

**A LIST OF BOTTOM ANIMALS COLLECTED BY A TRAWLER
"KAIUN-MARU" OFF THE SOUTHWEST COAST
OF KII PENINSULA¹⁾**

HUZIO UTINOMI and EIJI HARADA

Seto Marine Biological Laboratory, Sirahama

With 1 Text-figure

Introduction

We had an opportunity of examining bottom animals that were taken by the trawl-net on the continental shelf off the southwest coast of Kii Peninsula, to afford some aspects of their composition and distribution.

The fishing ground of trawlers of Minabe, Wakayama Prefecture, is extending on the continental shelf 2 miles or more off along the coast from Hino-Misaki southward to Susami. The main object of the fishery is the fish, *Taius tumifrons* (TEMMINCK et SCHLEGEL), with some others such as *Zeus japonicus* CUVIER et VALENCIENNES, *Upeneus bensasi* (TEMMINCK et SCHLEGEL), or *Hime japonica* (GÜNTHER). But also various kinds of bottom animal are caught together with these fishes, to which little attention is paid by these fishermen and which the junior author collected on board for the examination. The materials were obtained on November 28th and December 8th, 1957, although precise positions of collection were decided and recorded on the latter occasion only. Of five stations of collection on December 8th, four were westwards of Seto-zaki, their depths being from 120 to 150 metres approximately and their natures of the ground coarse sand, sand or fine sand. The other station, having a depth of 80 metres approximately, was westwards of the mouth of Tanabe Bay, somewhat nearer the coast than the former four stations, its nature of the ground being fine sand. On the first occasion (November 28th), the materials were taken mainly from the area around these former four stations.

The bottom animals thus collected, though only on two occasions, consist of 188 species belonging to 12 phyla, in which the fishes, mollusks and coelenterates were most abundant. The invertebrates were more abundant on deeper stations, especially the coelenterates on those of the coarse sandy or sandy bottom. *Endopachys japonicum* YABE et EGUCHI was found very abundantly at the deepest station (St. 4) of the

1) Contributions from the Seto Marine Biological Laboratory, No. 312.

coarse sandy bottom exclusively. Of the mollusks, *Guildfordia triumphans* (PHILIPPI), *Xenophora pallidula* (REEVE) and *Apollon (Biplex) peca* (PERRY) were dominant all over deeper stations. With regard to the fish, there appears to be distinct difference between their compositions from deeper stations and from a shallower station.

Date	Station	Position		Approx. Depth (metre)	Substratum
		Long. (E)	Lat. (N)		
Nov. 28, 1957	Area neighbouring St. 1-4			80-150	fine-coarse sand
Dec. 8, 1957	1	135°12.2'	33°40.0'	120	fine sand
"	2	135°10.2'	33°41.1'	120	sand
"	3	135°09.7'	33°39.7'	140	sand
"	4	135°09.4'	33°40.0'	150	coarse sand
"	5	135°16.0'	33°42.2'	80	fine sand

