

## Change in the subtidal reef fish assemblage at Kuchierabu-jima Island, southern Japan, between 1972 and 2005

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URL	<a href="https://fra.repo.nii.ac.jp/records/2002157">https://fra.repo.nii.ac.jp/records/2002157</a>

1 **Table 2** List of reef fish species and their abundance in the 1972 survey of Gushima and Murakami  
2 (1978) and the 2005 survey (present study) at Kuchierabu-jima Island, southern Japan. Species names  
3 follow Nakabo (2013). Asterisks indicate species eliminated from the Results (see *Data analysis*  
4 section). The main geographic distribution and trophic groups of each species was categorized as: SC:  
5 subtropical carnivore, SH: subtropical herbivore, SO: subtropical omnivore, TC: temperate carnivore,  
6 TH: temperate herbivore, TO: temperate omnivore. Reason for its elimination from the Results: 1,  
7 species which would not have been counted in the precious census in 1972; 2, newly described  
8 species; 3, pelagic species

Scientific name	Japanese name	Abundance		Relative change in abundance between 1972 and 2005	Geographic range and trophic groups category	Reason
		Oct. 1972	Oct. 2005			
<b>Dasyatidae</b>						
<i>Neotygon kuhlii</i> *	Yakko-ei	-	2	-	-	1
<b>Muraenidae</b>						
<i>Echidna nebulosa</i> *	Kumo-ustubo	-	1	-	-	1
<b>Synodontidae</b>						
<i>Synodus</i> sp.*		-	29	-	-	1
<b>Holocentridae</b>						
<i>Myripristis</i> sp.*		-	9	-	-	1
<i>Neoniphon sammara</i> *	Ukeguchi-ittoudai	-	2	-	-	1
<i>Sargocentron melanospilos</i> *	Sumitsuki-kanoko	-	10	-	-	1
Holocentridae spp.*		-	43	-	-	1
<b>Aulostomidae</b>						
<i>Aulostomus chinensis</i>	Hera-yagara	0	3	Not recorded in 1972 <sup>a</sup>	SC	
<b>Fistulariidae</b>						
<i>Fistularia commersonii</i>	Ao-yagara	5	6	1.20	TC	
<b>Serranidae</b>						
<i>Belonoperca chabanaudi</i> *	Yami-suzuki	-	1	-	-	1
<i>Cephalopholis miniata</i> *	Yukata-hata	-	12	-	-	1
<i>Cephalopholis urodeta</i> *	Niji-hata	-	5	-	-	1
<i>Epinephelus fasciatus</i> *	Aka-hata	-	6	-	-	1
<i>Epinephelus merra</i> *	Kanmon-hata	-	5	-	-	1
<i>Grammistes sexlineatus</i> *	Nunosarashi	-	2	-	-	1
<i>Plectropomus laevis</i> *	Kokuhan-ara	-	1	-	-	1
<i>Plectropomus leopardus</i> *	Suji-ara	-	1	-	-	1
<i>Pseudanthias pascalus</i> *	Hanagoi	-	124	-	-	1
<i>Variola albimarginata</i> *	Ojiro-bara-hata	-	4	-	-	1
<i>Variola louti</i> *	Bara-hata	-	7	-	-	1
<b>Pseudochromidae</b>						
<i>Labracinus cyclophthalmus</i> *	Megisu	-	54	-	-	1
