torpedo macneilli (Whitley, 1932)	1		490	490	29°21'	113°58'	29°21'	113°58'	H2591-06
RAJIDAE									
Notoraja sp. C (of Last and Stevens, 1994)	1		508	690	26°15'	112°03'	26°36'	112°29'	H2573-02
Pavoraja alleni McEachran and Fechhelm, 1982	1		200	475	24°51'	112°07'	31°55'	115°10'	H3015-02
Pavoraja sp. B (of Last and Stevens, 1994)	1		520	1500	21°54'	113°41'	31°16'	114°50'	H2603-03
Raja gudgeri (Whitley, 1940)	1		468	490	29°21'	113°58'	33°18'	114°31'	H2519-02
Raja sp. E (of Last and Stevens, 1994)	1		203	362	32°10'	115°08'	33°24'	114°31'	H2619-02
Raja sp. F (of Last and Stevens, 1994)	1		200	510	26°43'	112°41'	32°02'	115°09'	H2570-01
Raja sp. I (of Last and Stevens, 1994)	1		1254	1254	25°52'	111°27'	25°52'	111°27'	H2611-02
Raja sp. N (of Last and Stevens, 1994)	1		203	490	27°09'	112°45'	33°24'	114°31'	H2591-01
ANACANTHOBATIDAE									
Anacanthobatis sp. A (of Last and Stevens, 1994)	1		482	1115	22°60'	113°14'	25°41'	111°31'	H2557-01
Anacanthobatis sp. C	1		1115	1158	21°54'	113°41'	25°41'	111°31'	H2569-02

HEXATRYGONIDAE									
Hexatrygon sp. A (of Last and Stevens, 1994)	3		868	1115	20°08'	112°55'	25°41'	111°31'	H2543-07
UROLOPHIDAE									
Urolophus expansus McCulloch, 1916	1		203	400	31°55'	115°10'	33°24'	114°31'	H2619-03
Urolophus flavomosaicus Last and Gomon, 1987	1		200	306	26°43'	112°41'	27°23'	112°52'	–
Urolophus viridis McCulloch, 1916	1		200	380	26°43'	112°41'	30°00'	114°28'	H2590-04
Plesiobatis daviesi (Wallace, 1967)	1		508	508	26°36'	112°29'	26°36'	112°29'	–
MYLIOBATIDAE									
Myliobatis hamlyni Ogilby, 1911	3		346	346	26°45'	112°37'	26°45'	112°37'	H2578-01
CHIMAERIDAE									
Chimaera sp. A (of Last and Stevens, 1994)	3		670	854	28°04'	112°43'	32°02'	114°54'	H2621-02
Chimaera sp. C (of Last and Stevens, 1994)	3		685	1293	21°51'	113°47'	24°10'	111°39'	H2549-06
Chimaera sp. E (of Last and Stevens, 1994)	2		438	520	27°09'	112°45'	28°17'	113°18'	H2585-01
Hydrolagus lemures (Whitley, 1939)	2		286	510	23°25'	113°04'	33°23'	114°30'	H2590-10
RHINOCHIMAERIDAE									
Harriotta raleighana Goode and Bean, 1895	2		1030	1030	34°10'	114°16'	34°10'	114°16'	H2367-01
Rhinochimaera pacifica (Mitsukuri, 1895)	2		760	1293	22°29'	113°12'	34°10'	114°16'	H2552-02
MURAENIDAE									
Gymnothorax woodwardi McCulloch, 1912	2		244	244	32°06'	115°10'	32°06'	115°10'	H3096-02
NETTASTOMATIDAE									
Hoplunnis sp. A	4	*	312	312	25°08'	112°09'	25°08'	112°09'	H2567-02
Nettastoma melanura Rafinesque, 1810	2	*	612	612	23°45'	112°35'	23°45'	112°35'	H2557-02
Venefica cf *multiporosa* Karrer, 1982	3	*	1254	1254	25°52'	111°27'	25°52'	111°27'	H2570-04
CONGRIDAE									
Bassanago cf *bulbiceps* Whitley, 1948	3		701	870	33°03'		35°02'	114°60'	–
Bassanago sp. A	3		690	690	26°15'	112°03'	26°15'	112°03'	I.31170-007
Bathyuroconger vicinus (Vaillant, 1888)	2	*	854	1139	20°55'	112°51'	28°04'	112°43'	H2544-19
Blachea xenobranchialis Karrer and Smith, 1980	2		300	312	23°25'	113°04'	25°08'	112°09'	H2567-03
COLOCONGRIDAE									
Coloconger cf *raniceps* Alcock, 1899	3	*	892	892	24°30'	111°51'	24°30'	111°51'	H2562-03
Coloconger sp. A	3		760	892	24°30'	111°51'	26°36'	112°36'	H3041-10
SYNAPHOBRANCHIDAE									
Diastobranchus capensis Barnard, 1923	2		825	1280	25°52'	111°27'	35°05'	114°60'	H3010-01
Synaphobranchus affinis Günther, 1877	2		854	1061	23°60'	111°54'	32°40'	114°28'	I.31157-003
Synaphobranchus brevidorsalis Günther, 1887	2	*	880	1500	20°55'	112°51'	34°57'	114°29'	H2544-20
Synaphobranchus kaupi Johnson, 1862	2		1030	1030	32°35'	114°27'	32°35'	114°27'	H2616-05
HALOSAURIDAE									
Aldrovandia affinis (Günther, 1877)	2		868	1500	20°08'	112°55'	32°40'	114°28'	H2544-04
Aldrovandia phalacra (Vaillant, 1888)	2	*	1022	1500	20°55'	112°51'	32°35'	114°27'	H2544-11
Aldrovandia cf *rostrata* (Günther, 1887)	3	*	854	854	28°04'	112°43'	28°04'	112°43'	H2584-16

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
Halosaurus ovenii Johnson, 1863	3	*	690	690	26°15'	112°03'	26°15'	112°03'	H2573-20