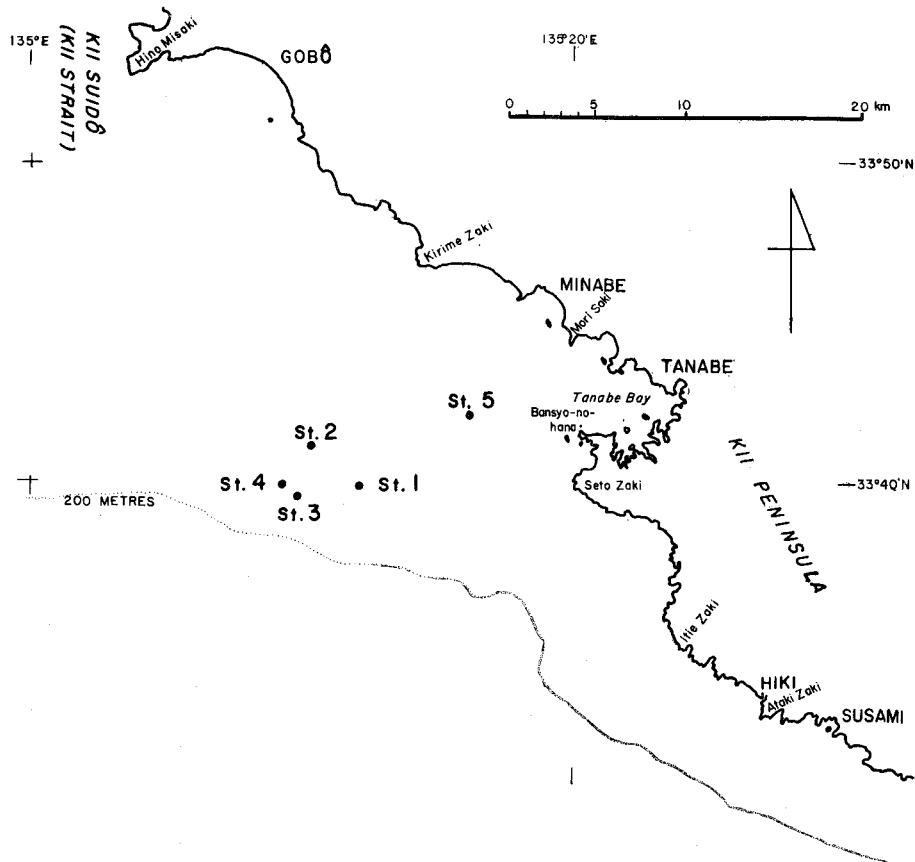


Fig. 1. Chart showing the positions of collection (●) by trawling on December 8th, 1957.

Acknowledgments

We wish to thank Mr. Ichiro YAGURA, Captain of the trawler "Kaiun-maru" and his crew for allowing us to make collection on board and affording facilities and help for it. Identifications of most of the invertebrates, though tentatively, were made by the senior author and those of fishes were made by the junior author. But Dr. Sadayoshi MIYAKE kindly identified the anomuran crustaceans and Dr. Itsuo KUBO the caridean crustaceans. Dr. Takasi TOKIOKA was also responsible for the tunicates and Mr. Torao YAMAMOTO was consulted for the mollusks. We are much obliged for these aids.

Phylum PROTOZOA

Class Rhizopoda

Order Foraminifera

Homotrema rubrum (LAMARCK) アカスナゴ St. 1

Phylum PORIFERA

Class Hexactinellida

Euplectella oweni HERKLOTS et MARSHALL オウエンカイロウドウケツ St. 2, 3, 4
? *Polylophus philippinensis* SCHULTZE

Class Demospongiae

Stelletta sp.
Gen.? spec.? St. 2

Phylum COELENTERATA

Class Hydrozoa

Order Hydroida

Gonothyrea bicuspidata (CLARKE) フタエキザミ St. 2
Clytia linearis THORNELLY エダウミコツブ
Symplectoscyphus tricuspидatus (ALDER) トゲウミシバ
Amphisbetia furcata (TRASK) ヒメウミカビ
Sertularella sp.
Synthecium campylocarpum ALLMAN ツツウミシバ
Gen.? spec.?

Class Anthozoa

Subclass Alcyonaria

Order Stolonifera

Sarcodictyon gotoi (OKUBO) comb. nov.