<b>Apogonidae</b>						
<i>Apogon aureus</i> *	Aosuji-tenjikudai	-	31	-	-	1
<i>Cheilodipterus macrodon</i> *	Ryūkyū-yarai-ishimochi	-	27	-	-	1
<i>Cheilodipterus quinquelineatus</i> *	Yarai-ishimochi	-	5	-	-	1
<b>Malacanthidae</b>						

<i>Malacanthus latovittatus</i>	Kitsune-amadai	0	1	Not recorded in 1972 <sup>a</sup>	SC	
<b>Carangidae</b>						
<i>Seriola dumerili</i> *	Kanpachi	-	1	-	-	3
Carangidae spp.*		-	51	-	-	3
<b>Lutjanidae</b>						
<i>Lutjanus gibbus</i>	Hime-fuedai	1	1	1.00	SC	
Lutjanidae sp.		1	0	Not recorded in 2005	SC	
<i>Macolor niger</i>	Madara-tarumi	0	2	Not recorded in 1972 <sup>a</sup>	SC	
<b>Haemulidae</b>						
<i>Plectorhinchus picus</i>	Ajia-koshōdai	0	2	Not recorded in 1972 <sup>a</sup>	SC	
<i>Plectorhinchus vittatus</i>	Musuji -koshōdai	0	3	Not recorded in 1972 <sup>a</sup>	SC	
<b>Nemipteridae</b>						
<i>Scolopsis bilineata</i>	Futasuji -tamagashira	0	13	Not recorded in 1972 <sup>a</sup>	SC	
<b>Lethrinidae</b>						
<i>Gymnocranius</i> sp.	Tama-meichi	0	2	Not recorded in 1972 <sup>a</sup>	SC	
<i>Lethrinus nebulosus</i>	Hama-fuefuki	18	0	Not recorded in 2005	TC	
<i>Monotaxis grandoculis</i>	Yokoshima -kurodai	0	3	Not recorded in 1972 <sup>a</sup>	SC	
<b>Mullidae</b>						
<i>Mulloidichthys vanicolensis</i>	Akahimeji	0	1	Not recorded in 1972 <sup>a</sup>	SC	
<i>Parupeneus crassilabris</i>	Futasuji-himeji	1	0	Not recorded in 2005	SC	
<i>Parupeneus ciliatus</i>	Hōrai-himeji	0	12	Not recorded in 1972 <sup>a</sup>	TC	
<i>Parupeneus cyclostomus</i>	Marukuchi -himeji	0	6	Not recorded in 1972 <sup>a</sup>	SC	
<i>Parupeneus indicus</i>	Koban-himeji	9	12	1.33	SC	
<i>Parupeneus multifasciatus</i>	Ojisan	76	150	1.97	SC	
<i>Parupeneus pleurostigma</i>	Ryūkyū-himeji	0	6	Not recorded in 1972 <sup>a</sup>	SC	
<i>Parupeneus spilurus</i>	Okina-himeji	186	0	Not recorded in 2005	TC	
Mullidae spp.		6	1	0.17		
<b>Pempheridae</b>						
<i>Pempheris</i> sp.*	Ryūkyū-hatanpo	-	5	-	-	1
<b>Chaetodontidae</b>						
<i>Chaetodon argentatus</i>	Kagami -chōchōuo	0	14	Not recorded in 1972	SO	
<i>Chaetodon auriga</i>	Toge-chōchōuo	18	5	0.28	SC	
<i>Chaetodon auripes</i>	Chōchōuo	27	225	8.33	TC	
<i>Chaetodon kleinii</i>	Mizore -chōchōuo	0	28	Not recorded in 1972 <sup>a</sup>	TO	
<i>Chaetodon lineolatus</i>	Nise-fūrai -chōchōuo	1	0	Not recorded in 2005	SC	
<i>Chaetodon lunula</i>	Chōhan	0	6	Not recorded in 1972 <sup>a</sup>	SC	
<i>Chaetodon melannotus</i>	Akebono -chōchōuo	0	9	Not recorded in 1972 <sup>a</sup>	SC	