Halosauropsis macrochir (Günther, 1878)	3		948	948	35°25'	117°21'	35°25'	117°21'	H3008-03
NOTACANTHIDAE									
Notacanthus sexspinis Richardson, 1846	2		870	982	33°18'	114°13'	35°05'	114°60'	photo
ARGENTINIDAE									
Glossanodon sp. A	3		255	438	25°08'	112°09'	32°14'	115°06'	H2597-01
LEPTOCHILICHTHYIDAE									
Leptochilichthys microlepis Machida and Shiogaki, 1988	1	*	1139	1158	20°55'	112°51'	21°54'	113°41'	H2544-23
ALEPOCEPHALIDAE									
Alepocephalus australis Barnard, 1923	1	*	982	1030	33°18'	114°13'	34°10'	114°16'	H3017-02
Alepocephalus owstoni Tanaka, 1908	1	*	880	960	22°47'	113°13'	28°30'	112°55'	H3061-01
Alepocephalus triangularis Okamura and Kawanishi, 1984	1	*	1022	1132	21°28'	113°39'	29°35'	113°45'	H2541-11
Alepocephalus cf *productus* (Gill, 1890)	3	*	1030	1280	20°55'	112°51'	32°35'	114°27'	H2544-18
Bajacalifornia calcarata (Weber, 1913)	1	*	880	880	22°47'	113°13'	22°47'	113°13'	H2553-02
Bathytroctes squamosus Alcock, 1890	1	*	913	1139	20°16'	113°13'	20°55'	112°51'	H2541-10
Conocara microlepis (Lloyd, 1909)	1	*	1258	1258	22°29'	113°12'	22°29'	113°12'	H2552-07
Leptoderma affine Alcock, 1899	1	*	1280	1280	32°20'	114°29'	32°20'	114°29'	H2614-01
Leptoderma cf *affine* Alcock, 1899	3	*	913	913	20°16'	113°13'	20°16'	113°13'	H2541-20
Leptoderma cf *retrospinna* Fowler, 1943	3	*	1139	1258	20°55'	112°51'	22°29'	113°12'	H2552-01
Narcetes lloydii Fowler, 1934	1	*	913	1258	20°16'	113°13'	32°35'	114°27'	H2552-05
Rouleina attrita (Vaillant, 1888)	1		1139	1258	20°55'	112°51'	25°52'	111°27'	H2570-05
Rouleina guentheri Alcock, 1892	1	*	685	1061	20°08'	112°55'	30°52'	114°37'	H2542-11
Talismania antillarum (Goode and Bean, 1896)	1		685	1009	20°08'	112°55'	28°00'	112°41'	H2543-04
Talismania longifilis (Brauer, 1902)	1		913	913	20°16'	113°13'	20°16'	113°13'	H2541-09
Talismania mekistonema Sulak, 1975	1	*	1115	1254	25°41'	111°31'	25°52'	111°27'	H2569-08
Xenodermichthys copei (Gill, 1884)	1		320	1030	21°51'	113°47'	34°57'	114°29'	H2549-02
PLATYTROCTIDAE									
Maulisia acuticeps Sazonov, 1976	1	*	1460	1500	21°58'	113°08'	21°58'	113°08'	H2551-12
Maulisia microlepis Sazonov and Golovan, 1976	1	*	1280	1500	20°01'	113°08'	32°20'	114°29'	H2614-02
PHOSICHTHYIDAE									
Polymetme corythaeola (Alcock, 1898)	2		411	1115	22°60'	112°13'	32°52'	114°35'	H3035-01
ATELEOPODIDAE									
Ateleopus cf *japonicus* Bleeker, 1853	3		457	684	26°40'	112°33'	30°17'	114°30'	H2019-01
AULOPIDAE									
Aulopus purpurissatus Richardson, 1843	2		210	210	33°45'	114°28'	33°45'	114°28'	H2054-01

CHLOROPHTHALMIDAE									
Chlorophthalmus nigripinnis Günther, 1878	2		220	727	28°48'	113°37'	35°02'	115°02'	H2590-01
Chlorophthalmus cf *acutifrons* Hiyama, 1940	3	*	320	467	21°38'	113°56'	24°51'	112°07'	H2103-01
Chlorophthalmus cf *nigromarginatus* Kamohara, 1953	3	*	328	328	21°37	113°56'	21°37	113°56'	H2546-04
Chlorophthalmus sp. A	2	*	328	510	21°38'	113°56'	27°17'	112°45'	H2100-01
Chlorophthalmus sp. B	2	*	200	346	21°39'	113°58'	26°45'	112°37'	H2566-02
Chlorophthalmus sp. C	2	*	200	670	26°36'	112°29'	32°10'	115°03'	H2574-02
IPNOPIDAE									
Bathypterois guentheri Alcock, 1889	2		868	1500	20°08'	112°55'	24°30'	111°51'	H2542-13
Bathypterois ventralis Garman, 1899	2	*	690	1500	20°16'	113°13'	27°33'	112°15'	H2544-13
Bathypterois grallator (Goode and Bean, 1886)	3	*	1460	1500	22°01'	113°08'	22°01'	113°08'	I.31151-002
SYNODONTIDAE									
Bathysaurus ferox Günther, 1878	2		945	1104	27°33'	112°15'	35°07'	115°01'	H3006-01
Saurida longimanus Norman, 1939	3		297	297	23°25'	113°04'	23°25'	113°04'	–
Saurida tumbil (Bloch, 1795)	3		200	320	21°39'	113°58'	26°43'	112°41'	H2547-18
Saurida sp. 2 (of Sainsbury *et al.*, 1985)	3		244	244	32°06'	115°10'	32°06'	115°10'	H3096-03
NEOSCOPELIDAE									
Neoscopelus macrolepidotus Johnson, 1863	1		435	1022	20°08'	112°55'	35°05'	114°60'	H2563-01
Neoscopelus sp. A	2		612	690	21°51'	113°47'	30°17'	114°30'	H3089-01
VELIFERIDAE									
Velifer multiradiatus Regan, 1907	2		210	210	28°09'	113°17'	28°09'	113°17'	H2020-01