Order Alcyonacea

<i>Bellonella rigida</i> PÜTTER	ボウウミイチゴ	St. 1, 2, 3, 4
<i>B. dofleini</i> (KÜKENTHAL)	エダウミイチゴ	St. 1, 2, 3, 4
<i>B. macrospina</i> (KÜKENTHAL)	オオトゲウミイチゴ	St. 1, 2, 3, 4
<i>Daniela koreni</i> KOCH		
<i>Kochella studeri</i> (KOCH)		
<i>Anthomastus granulatus</i> KÜKENTHAL	エナガウミテングタケ (新称)	St. 1, 2, 3, 4
<i>Minabea ozakii</i> UTINOMI	ミナベトサカ	St. 2, 3, 4
<i>Dendronephthya acaulis</i> KÜKENTHAL	コデマリトゲトサカ	St. 1, 2, 3, 4, 5
<i>Siphonogorgia dipsacea</i> (WRIGHT et STUDER)	アカバナクダヤギ	St. 2

Order Gorgonacea

<i>Euplexaura? attenuata</i> (NUTTING)		
<i>Filigella mitsukurii</i> KINOSHITA	イトヤギ (新称)	St. 1
Paramuriceidae (gen.? spec.?)		
<i>Echinomuricea? sp.</i>		

Order Pennatulacea

<i>Echinoptilum macintoshi</i> HUBRECHT	トゲサボテン	
<i>Funiculina quadrangularis</i> (PALLAS)	ムチウミエラ	
<i>Leioptilus fimbriatus</i> (HERKLOTS)	ウミエラ	St. 1, 2, 4

Subclass Zoantharia

Order Actiniaria

? <i>Phyllactis striata</i> WASSILIEFF		
Actiniidae (gen.? spec.?)		St. 2, 4
<i>Halcampella maxima</i> R. HERTWIG	ナスビイソギンチヤク	St. 1, 4

Order Scleractinia

<i>Flabellum pavoninum paripavoninum</i> ALCOCK	センスガイ	St. 2, 4
<i>F. distinctum</i> MILNE EDWARDS et HAIME		St. 1, 2, 4
<i>F. rubrum</i> (QUOY et GAIMARD)		
<i>F. deludens</i> v. MARENZELLER		
<i>Stephanocyathus (Odontocyathus) spiniger</i> (v. MARENZELLER)	コウロサンゴ (新称)	
<i>Heterocyathus aequicostatus</i> M. EDWARDS et HAIME		
Bored by a commensal sipunculid, <i>Aspidosiphon</i> sp.		
<i>Caryophyllia</i> sp.		
<i>Endopachys japonicum</i> YABE et EGUCHI		St. 4
<i>Dendrophyllia fistula</i> (ALCOCK)		St. 2
<i>D. arbuscula</i> VAN DER HORST		St. 4

- Balanophyllia gigas* MOSELEY St. 2, 3, 4
Trochocyathus (Thecocyathus) hanzawai YABE et EGUCHI

Phylum ANNELIDA

Class Polychaeta

Order Polychaeta

- Onuphis willemoesic* (MCINTOSH) カナブツイソメ St. 1
 Peculiar dwelling tube only.
 ?? *Mesochaetopterus* sp. Dwelling tubes only.
Pomatostegus latiscapus MARENZELLER St. 1, 3, 4
 ? *Hydroides norvegicus* (GUNNERUS) カサネカンザシ
Lumbrineris latreilli (AUDOUIN et MILNE EDWARDS) ギボシイソメ St. 2
Stylarioides parmatus GRUBE
Glycera opisthobranchiata MARENZELLER マイヅルチロリ
 Dwelling tube of undet. Polychaeta St. 5

Order Myzostomida

- Myzostomum ambiguum* GRAFF ツノスイクテムシ

Phylum SIPUNCULOIDEA

- Sipunculus nudus* LINNÉ スジホシムシ

Phylum ARTHROPODA

Class Pycnogonida

- Ascorhynchus auchenicum* (SLATER) トゲトツクリウミグモ (新称)

Class Crustacea

Order Cirripedia

- Balanus (Chirona) tenuis* HOEK シロフジツボ (新称) St. 2
Sacculina sp.
 Parasitic on a crab, *Actumnus squamosus*.

Order Isopoda

- Gnathia* sp.
Ianira chuni (THIELEMANN)

Order Amphipoda

- Lilljeborgia brevicornis* (BRUZELIUS)
Melita aff. *gladiosa* BATE

Maera sp.