<i>Chaetodon plebeius</i>	Sumitsuki -tonosamadai	0	1	Not recorded in 1972 <sup>a</sup>	SC	
<i>Chaetodon speculum</i>	Tonosamadai	0	2	Not recorded in 1972 <sup>a</sup>	SC	
<i>Chaetodon trifascialis</i>	Yarikatagi	0	1	Not recorded in 1972 <sup>a</sup>	SC	

<i>Chaetodon unimaculatus</i>	Itten-chōchōuo	0	3	Not recorded in 1972 <sup>a</sup>	SC
<i>Chaetodon vagabundus</i>	Fūrai-chōchōuo	0	14	Not recorded in 1972	SC
<i>Forcipiger flavissimus</i>	Fue-yakkodai	0	4	Not recorded in 1972 <sup>a</sup>	SC
<i>Heniochus chrysostomus</i>	Minami -hatatatedai	0	2	Not recorded in 1972 <sup>a</sup>	SC
<i>Heniochus varius</i>	Tsuno -hatatatedai	0	5	Not recorded in 1972 <sup>a</sup>	SC
<b>Pomacanthidae</b>					
<i>Apolemichthys trimaculatus</i>	Shiten-yakko	0	10	Not recorded in 1972	SC
<i>Centropyge bispinosa</i> *	Ruri-yakko	-	2	-	1
<i>Centropyge ferrugata</i> *	Akahara-yakko	-	21	-	1
<i>Centropyge tibicen</i> *	Abura-yakko	-	21	-	1
<i>Centropyge vrolikii</i> *	Namera-yakko	-	192	-	1
<i>Paracentropyge venusta</i> *	Sumire-yakko	-	1	-	1
<i>Pomacanthus imperator</i>	Tatejima -kinchakudai	0	26	Not recorded in 1972 <sup>a</sup>	SC
<i>Pomacanthus semicirculatus</i>	Sazanami-yakko	2	28	14.00	SO
<i>Pygoplites diacanthus</i>	Nishiki-yakko	0	4	Not recorded in 1972 <sup>a</sup>	SC
<b>Cirrhitidae</b>					
<i>Paracirrhites forsteri</i> *	Hoshi-gonbe	-	3	-	1
<b>Pomacentridae</b>					
<i>Abudefduf notatus</i> *	Iso-suzumedai	-	1	-	1
<i>Abudefduf sexfasciatus</i> *	Rokusen-suzumedai	-	8	-	1
<i>Abudefduf vaigiensis</i> *	Oyabiccha	-	202	-	1
<i>Amphiprion clarkii</i> *	Kumanomi	-	139	-	1
<i>Chromis chrysurus</i> *	Amami-suzumedai	-	397	-	1
<i>Chromis margaritifer</i> *	Shikoku-suzumedai	-	81	-	1
<i>Chromis weberi</i> *	Takasago-suzumedai	-	61	-	1
<i>Chromis xanthurus</i> *	Mon-suzumedai	-	5	-	1
<i>Chrysiptera cyanea</i> *	Ruri-suzumedai	-	1	-	1
<i>Chrysiptera rex</i> *	Remon-suzumedai	-	2	-	1
<i>Chrysiptera starcki</i> *	Senaki-ruri-suzumedai	-	2	-	1
<i>Dascyllus reticulatus</i>	Futasuji-ryūkyū-suzumedai	-	14	-	1
<i>Dascyllus trimaculatus</i>	Mitsuboshi-kuro-suzumedai	-	141	-	1
<i>Neoglyphidodon nigroris</i> *	Hirenaga-suzumedai	-	994	-	1
<i>Plectroglyphidodon dickii</i> *	Ishigaki-suzumedai	-	3	-	1
<i>Plectroglyphidodon lacrymatus</i> *	Rurihoshi-suzumedai	-	159	-	1
<i>Pomacentrus bankanensis</i> *	Megane-suzumedai	-	59	-	1
<i>Pomacentrus coelestis</i> *	Sora-suzumedai	-	276	-	1
<i>Pomacentrus lepidogenys</i> *	Asado-suzumedai	-	6	-	1