POLYMIXIIDAE									
Polymixia japonicus Günther, 1877	2	*	300	510	22°60'	113°14'	30°00'	114°28'	H2554-03
Polymixia sp. B	2		444	467	24°51'	112°07'	24°53'	112°08'	H2565-09
MORIDAE									
Antimora rostrata (Günther, 1978)	1		825	1500	22°01'	113°08'	34°57'	114°29'	I.31159-003
Euclichthys polynemus McCulloch, 1926	1		306	571	24°51'	112°07'	33°18'	114°31'	H3045-07
Halargyreus johnsonii Günther, 1862	1		843	843	35°26'	117°25'	35°26'	117°25'	H3002-01
Laemonema sp. A	3	*	982	982	33°18'	114°13'	33°18'	114°13'	H2617-01
Lepidion inosimae (Günther, 1887)	2		945	945	35°07'	115°01'	35°07'	115°01'	H3010-10
Lepidion microcephalus Cowper, 1956	2		843	843	35°26'	117°25'	35°26'	117°25'	H3007-06
Lepidion cf *schmidti* Svetovidov, 1936	3	*	785	800	35°03'	114°55'	35°03'	114°55'	H3102-01
Mora moro (Risso, 1810)	2		673	989	33°26'	114°21'	35°05'	115°00'	–
Physiculus cf *longifilis* Weber, 1913	3	*	320	320	21°45'	113°52'	21°45'	113°52'	H2548-07
Physiculus cf *luminosa* Paulin, 1983	3	*	320	508	26°36'	112°29'	31°55'	115°10'	H2574-08
Physiculus cf *nigrescens* Smith and Radcliffe, 1912	3	*	320	320	21°45'	113°52'	21°45'	113°52'	H2084-01
Physiculus cf *roseus* Alcock, 1891	3	*	290	320	21°45'	113°52'	21°45'	113°52'	H2548-06
Tripterophycis gilchristi Boulenger, 1902	3		571	770	26°15'	112°03'	35°02'	115°02'	H2596-02
BREGMACEROTIDAE									
Bregmaceros sp. A	1	*	413	413	29°50'	114°21'	29°50'	114°21'	H3029-04
MELANONIDAE									
Melanonus zugmayeri Norman, 1903	2		880	913	20°16'	113°13'	20°16'	113°13'	H3110-02

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
MERLUCCIDAE									
Macruronus novaezelandiae (Hector, 1871)	1		596	825	33°06'	114°30'	34°15'	114°20'	H3025-07
OPHIDIIDAE									
Bassozetus sp. A	3	*	1460	1500	22°01'	113°08'	22°01'	113°08'	H2551-01
Dannevigia tusca Whitley, 1941	2		203	390	28°53'	113°41'	33°24'	114°31'	H3052-01
Dicrolene sp. A	2		435	945	25°59'	112°38'	30°52'	114°37'	H2583-11
Dicrolene sp. B	2	*	1158	1158	21°54'	113°41'	21°54'	113°41'	H2550-06
Epetriodus freddyi Cohen and Nielsen, 1978	2	*	714	892	24°30'	111°51'	27°07'	112°23'	H2562-02
Eretmichthys sp. A	3	*	1460	1500	21°50'	113°59'	21°50'	113°59'	H2559-09
Genypterus blacodes (Forster, 1801)	1		596	989	33°06'	114°30'	35°05'	114°53'	H3178-02
Glyptophidium japonicum Kamohara, 1936	2		437	478	26°40'	112°33'	27°49'	113°01'	H2575-05
Hoplobrotula armata (Temminck and Schlegel, 1847)	3		320	438	21°45'	113°52'	27°09'	112°45'	H2578-11
Homostolus acer Smith and Radcliffe, 1913	2	*	612	612	23°44'	112°35'	23°44'	112°35'	H2558-02
Lamprogrammus cf *niger* Alcock, 1891	3	*	868	868	20°08'	112°55'	20°08'	112°55'	H2542-01
Monomitopus sp. A	2		868	1258	20°08'	112°55'	32°35'	114°27'	H2615-03
Monomitopus sp. B	2	*	1254	1254	25°52'	111°27'	25°52'	111°27'	H2544-15
Monomitopus sp. C	4	*	1254	1254	25°52'	111°27'	25°52'	111°27'	H2570-11
Porogadus sp. A	2	*	1104	1104	27°33'	112°15'	27°33'	112°15'	H2582-01
Xyelacyba myersi Cohen, 1961	2	*	1158	1158	21°54'	113°41'	21°54'	113°41'	H2550-07
Ophidiidae gen. sp.	4	*	913	913	20°16'	113°13'	20°16'	113°13'	H2541-08
BYTHITIDAE									
Diplacanthopoma sp. A	2	*	868	868	20°08'	112°55'	20°08'	112°55'	H2542-22
CARAPIDAE									
Pyramodon ventralis Smith and Radcliffe, 1913	2		346	510	25°36'	112°33'	33°18'	114°31'	I.31174-008
MACROURIDAE									
Bathygadus cottoides Günther, 1878	1		913	1280	20°16'	113°13'	34°10'	114°16'	H2571-02
Bathygadus sp. A	3	*	1030	1030	34°10'	114°16'	34°10'	114°16'	H3017-08
Caelorinchus acanthiger Barnard, 1925	1	*	510	1132	27°17'	112°45'	35°05'	114°60'	H3008-08
Caelorinchus innotabilis McCulloch, 1907	1		770	1030	29°52'	114°12'	35°05'	114°60'	H3007-10
Caelorinchus matamua (McCann and McKnight, 1980)	1	870	870	35°05'	114°60'	35°05'	114°60'	H3008-09	
Caelorinchus maurofasciatus McMillan and Paulin, 1993	1		320	714	26°15'	112°03'	35°02'	115°02'	H2604-10
Caelorinchus mirus McCulloch, 1926	1		306	510	24°53'	112°08'	32°54'	114°39'	H3028-03