Neopleustes boeckii (HANSEN)

Paramphithoe sp.

One sp. undet.

Order Decapoda

Suborder Natantia

Parapenaeus investigatoris ALCOCK et ANDERSON St. 1, 2, 3

Parapandalus spinipes (BATE) オキノシラエビ St. 1

Solenocera sp.

Synalpheus sp.

Plesionika sp.

Spongicola venusta DE HAAN ドウケツエビ

Lodged commensally in the gastral cavity of a sponge,

Euplectella oweni. St. 2, 3, 4

Suborder Reptantia

Tribe Palinura

Ibacus ciliatus (VON SIEBOLD) ウチワエビ St. 1, 2, 3

Tribe Anomura

Dardanus arrosor (HERBST) ヨコミズヤドカリ St. 1, 2, 3, 4

Pagurus ophthalmicus (ORTMANN)

Pagurus sp.

Paguristes palythophilus ORTMANN St. 1, 2

Parapagurus diogenes (WHITELEGGE)

Galathea pubescens STIMPSON ケブカガラテア

G. subsquamata STIMPSON

G. elegans WHITE コマチガラテア

Uroptychus scandens BENEDICT トゲエビモドキ

Lodged commensally in the ventral groove of a sea-pen,

Leioptilus fimbriatus. St. 1, 2, 4

Munida japonica japonica STIMPSON ヤマトムニダ

Cervimunida princeps BENEDICT ツノガムニダ St. 2

Tribe Brachyura

Homola orientalis HENDERSON トウヨウホモラ

Latreillia phalangium DE HAAN ミズヒキガニ St. 2, 3, 4

Latreillopsis bispinosa HENDERSON トゲミズヒキガニ St. 4

Pleistacantha sancti-johannis MIERS ハリセンボン St. 3

Leptomithrax edwardsi (DE HAAN) コシマガニ St. 1, 2

- Charybdis bimaculata* (MIERS) フタホシイシガニ
C. miles DE HAAN アカイシガニ St. 5
Actumnus squamosus DE HAAN イボテガニ
 Some specimens carry *Sacculina* sp. St. 1, 2, 3, 4

Phylum MOLLUSCA

Class Pelecypoda

Order Anisomyaria

- **Pecten (Notovola) albicans* (SCHRÖTER) イタヤガイ
Cryptopecten vesiculosus (DUNKER) ヒヨクガイ St. 4
Ostrea sp.
 **Meiocardia tetragona* (ADAMS et REEVE) コウホネガイ

Order Eulamellibranchia

- Clavagella (Stirpulina) ramosa* DUNKER ハマユウ

Class Gastropoda

Order Archaeogastropoda

- Calliostoma (Tristichotrochus) aculeatum* SOWERBY トゲエビス St. 4
C. haliarchus (MELVILL) ヒラコマ St. 1
Guildfordia triumphans (PHILIPPI) リンボウガイ St. 1, 2, 3, 4

Order Mesogastropoda

- Architectonica maxima* (PHILIPPI) クルマガイ
 *?*Siliquaria* sp. St. 1, 2, 3
 Vermiculariidae (gen. ? spec. ?)
 **Onustus exutus* (REEVE) キヌガサガイ
Xenophora pallidula (REEVE) クマサカガイ St. 1, 2, 3, 4
Neverita (Glossaulax) didyma (RÖDING) ツメタガイ
 **Semicassis japonica* (REEVE) ウネウラシマ
Apollon (Biplex) peca (PERRY) マツカワガイ St. 1, 2, 3, 4
Tritonalia sauliae (REEVE) ポウシユウボラ St. 1
 **Bursa (Bufonariella) ranellvides* (REEVE) コナルトボラ

Order Neogastropoda

- Murex (Siratus) pliciferoides* KURODA ハツキガイ St. 1, 2
Ceratostoma (Ocenebra) eurypteron (ADAMS et REEVE) ヨウラクヒレガイ
Latiaxis (Tolema) japonicus (DUNKER) テンニヨノカムリ St. 2
L. pagodus (A. ADAMS) ヒメカセン St. 4

* Dead shells only.