<i>Pomacentrus nagasakiensis</i> *	Nagasaki-suzumedai	-	3	-	1
<i>Pomacentrus vaiuli</i> *	Kuro-megane-suzumedai	-	36	-	1
<i>Stegastes</i> spp.*		-	122	-	1
Pomacentridae sp.*		-	1	-	1
<b>Kyphosidae</b>					
<i>Kyphosus vaigiensis</i>	Isuzumi	37	3	0.08	TH
<b>Microcanthidae</b>					

<i>Microcanthus strigatus</i>	Kagakakidai	4	0	Not recorded in 2005	TC
<b>Girellidae</b>					
<i>Girella leonina</i>	Kuro-mejina	178	0	Not recorded in 2005	TH
<b>Labridae</b>					
<i>Anampses caeruleopunctatus</i>	Buchi-susuki-bera	13	37	2.85	SC
<i>Anampses geographicus</i>	Mushi-bera	2	25	12.50	SC
<i>Anampses meleagrides</i>	Hokuto-bera	0	14	Not recorded in 1972 <sup>a</sup>	SC
<i>Anampses twistii</i>	Hoshi-susuki-bera	0	3	Not recorded in 1972 <sup>a</sup>	SC
<i>Bodianus axillaris</i>	Sumitsuki-bera	0	3	Not recorded in 1972 <sup>a</sup>	SC
<i>Bodianus mesothorax</i>	Kesagake-bera	0	8	Not recorded in 1972 <sup>a</sup>	SC
<i>Cheilinus chlorourus</i>	Akaten -mochinouo	0	6	Not recorded in 1972 <sup>a</sup>	SC
<i>Cheilinus trilobatus</i>	Mitsuba -mochinouo	0	3	Not recorded in 1972 <sup>a</sup>	SC
<i>Choerodon azurio</i>		1	0	Not recorded in 2005	TC
<i>Cirrhilabrus cyanopleura</i>	Kuroheri-itohiki -bera	0	261	Not recorded in 1972 <sup>a</sup>	SC
<i>Cirrhilabrus temminckii</i>		0	84	Not recorded in 1972 <sup>a</sup>	TC
<i>Coris aygula</i>	Kanmuri-bera	2	6	3.00	SC
<i>Coris dorsomacula</i>	Suji-bera	0	85	Not recorded in 1972 <sup>a</sup>	SC
<i>Coris gaimard</i>	Tsuyu-bera	15	103	6.87	SC
<i>Epibulus insidiator</i>	Gichi-bera	0	2	Not recorded in 1972 <sup>a</sup>	SC
<i>Gomphosus varius</i>	Kugi-bera	0	31	Not recorded in 1972 <sup>a</sup>	SC
<i>Halichoeres biocellatus</i>		0	5	Not recorded in 1972 <sup>a</sup>	SC
<i>Halichoeres hortulanus</i>	Tokara-bera	0	12	Not recorded in 1972 <sup>a</sup>	SC
<i>Halichoeres marginatus</i>	Kanoko-bera	0	7	Not recorded in 1972 <sup>a</sup>	SC
<i>Halichoeres melanochir</i>	Munaten-bera	0	44	Not recorded in 1972 <sup>a</sup>	SC
<i>Halichoeres nebulosus</i>		0	14	Not recorded in 1972 <sup>a</sup>	SC
<i>Halichoeres orientalis</i> *	Tsuki-bera	-	8	-	-
<i>Hemigymnus fasciatus</i>	Shima -tarekuchi-bera	0	8	Not recorded in 1972 <sup>a</sup>	SC
<i>Hologymnosus annulatus</i>	Namera-bera	14	6	0.43	SC
<i>Hologymnosus doliatus</i>	Shiro-tasuki-bera	0	22	Not recorded in 1972 <sup>a</sup>	SC
<i>Labroides bicolor</i>	Somewake-bera	0	5	Not recorded in 1972 <sup>a</sup>	SC