Caelorinchus parvifasciatus McMillan and Paulin, 1993	1	390	475	31°17'	114°53'	33°18'	114°31'	H2604-02	
Caelorinchus cf *argentatus* (Smith and Radcliffe, 1912)	3	*	320	320	21°45'	113°13'	21°45'	113°52'	H2305-02
Caelorinchus sp. A	1	*	390	475	31°17'	114°53'	33°18'	114°31'	H2604-02
Caelorinchus sp. C	1	*	482	612	22°60'	113°14'	23°45'	112°35'	H1514-19
Caelorinchus sp. D	1	*	685	685	21°51'	113°47'	21°51'	113°47'	H2549-04
Caelorinchus sp. E	1	*	478	1104	22°60'	113°14'	30°17'	114°30'	H2024-01
Caelorinchus sp. F	1	*	685	1022	21°28'	113°39'	24°31'	111°50'	H2553-03

Caelorinchus sp. G	1	*	1030	1030	32°35'	114°27'	32°35'	114°27'	H2615-02
Cetonurichthys subinflatus Sazonov and Shcherbachev, 1982	1	*	1258	1258	22°29'	113°12'	22°29'	113°12'	H2551-13
Cetonurus globiceps (Vaillant, 1884)	1		740	1500	22°01'	113°08'	34°13'	114°08'	H2551-15
Coryphaenoides rudis Günther, 1878	1	*	982	982	33°18'	114°13'	33°18'	114°13'	H2617-02
Coryphaenoides serrulatus Günther, 1878	1		740	982	32°40'	114°28'	35°05'	114°60'	H2616-02
Coryphaenoides striaturus Barnard, 1925	1	*	982	1030	33°18'	114°13'	34°10'	114°16'	H3017-06
Coryphaenoides sp. A	1	*	945	1030	32°35'	114°27'	35°07'	115°01'	H3010-09
Coryphaenoides sp. B	1	*	1254	1500	22°01'	113°08'	25°52'	111°27'	H2561-03
Gadomus sp. A	1		320	1158	21°51'	113°47'	31°55'	115°10'	H2596-03
Gadomus sp. B	1		817	1500	20°08'	112°55'	34°15'	114°20'	H3001-01
Hymenocephalus adelscotti Iwamoto and Merrett, 1996	2	*	430	690	17°45'	118°32'	26°15'	112°03'	H2573-14
Hyomacrurus sp. A	2		685	685	21°51'	113°47'	21°51'	113°47'	H2549-13
Idiolophorhynchus andriashevi Sazonov, 1981	1		1240	1240	34°13'	114°08'	34°13'	114°08'	H2623-01
Kuronezumia leonis (Barnard, 1925)	1	*	842	842	35°25'	117°21'	35°25'	117°21'	H3008-10
Kuronezumia pallida Sazonov and Iwamoto, 1992	2	*	760	760	26°36'	112°09'	26°36'	112°09'	H3041-14
Lepidorhynchus denticulatus (Richardson, 1846)	1		320	817	22°60'	113°14'	35°02'	115°02'	H2023-01
Lucigadus ori (Smith, 1968)	1	*	666	738	26°57'	112°22'	34°59'	114°44'	H2579-02
Malacocephalus laevis (Lowe, 1843)	1		411	870	22°60'	113°14'	34°59'	114°44'	H2023-05
Mataeocephalus acipenserinus (Gilbert and Cramer, 1897)	2	*	685	945	20°08'	112°55'	29°22'	113°47'	H2542-30
Nezumia evides Gilbert and Hubbs, 1920	1	*	612	913	20°16'	113°13'	25°19'	111°56'	H2549-17
Nezumia spinosa (Gilbert and Hubbs, 1916)	1		685	1258	20°08'	112°55'	29°22'	113°47'	H1492-01
Nezumia sp. A	1	*	320	1009	26°15'	112°03'	32°02'	114°54'	H2573-12
Nezumia sp. B	1	*	714	945	27°07'	112°23'	28°04'	112°43'	H2580-04
Nezumia sp. C	1	*	1293	1500	22°01'	113°08'	24°10'	111°39'	H2551-17
Nezumia sp. D	1	*	685	1258	20°55'	112°51'	33°18'	114°13'	H3041-12
Nezumia sp. E	1	*	842	945	28°00'	112°41'	35°25'	117°21'	H3008-11
Pseudonezumia puscilla Sazonov and Shcherbachev, 1981	1	*	1460	1500	22°01'	113°08'	22°01'	113°08'	H2551-19
Sphagemacrurus pumiliceps (Alcock, 1894)	1	*	882	1500	22°01'	113°08'	33°18'	114°13'	H2617-03
Trachonurus sp. A	2	*	892	1030	24°30'	111°51'	34°10'	114°16'	H3002-05
Trachonurus sp. B	2	*	770	1132	20°08'	112°55'	32°40'	114°28'	H2596-04
Trachonurus sp. C	2	*	770	1293	20°16'	113°13'	34°13'	114°08'	H2596-01
Ventrifossa johnboborum Iwamoto, 1982	1	*	684	882	20°08'	112°55'	30°17'	114°30'	H2573-21
Ventrifossa macropogon Marshall, 1973	1	*	320	760	21°51'	113°47'	33°26'	114°21'	H2549-09
Ventrifossa nigrodorsalis Gilbert and Hubbs, 1920	1		482	901	23°00'	113°14'	24°32'	111°49'	H2554-11
Ventrifossa sp. A	1	*	482	714	21°51'	113°47'	28°06'	113°27'	H2580-03
Ventrifossa sp. B	1	*	780	817	33°26'	114°21'	33°25'	114°23'	–
LOPHIIDAE									
Lophioides sp. A	3		300	300	23°52'	113°04'	23°25'	113°04'	–
Lophiomus setigerus (Vahl, 1797)	2		250	612	21°45'	113°52'	32°14'	115°06'	H3056-04
Sladenia sp. A	3	*	1139	1158	20°55'	112°51'	24°00'	111°54'	H2544-02
CHAUNACIDAE									
Bathychaunax melanostomus Caruso, 1989	2		893	1500	20°55'	112°51'	30°52'	114°37'	H2551-03
Chaunax cf *fimbriatus* Hilgendorf, 1879	3	*	320	1060	21°38'	113°56'	33°23'	114°30'	H2565-13