- Fusinus simplex* (SMITH) シロヒメナガニシ St. 1, 2
 **F. forceps* (PERRY) イトマキナガニシ
 **Granulifusus niponicus* (SMITH) アラレナガニシ
Gemmula granosa (HELBLING) ジュズカケグダマキ St. 1
 **Nassarius (Zeuxis) caelatus* (A. ADAMS) ハナムシロ
 **Asprella (Endemoconus) sieboldi* (REEVE) アコメガイ
 A. (*Conasprella*) *cancellata* (BRUGUIÈRE) ヒシイモガイ

Order Nudibranchia

Nudibranchia (gen.? spec.?)

Class Cephalopoda

Order Decapoda

- Sepia (Sepia) esculenta* HOYLE コウイカ St. 1, 2, 3, 4

Phylum BRYOZOA

Order Cheilostomata

- Adeona japonica* (ORTMANN) ツノコケムシ

Phylum BRACHIOPODA

Order Telotremata

- Laqueus rubellus* (SOWERBY) ホウズキチヨウチン

Phylum ECHINODERMATA

Class Crinoidea

Order Articulata

- Comantheria grandicalyx* (CARPENTER) オオパンウミシダ St. 3, 4
 Comatulida (gen.? spec.?) St. 4

Class Asteroidea

Order Phanerozonia

- Ctenopleura ludwigi* (DE LORIO) St. 2
Luidia maculata MÜLLER et TROSCHEL ヤツデスナヒトデ St. 2
Pteraster tessellatus IVES St. 1

Order Spinulosa

- Henricia pachyderma* HAYASHI
Hymenaster glaucus SLADEN マクヒトデ St. 4

Class Ophiuroidea

Order Euryalae

Gorgonocephalus sp.

Order Ophiurae

Stegophiura sp.

2 other spp. undet.

Class Echinoidea

Order Cidaroidea

Stereocidaris grandis (DÖDERLEIN) フトザオウニ St. 1, 4*Goniocidaris (Petalocidaris) biserialis* (DÖDERLEIN) トゲザオウニ St. 1, 4

Order Camarodonta

Temnopleurus (Toreumatica) apodus (A. AGASSIZ et H. L. CLARK)
コツブサンシヨウウニ*Chaetodiadema japonicum* MORTENSEN ヤワラガゼ St. 1, 4

Order Clypeastroida

Clypeaster virescens DÖDERLEIN オオタコノマクラ St. 3

Class Holothurioidea

Order Aspidochirota

Stichopus sp. St. 1, 4*Holothuria* sp. St. 3

Phylum PROCHORDATA

Class Urochordata

Subclass Ascidiacea

? *Syndiazona grandis* OKA, juv. ボウズボヤ St. 1*Homoeodistoma longigona* TOKIOKA (MS.) St. 1

Subclass Pyrosomata

Pyrosoma spinosum (HERDMAN) St. 1*P. atlanticum atlanticum* PÉRON ヒカリボヤ St. 1

Phylum VERTEBRATA

Class Chondrichthyes

Order Lamnida

Mustelus griseus PIETSCHMANN シロザメ St. 1, 4

Order Rajida

<i>Rhinobatus schlegeli</i> MÜLLER et HENLE	サカタザメ	
<i>Raja kenoei</i> MÜLLER et HENLE	ガンギエイ	St. 4
<i>Dasyatis akajei</i> (MÜLLER et HENLE)	アカエイ	St. 3, 5

Class Osteichthyes

Order Myctophida

<i>Hime japonica</i> (GÜNTHER)	ヒメ	St. 1, 2, 3, 5
<i>Saurida undosquamis</i> (RICHARDSON)	マエソ	St. 3, 4
Synodontidae (gen.? spec.?)		St. 1, 2, 3, 4