<i>Labroides dimidiatus</i>	Hon-somewake -bera	2	36	18.00	SC
<i>Macropharyngodon meleagris</i>	Nodoguro-bera	1	48	48.00	SC
<i>Macropharyngodon negrosensis</i>	Sejiro-nodoguro -bera	0	12	Not recorded in 1972 <sup>a</sup>	SC
<i>Oxycheilinus bimaculatus</i>	Tako-bera	0	1	Not recorded in 1972 <sup>a</sup>	SC
<i>Oxycheilinus digramma</i>	Hohosuji -mochinouo	0	1	Not recorded in 1972 <sup>a</sup>	SC
<i>Pseudocheilinus hexataenia</i>		0	3	Not recorded in 1972 <sup>a</sup>	SC
<i>Stethojulis bandanensis</i>	Akaobi-bera	39	67	1.72	SC
<i>Stethojulis interrupta terina</i>	Kaminari-bera	21	4	0.19	TC
<i>Stethojulis strigiventer</i>	Harasuji-bera	1	5	5.00	SC
<i>Stethojulis trilineata</i>	Oni-bera	2	22	11.00	SC
<i>Thalassoma cupido</i>	Nishiki-bera	77	3	0.04	TC
<i>Thalassoma hardwicke</i>	Senasuji-bera	0	22	Not recorded in 1972 <sup>a</sup>	SC
<i>Thalassoma lunare</i>	Otome-bera	0	8	Not recorded in 1972 <sup>a</sup>	SC
<i>Thalassoma lutescens</i>	Yamabuki-bera	11	200	18.18	SC
Labridae spp.		10	33	3.30	
<b>Scaridae</b>					
<i>Calotomus japonicus</i>	Budai	265	0	Not recorded in 2005	TH
<i>Calotomus</i> sp.		0	3	Not recorded in 1972 <sup>a</sup>	
<i>Chlorurus bowersi</i>	Ōmon-hage -budai	0	1	Not recorded in 1972 <sup>a</sup>	SH

<i>Chlorurus microrhinos</i>	Nan'yō-budai	5	11	2.20	SH	
<i>Chlorurus oedema</i>	Kobu-budai	1	0	Not recorded in 2005	SH	
<i>Chlorurus sordidus</i>	Hage-budai	4	6	1.50	SH	
<i>Scarus chameleon*</i>	Kamereon-budai	-	6	-	-	2
<i>Scarus festivus</i>	Tsukinowa -budai	12	1	0.08	SH	
<i>Scarus forsteni</i>	Ichimonji-budai	119	151	1.27	SH	
<i>Scarus frenatus</i>	Amime-budai	5	7	1.40	SH	
<i>Scarus ghobban</i>	Hi-budai	40	0	Not recorded in 2005	TH	
<i>Scarus hypselopterus</i>	Kibire-budai	0	15	Not recorded in 1972 <sup>a</sup>	SH	
<i>Scarus niger</i>	Buchi-budai	0	5	Not recorded in 1972	SH	
<i>Scarus ovifrons</i>	Ao-budai	12	0	Not recorded in 2005	TH	
<i>Scarus prasiognathos</i>	Nishiki-budai	1	0	Not recorded in 2005	SH	
<i>Scarus rivulatus</i>	Suji-budai	158	8	0.05	SH	
<i>Scarus rubroviolaceus</i>	Naga-budai	88	45	0.51	SH	
<i>Scarus schlegeli</i>	Obi-budai	140	4	0.03	SH	
<i>Scaridae spp.</i>		153	152	0.99		
<b>Pinguipedidae</b>						
<i>Parapercis millepunctata*</i>	Wanuke-toragisu	-	15	-	-	1
<i>Parapercis pacifica*</i>	Oguro-toragisu	-	11	-	-	1
<b>Ephippidae</b>						
<i>Platax orbicularis</i>	Akakukuri	1	0	Not recorded in 2005	SO	
<b>Siganidae</b>						
<i>Siganus spinus</i>	Ami-aigo	56	0	Not recorded in 2005	SH	