Chaunax sp. A	3	*	380	510	30°00'	114°28'	32°02'	115°09'	H2611-01
Chaunax sp. B	3	*	444	444	24°53'	112°08'	24°53'	112°08'	H2565-14

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
OGCOCEPHALIDAE									
Coelophrys sp. A	3	*	1009	1139	20°55'	112°51'	27°22'	112°11'	H2544-07
Dibranchus sp. A	3	*	297	297	23°25'	113°04'	23°25'	113°04'	H2555-01
Halieutea cf *stellata* (Vahl, 1797)	3	*	435	1115	24°53'	113°13'	27°17'	112°45'	H3040-10
Halieutopsis cf *micropus* (Alcock, 1891)	3	*	942	942	29°22'	113°47'	29°22'	113°47'	H2593-01
Halieutopsis sp. A	3	*	942	942	29°22'	113°47'	29°22'	113°47'	H2592-05
BARBOURISIIDAE									
Barbourisia rufa Parr, 1945	1		1139	1460	20°55'	112°51'	24°10'	111°39'	H2551-02
DIRETMIDAE									
Diretmichthys parini (Post and Quero, 1981)	2		740	1293	20°55'	112°51'	35°02'	115°01'	H3009-01
Diretmus argenteus Johnson, 1864	2		685	1139	20°08'	112°55'	21°51'	113°47'	H2542-07
TRACHICHTHYIDAE									
Gephyroberyx darwinii (Johnson, 1866)	2		274	490	21°44'	113°52'	33°13'	114°31'	H2044-01
Hoplostethus atlanticus Collett, 1889	1		812	870	33°58'	114°22'	35°05'	114°60'	H1251-01
Hoplostethus intermedius (Hector, 1875)	1		673	673	35°02'	115°02'	35°02'	115°02'	H3011-03
Hoplostethus latus McCulloch, 1914	1	*	320	510	24°53'	112°08'	33°18'	114°31'	H3023-06
Hoplostethus cf *melanopus* (Weber, 1913)	3	*	435	760	18°14'	117°54'	27°07'	112°23'	H3041-01
BERYCIDAE									
Beryx splendens Lowe, 1833	2		209	670	21°38'	113°56'	32°02'	114°54'	H2599-02
Centroberyx australis Shimizu and Hutchins, 1987	2		203	380	26°42'	112°38'	33°24'	114°31'	H2577-01
Centroberyx gerrardi (Günther, 1887)	2		210	210	33°45'	114°28'	33°45'	114°28'	H2008-01
HOLOCENTRIDAE									
Ostichthys japonicus (Cuvier, 1829)	2		200	225	21°39'	113°58'	26°43'	112°41'	H2576-04
PARAZENIDAE									
Parazen pacificus Kamohara, 1935	2		297	478	21°45'	113°52'	27°23'	112°52'	H3045-03
MACROUROCYTTIDAE									
Zenion sp. A	3		306	735	21°45'	113°52'	27°23'	112°52'	H3040-01
ZEIDAE									
Cyttopsis cypho (Fowler, 1934)	2		297	510	21°45'	113°52'	32°02'	115°09'	H2556-08
Cyttopsis roseus (Lowe, 1843)	2		209	616	21°39'	113°58'	29°50'	114°21'	H2591-04
Cyttus traversi Hutton, 1872	1		490	1003	28°13'	113°07'	35°08'	115°01'	H3009-02
Zenopsis nebulosus (Temminck and Schlegel, 1845)	1		209	712	21°39'	113°58'	34°59'	114°53'	H2040-01
Zenopsis sp. A	2		209	392	16°54'	120°25'	21°45'	113°52'	H2046-01
Zeus faber Linnaeus, 1758	1		200	230	26°43'	112°41'	32°00'	115°13'	H2576-05
GRAMMICOLEPIDIDAE									
Grammicolepis brachiusculus Poey, 1873	2		565	612	25°19'	111°56'	26°25'	112°20'	H3046-04
Xenolepidichthys dalgleishi Gilchrist, 1922	2		405	612	17°00'	120°11'	31°31'	114°43'	H2079-01

OREOSOMATIDAE									
Allocyttus verrucosus (Gilchrist, 1906)	1		613	1293	20°08'	112°55'	35°05'	114°60'	H2036-01
Neocyttus rhomboidalis Gilchrist, 1906	1		596	1240	26°36'	112°09'	35°05'	114°60'	H2034-01
Oreosoma atlanticum Cuvier, 1829	1		670	825	32°02'	114°54'	34°15'	114°20'	H3016-01
Pseudocyttus maculatus Gilchrist, 1906	1		900	1003	35°03'	115°01'	35°08'	114°51'	H3008-01
CAPROIDAE									
Antigonia rhomboidea McCulloch, 1915	2		297	435	22°30'	113°35'	25°36'	112°10'	H3045-04
Antigonia rubicunda Ogilby, 1910	2		312	312	25°08'	112°09'	25°08'	112°09'	H2567-17
FISTULARIIDAE									
Fistularia petimba Lacépède, 1803	2		218	218	27°33'	112°59'	27°33'	112°59'	P.30431-001
MACRORAMPHOSIDAE									
Centriscops humerosus (Richardson, 1846)	2		306	673	27°23'	112°52'	35°02'	115°02'	H3071-01
Macroramphosus scolopax (Linnaeus, 1758	2		225	308	23°25'	113°04'	32°14'	115°06'	I.31185-009
Notopogon xenosoma Regan, 1914	2		270	712	24°51'	112°07'	34°59'	114°53'	H2567-04
SCORPAENIDAE									
Helicolenus barathri (Hector, 1875)	2		320	770	26°36'	112°29'	33°18'	114°31'	H2574-01
Helicolenus cf *percoides* (Richardson, 1842)	3		203	225	32°10'	115°08'	33°24'	114°31'	H2613-03
Neomerinthe cf *neilseni* (Smith, 1964)	3	*	320	438	27°09'	112°45'	31°55'	115°10'	I.31184-004