Order Anguillida

<i>Muraenesox cinereus</i> (FORSKÅL)	ハモ	St. 1, 2, 3
--------------------------------------	----	-------------

Order Syngnathida

<i>Fistularia villosa</i> KLUNZINGER	アオヤガラ	
--------------------------------------	-------	--

Order Berycida

<i>Monocentris japonicus</i> (HOULTUYN)	マツカサウオ	
---	--------	--

Order Zeida

<i>Zeus japonicus</i> CUVIER et VALENCIENNES		St. 1, 2, 3, 4
--	--	----------------

Order Percida

? <i>Sphyraena pinguis</i> GÜNTHER	アカカマス	
<i>Trachurus japonicus</i> (TEMMINCK et SCHLEGEL)	マアジ	St. 1, 2
<i>Caranx equula</i> TEMMINCK et SCHLEGEL	カイワリ	St. 5
<i>Leiognathus rivulatus</i> (TEMMINCK et SCHLEGEL)	オキヒイラギ	St. 5
<i>Upeneus bensasi</i> (TEMMINCK et SCHLEGEL)	ヒメジ	St. 1, 2, 3, 4, 5
<i>Branchiostegus japonicus japonicus</i> (HOULTUYN)	アカアマダイ	St. 1, 3, 5
<i>Apogon kiensis</i> JORDAN et SNYDER	テツボウイシモチ	St. 5
<i>Pseudopriacanthus nipponius</i> (CUVIER)	クルマダイ	St. 1, 2, 3, 4
<i>Acropoma japonicum</i> GÜNTHER	ホタルジヤコ	St. 5
<i>Epinephelus septemfasciatus</i> (THUNBERG)	マハタ	St. 4
<i>Nemipterus bathybus</i> SNYDER	ソコイトヨリ	St. 5
<i>Taius tumifrons</i> (TEMMINCK et SCHLEGEL)	キダイ	St. 1, 2, 3, 4
<i>Scolopsis inermis</i> (TEMMINCK et SCHLEGEL)	タマガシラ	St. 5
<i>Neopercis sexfasciata</i> (TEMMINCK et SCHLEGEL)	クラカゲトラギス	St. 1, 2, 3, 4, 5
<i>N. multifasciata</i> (DÖDERLEIN)	オキトラギス	St. 1, 2, 3, 4
<i>Uranoscopus japonicus</i> HOULTUYN	ミシマオコゼ	St. 1
<i>Calliurichthys japonicus</i> (HOULTUYN)	ヨメゴチ	St. 1, 2, 3, 4

- Microcanthus strigatus* (CUVIER et VALENCIENNES) カゴカキダイ St. 5
Antigonia rubescens (GÜNTHER) ベニヒシダイ St. 1, 2, 3, 4

Order Cottida

- Scorpaena izensis* JORDAN et STARKS イズカサゴ St. 1, 2, 3, 4
Pterois lunulata TEMMINCK et SCHLEGEL ミノカサゴ St. 2
 Scorpaenidae (gen.? spec.?) St. 3
Inimicus japonicus (CUVIER et VALENCIENNES) オニオコゼ
 ?*Lepidotrigla abyssalis* JORDAN et STARKS ソコカナガシラ St. 1, 2, 3, 4
 ?*L. japonica* (BLEEKER) トゲカナガシラ St. 1, 2, 3, 4

Order Tetraodontida

- Kentrocapros aculeatus* (HOULTUYN) イトマキフグ St. 1, 2, 3

Order Pleuronectida

- Bothidae (gen.? spec.?) St. 1, 2, 3, 4, 5
Pleuronichthys cornutus (TEMMINCK et SCHLEGEL) メイタガレイ St. 1, 2, 5

Order Lophiida

- Lophiomus setigerus* (VAHL) アンコウ St. 1
Antennarius laterallis TANAKA オオモンイザリウオ St. 1
Halieutaea stellata (VAHL) アカグツ St. 2