<i>Siganus spp.</i>		22	21	0.95		
<b>Zanclidae</b>						
<i>Zanclus cornutus</i>	Tsunodashi	5	158	31.60	SO	
<b>Acanthuridae</b>						
<i>Acanthurus dussumieri</i>	Nise-kanranhagi	67	39	0.58	SH	
<i>Acanthurus lineatus</i>	Nijihagi	5	2	0.40	SH	
<i>Acanthurus mata</i>		12	0	Not recorded in 2005	SH	
<i>Acanthurus nigricans</i>	Megane -kurohagi	8	0	Not recorded in 2005	SH	
<i>Acanthurus nigrofuscus</i>	Naga-niza	451	361	0.80	SH	
<i>Acanthurus olivaceus</i>	Montsukihagi	29	109	3.76	SH	
<i>Acanthurus pyroferus</i>	Kuroguchi-niza	0	2	Not recorded in 1972 <sup>a</sup>	SH	
<i>Acanthurus xanthopterus</i>	Kurohagi	0	3	Not recorded in 1972 <sup>a</sup>	SO	
<i>Ctenochaetus striatus</i>	Sazanamihagi	0	12	Not recorded in 1972	SH	
<i>Naso hexacanthus</i>	Tenguhagi -modoki	0	26	Not recorded in 1972 <sup>a</sup>	SC	
<i>Naso lituratus</i>	Miyako -tenguhagi	0	16	Not recorded in 1972	SH	
<i>Naso unicornis</i>	Tenguhagi	259	34	0.13	SH	
<i>Prionurus scalprum</i>	Nizadai	111	0	Not recorded in 2005	TH	
<i>Zebrasoma scopas</i>	Gomahagi	0	1	Not recorded in 1972 <sup>a</sup>	SH	
<i>Zebrasoma veliferum</i>	Hirenagahagi	2	17	8.50	SH	
<b>Sphyraenidae</b>						
<i>Sphyraena obtusata*</i>	Taiwan-kamasu	-	20	-	-	3
<b>Balistidae</b>						
<i>Balistoides conspicillum</i>	Mongara -kawahagi	1	3	3.00	SC	
<i>Odonus niger</i>	Aka-mongara	0	1	Not recorded in 1972 <sup>a</sup>	SC	
<i>Sufflamen bursa</i>	Musume-hagi	0	19	Not recorded in 1972 <sup>a</sup>	SC	
<i>Sufflamen chrysopteron</i>	Tsumajiro -mongara	0	63	Not recorded in 1972 <sup>a</sup>	SC	
<b>Monacanthidae</b>						
<i>Cantherhines dumerilii</i>	Hakusei-hagi	0	8	Not recorded in 1972 <sup>a</sup>	SC	

<i>Paraluteres prionurus</i>		0	5	Not recorded in 1972 <sup>a</sup>	SO
<b>Ostraciidae</b>					
<i>Ostracion cubicum</i>	Minami -hakofugu	1	4	4.00	TC
<i>Ostracion immaculatus</i>	Hakofugu	0	1	Not recorded in 1972 <sup>a</sup>	TC
<b>Tetraodontidae</b>					
<i>Arothron nigropunctatus</i>	Kokuten-fugu	0	13	Not recorded in 1972 <sup>a</sup>	SC
<i>Canthigaster axiologa</i>	Hana -kinchakufugu	0	32	Not recorded in 1972 <sup>a</sup>	SC
<i>Canthigaster rivulata</i>	Kitamakura	3	0	Not recorded in 2005	TO
<i>Canthigaster valentini</i>	Shima -kinchakufugu	0	55	Not recorded in 1972 <sup>a</sup>	SO
<b>Diodontidae</b>					
<i>Diodon holocanthus</i>	Harisenbon	0	5	Not recorded in 1972 <sup>a</sup>	TC
<i>Diodon hystrix</i>	Nezumifugu	2	0	Not recorded in 2005	SC

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