Neosebastes nigropunctatus McCulloch, 1915	2		203	225	32°10'	115°08'	33°24'	114°31'	H2613-07
Neosebastes pandus (Richardson, 1842)	2		201	201	34°57'	114°56'	34°57'	114°56'	H3063-01
Neosebastes thetidis (Waite, 1899)	2		203	225	32°10'	115°08'	33°24'	114°31'	H2613-08
Setarches guentheri Johnson, 1862	2		318	649	17°50'	118°33'	30°57'	114°48'	H2006-02
Setarches longimanus (Alcock, 1894)	2		297	297	23°25'	113°04'	23°25'	113°04'	I.31155-008
Trachyscorpia capensis (Gilchrist and von Bonde, 1924)	2		738	870	34°59'	114°44'	35°05'	114°60'	H2625-02
Trachyscorpia cf *cristulata* (Goode and Bean, 1896)	3	*	880	880	32°40'	114°28'	32°40'	114°28'	H2616-01
TRIGLIDAE									
Heminodus sp. A	3	*	297	508	22°60'	113°14'	27°09'	112°45'	H2564-13
Lepidotrigla modesta Waite, 1899	1		270	308	32°05'	115°09'	32°14'	115°06'	H2609-01
Lepidotrigla sp. A	2		209	346	21°39'	113°58'	29°16'	113°57'	H2547-07
Lepidotrigla sp. B	2		209	320	21°39'	113°58'	25°08'	112°09'	H2547-08
Parapterygotrigla sp. A	2		297	300	23°25'	113°04'	23°25'	113°04'	H2555-05
Parapterygotrigla sp. B	3		300	300	23°25'	113°04'	23°25'	113°04'	H2556-10
Peristedion cf *liorhynchus* (Günther, 1872)	3		297	467	23°25'	113°04'	24°56'	112°11'	H2564-10
Pterygotrigla hemisticta (Temminck and Schlegel, 1844)	2		300	320	21°45'	113°52'	23°25'	113°04'	H2548-11
Pterygotrigla polyommata (Richardson, 1839)	3		203	400	30°01'	114°29'	33°24'	114°31'	H2597-04
Satyrichthys cf *adeni* (Lloyd, 1907)	4	*	444	444	24°53'	112°08'	24°53'	112°08'	H2115-01
Satyrichthys cf *investigatoris* (Alcock, 1898)	3	*	320	714	26°15'	112°03'	31°55'	115°10'	H2608-03
Satyrichthys cf *murrayi* (Günther, 1878)	4	*	297	300	23°25'	113°04'	23°25'	113°04'	H2555-07
Satyrichthys cf *welchi* (Herre, 1925)	4	*	209	346	21°39'	113°58'	32°05'	115°09'	H2547-05

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
PLATYCEPHALIDAE									
Bembras sp. A	2		209	297	21°39'	113°58'	23°25'	113°04'	H2547-04
Elates ransonnetii (Steindachner, 1877)	3		221	221	22°22'	113°39'	22°22'	113°39'	H3055-02
Neoplatycephalus conatus Waite and McCulloch, 1915	1		201	413	28°53'	113°41'	33°24'	114°31'	H2610-08
Ratabulus diversidens (McCulloch, 1914)	2		209	209	21°39'	113°58'	21°39'	113°58'	H2547-15
HOPLICHTHYIDAE									
Hoplichthys citrinus Gilbert, 1905	2		300	612	23°25'	113°04'	27°09'	112°45'	H3045-09
Hoplichthys haswelli McCulloch, 1907	1		373	712	29°21'	113°58'	34°59'	114°53'	H1807-01
Hoplichthys sp. A	3		510	1058	30°39'	114°28'	34°59'	114°53'	H2601-01
EREUNIIDAE									
Ereunias cf *grallator* Jordan and Snyder, 1901	3	*	565	760	26°25'	112°20'	28°13'	113°07'	I.31175-001
PSYCHROLUTIDAE									
Psychrolutes cf *inermis* (Vaillant, 1888)	3		435	565	26°25'	112°20'	26°25'	112°20'	H3046-05
Psychrolutes cf *marcidus* (McCulloch, 1926)	3		571	945	26°15'	112°03'	32°52'	114°35'	H3026-01
CYCLOPTERIDAE									
Paraliparis sp. A	3		1030	1030	32°35'	114°27'	32°35'	114°27'	H2615-10
DACTYLOPTERIDAE									
Dactyloptena peterseni (Nyström, 1887)	3		250	250	27°29'	112°50'	27°29'	112°50'	H3066-03
SERRANIDAE									
Callanthias sp. A	2	*	203	270	27°39'	113°00'	33°24'	114°31'	H2610-01
Caprodon sp. A	2	*	212	373	22°22'	113°39'	32°54'	114°39'	H2307-01
Epinephelus radiatus (Day, 1868)	2		218	250	21°19'	113°42'	22°30'	113°35'	–
Epinephelus septemfasciata (Thunberg, 1793)	2		200	331	31°09'	114°52'	32°09'	115°10'	H2130-01
Lepidoperca filamenta Roberts, 1987	2		203	225	32°10'	115°08'	33°24'	114°31'	H2613-05
Lepidoperca occidentalis Whitley, 1951	2		203	225	32°10'	115°08'	33°24'	114°31'	H2613-04
Plectranthias cf *japonicus* (Steindachner, 1884)	3		320	320	21°45'	113°52'	21°45'	113°52'	H2548-02
GLAUCOSOMATIDAE									
Glaucosoma buergeri Richardson, 1845	2		220	250	22°25'	113°37'	22°29'	113°36'	P.30423-001
BANJOSIDAE									
Banjos banjos (Richardson, 1846)	2		216	216	28°34'	113°29'	28°34'	113°29'	H2037-02
PRIACANTHIDAE									
Cookeolus boops (Forster, 1801)	2		200	300	23°25'	113°04'	27°53'	113°08'	H2575-03
Priacanthus hamrur (Forsskål, 1775)	2		218	250	21°19'	113°42'	22°30'	113°35'	–
Priacanthus macracanthus Cuvier, 1829	2		209	320	21°39'	113°58'	21°39'	113°58'	H2085-01
Priacanthus fitchi Starnes, 1988	2		297	297	23°25'	113°04'	23°25'	113°04'	–
Pristigenys niphonia (Cuvier, 1829)	2		220	250	22°25'	113°37'	22°29'	113°36'	–

EPIGONIDAE									
Epigonus macrops (Brauer, 1906)	2		612	895	24°30'	111°51'	25°19'	111°56'	H2562-01
Epigonus occidentalis Goode and Bean, 1896	3	*	612	613	23°45'	112°35'	31°16'	114°50'	H2603-01
Epigonus robustus (Barnard, 1927)	2		976	982	33°17'	114°13'	33°18'	114°13'	H2617-10
ACROPOMATIDAE									
Acropoma japonica Günther, 1859	3		209	320	21°39'	113°58'	27°23'	112°52'	H2547-12
Apogonops anomalus Ogilby, 1896	2		200	510	21°45'	113°52'	33°18'	114°31'	–
Doderleinia berycoides (Hilgendorf, 1879)	2		320	400	20°00'	120°14'	21°45'	113°52'	H2548-03
Malakichthys cf *elegans* Matsubara and Yamaguchi, 1943	3		320	320	21°45'	113°52'	21°45'	113°52'	H2088-01
Malakichthys sp. A	3	*	297	482	22°60'	113°14'	27°23'	112°52'	H2554-15
Polyprion americanus (Bloch and Schneider, 1801)	2		270	270	32°05'	115°09'	32°05'	115°09'	–
Polyprion oxygeneois (Forster, 1801)	2		350	350	32°18'	114°58'	32°18'	114°58'	photo
Synagrops japonicus (Döderlein, 1884)	2		306	714	22°60'	113°14'	32°10'	115°03'	H2047-01
Synagrops philippinensis (Günther, 1880)	2		306	478	21°45'	113°52'	30°00'	114°28'	–
MALACANTHIDAE									
Branchiostegus australiensis Dooley and Kailola, 1988	2		207	230	20°40'	113°43'	32°00'	115°13'	H2547-03
EMMELICHTHYIDAE									
Plagiogenion macrolepis McCulloch, 1914	3		203	230	32°00'	115° 13'	33°24'	114°31'	H2619-04
LUTJANIDAE									
Etelis carbunculus Cuvier, 1828	1		200	285	21°15'	113°43'	26°24'	112°38'	H2577-03
Etelis coruscans Valenciennes, 1862	1		285	285	26°42'	112°38'	26°42'	112°38'	H2577-02
Lipocheilus carnolabrum (Chan, 1970)	2		218	250	21°19'	113°42'	22°30'	113°35'	photo
NEMIPTERIDAE									
Nemipterus bathybius Snyder, 1911	2		209	225	20°40'	113°43'	21°39'	113°58'	H3054-02
Parascolopsis rufomaculatus Russell, 1986	2		209	312	21°39'	112°58'	25°08'	112°09'	H2567-05
HAEMULIDAE									
Haplogenys kishinouyei Smith and Pope, 1906	3		218	250	20°40'	113°43'	22°30'	113°35'	photo
SPARIDAE									
Dentex tumifrons (Temminck and Schlegel, 1842)	2		200	346	21°39'	113°58'	32°10'	115°08'	H3067-02
Pagrus auratus (Bloch and Schneider, 1801)	2		200	296	21°15'	113°43'	32°24'	115°01'	H1698-01
MULLIDAE									
Parupeneus chrysopleuron (Schlegel, 1843)	2		200	200	26°43'	112°41'	26°43'	112°41'	I.31173-001
BATHYCLUPEIDAE									
Bathyclupea sp. A	3		482	870	22°60'	113°14'	33°58'	114°22'	H3040-03
SCORPIDIDAE									
Tilodon sexfasciatum (Richardson, 1842)	2		201	201	34°57'	114°56'	34°57'	114°56'	H3063-03
CHAETODONTIDAE									
Chaetodon assarius Waite, 1905	2		200	250	32°00'	115°30'	32°00'	115°30'	P.30422-001
PENTACEROTIDAE									
Paristiopterus gallipavo Whitley, 1944	2		204	213	28°03'	113°15'	31°36'	114°59'	H3068-01

Species	ID level	New record (Aust)	Min. depth (m)	Max depth (m)	Min. latitude	Min. longitude	Max. latitude	Max. longitude	Registration number
Pentaceros decacanthus Günther, 1859	2		306	712	25°08'	112°09'	34°59'	114°53'	H3069-04
Pseudopentaceros cf *richardsoni* (Smith, 1844)	3		376	596	28°48'	113°37'	33°13'	114°31'	H3025-01
Zanclistius elevatus (Ramsay and Ogilby, 1889)	2		200	360	31°55'	115°11'	33°24'	114°31'	H2002-02
OPLEGNATHIDAE									
Oplegnathus woodwardi (Waite, 1900)	2		203	380	29°57'	114°27'	33°24'	114°31'	H2608-05
CHEILODACTYLIDAE									
Nemadactylus macropterus (Bloch and Schneider, 1801)	2		203	357	31°55'	115°10'	33°24'	114°31'	H2608-14
Nemadactylus valenciennesi (Whitley, 1937)	2		203	203	33°24'	114°31'	33°24'	114°31'	H2619-05
CEPOLIDAE									
Cepola sp. A	3		300	300	23°25'	113°04'	23°25'	113°04'	H2556-01
SPHYRAENIDAE									
Sphyraena sp. A	3		209	300	21°39'	113°58'	23°25'	113°04'	H2547-14
LABRIDAE									
Bodianus vulpinus (Richardson, 1850)	1		218	218	27°33'	112°58'	27°33'	112°58'	H2065-01
PINGUIPEDIDAE									
Parapercis sp. A	3		225	390	31°55'	115°10'	32°14'	115°06'	H2608-02
Parapercis sp. B	3		220	318	23°25'	113°04'	33°19'	114°32'	I.31185-006
Parapercis sp. C	3		220	297	23°25'	113°04'	33°19'	114°32'	H2556-09
PERCOPHIDAE									
Bembrops cf *curvatura* Ikada and Suzuki, 1952	3		320	320	21°45'	113°52'	21°45'	113°52'	–
URANOSCOPIDAE									
Gnathagnus australiensis Kishamoto, 1989	2		290	320	21°45'	113°52'	21°45'	113°52'	H2548-04
Kathetostoma nigrofasciatum Waite and McCulloch, 1915	2		201	320	30°01'	114°29'	34°57'	114°56'	H2597-05
Pleuroscopus pseudodorsalis Barnard, 1927	2		435	435	33°20'	114°30'	33°20'	114°30'	H3023-04
Uranoscopus sp. A	3		209	320	21°39'	113°58'	21°45'	113°52'	H2547-13
CHAMPSODONTIDAE									
Champsodon cf *longipinnis* Matsubara and Amaoka, 1964	3		297	612	22°60'	113°14'	27°17'	112°45'	H3046-01
Champsodon nudivittis (Ogilby, 1895)	2		306	478	24°51'	112°07'	27°23'	112°52'	H2575-03
CALLIONYMIDAE									
Synchiropus apricus (McCulloch, 1926)	2		390	490	27°09'	112°45'	31°49'	115°01'	H2587-03
SCOMBROLABRACIDAE									
Scombrolabrax heterolepis Roule, 1921	2		854	1293	20°08'	112°55'	35°07'	115°01'	H3010-05
GEMPYLIDAE									
Neoepinnula orientalis (Gilchrist and von Bonde, 1924)	1		435	510	24°51'	112°07'	27°17'	112°45'	H2564-03
Rexea antefurcata Parin, 1989	2		225	435	22°22'	113°39'	25°36'	112°10'	H3058-01

Rexea bengalensis (Alcock, 1894)	2	270	270	22°13'	113°44'	22°13'	113°44'	H3057-01
Rexea prometheoides (Bleeker, 1856)	1	297	320	21°45'	113°52'	23°25'	113°04'	I.31147-001
Rexea solandri (Cuvier, 1831)	1	216	596	23°25'	113°04'	33°20'	114°30'	H3023-05
CENTROLOPHIDAE								
Hyperoglyphe antarctica (Carmichael, 1818)	2	380	380	30°00'	114°28'	30°00'	114°28'	H2598-02
Psenopsis obscura Haedrich, 1967	2	868	868	20°08'	112°55'	20°08'	112°55'	H2543-02
NOMEIDAE								
Cubiceps pauciradiatus Günther,1872	2	868	868	20°08'	112°55'	20°08'	112°55'	H2543-01
Cubiceps squamiceps (Lloyd, 1909)	2	467	467	24°51'	112°07'	24°51'	112°07'	H2564-23
ARIOMMATIDAE								
Ariomma luridum Jordan and Snyder, 1904	2	297	318	23°25'	113°04'	24°56'	112°11'	–
CITHARIDAE								
Citharoides macrolepidotus (Gilchrist, 1905)	3	297	435	23°25'	113°04'	31°55'	115°10'	H3045-05
BOTHIDAE								
Chascanopsetta lugubris Alcock, 1894	2	444	467	24°51'	112°07'	24°53'	112°08'	H2564-21
Taeniopsetta cf *ocellata* (Günther, 1880)	3	300	300	23°25'	113°04'	23°25'	113°04'	H2556-02
PARALICHTHYIDAE								
Pseudorhombus megalops Fowler, 1934	3	297	300	23°25'	113°04'	23°25'	113°04'	–
PLEURONECTIDAE								
Poecilopsetta cf *proelonga* Alcock, 1894	3	312	320	21°45'	113°52'	25°08'	112°09'	H2548-15
Pleuronectidae gen. sp.	4	320	320	21°45'	113°52'	21°45'	113°52'	H2567-15
TRIACANTHODIDAE								
Halimochirurgus alcocki Weber, 1913	1	438	438	27°09'	112°45'	27°09'	112°45'	I.31184-002
Halimochirurgus centriscoides Alcock, 1899	1	297	297	23°25'	113°04'	23°25'	113°04'	I.31155-003
Paratriacanthodes retrospinus Fowler, 193	1	467	482	22°60'	113°14'	24°51'	112°07'	I.31154-001
Tydemania navigatoris Weber, 1913	1	482	482	22°60'	113°14'	22°60'	113°14'	I.31154-002
MONACANTHIDAE								
Eubalichthys bucephalus (Whitley, 1931)	1	204	213	31°13'	114°56'	34°56'	114°59'	H1800-01
Eubalichthys quadrispinis Hutchins, 1977	1	213	270	31°13'	114°56'	32°10'	115°08'	H2610-04
Nelusetta ayraudi (Quoy and Gaimard, 1824)	1	200	360	29°20'	114°02'	32°28'	114°59'	H1800-02
Parika scaber (Bloch and Schneider, 1801)	1	203	203	33°24'	114°31'	33°24'	114°31'	H2619-07
Thamnaconus tessellatus (Günther, 1880)	1	250	250	27°29'	112°50'	27°29'	112°50'	H1802-01
OSTRACIIDAE								
Anaplocapros lenticularis (Richardson, 1841)	2	203	324	31°12'	114°56'	33°24'	114°31'	H2613-09
Capropygia unistriata (Kaup, 1855)	2	203	203	33°24'	114°31'	33°24'	114°31'	–
TETRAODONTIDAE								
Omegophora armilla (McCulloch and Waite, 1915)	2	255	255	30°01'	114°29'	30°01'	114°29'	I.31186-002
Sphoeroides pachygaster (Müller and Troschel, 1848)	3	318	685	21°51'	113°47'	24°56'	112°11'	H2566-03