

Cimbebasia



SWA-NAVORSING - SWA-RESEARCH - SWA-FORSCHUNG

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*Benthonic Marine Fauna
obtained off the Orange River Mouth
by the Diamond Dredger Emerson-K*

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**BENTHONIC MARINE FAUNA
OBTAINED OFF THE ORANGE RIVER MOUTH
BY THE DIAMOND DREDGER EMERSON K.**

by

J. R. GRINDLEY and B. F. KENSLEY

(South African Museum, Cape Town)

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ABSTRACT

A check-list is given in this paper of the benthonic marine fauna obtained during dredging operations off the southern part of the coast of South West Africa including many new records from this area.

INTRODUCTION

The bottom fauna of the west coast of South Africa and South West Africa is little known over the greater part of the coast so that the following check-list of species obtained off the Orange River mouth includes a number of new and interesting records for the region.

The specimens recorded here were collected by the *Emerson-K* while dredging for diamonds in the vicinity of the Orange River mouth. The material was sucked up from the bottom through the dredge pipes and the specimens were then picked by hand from the grading grids. The specimens were placed directly into a drum of formalin provided by the South African Museum. This method of collecting although very efficient can not be regarded as quantitative. As the whole collection from each cruise was preserved together, the following check-list includes material from the whole area concerned including sandy and rocky bottoms. In general, more animal specimens were obtained when working over rocky ground, while large quantities of dead and sub-fossil shells were obtained on sandy ground. Collections were made between 15 miles south, and 80 miles north of the Orange River mouth, between depths of 10 and 35 metres of water. The latter was the maximum depth that could be reached with the dredging pipes used. The northern-most area worked is approximately 8 miles north of Chamais Bay and the southern-most just south of Peacock Roadstead.

Dredging was carried out to a depth of several metres below the bottom in some places and sub-fossil shells and fish bones were obtained in these sediments. Sub-fossil oysters were obtained 80 miles north of the Orange River mouth under 6 metres of sediment. They were identified by Dr. K. H. Barnard provisionally as *Ostrea atherstonei*. Oyster shells are very variable, however, and it is only living specimens that can be identified with absolute certainty. The fossil oysters associated with the diamondiferous layer on shore are thought to be *Crassostrea margaritacea (prismatica)* of Haughton. Most of the other shells from these sediments are of species which are living on or near the shore to-day, which have apparently washed down into deeper water. It does not seem likely that it will be possible to derive any information regarding past sea levels or conditions on the basis of any of these shells.

Six collections were made over a period of one year between April, 1962, and March, 1963. The cruises were numbered from one to six for convenience. *Cruise 1*: April, 1962. North of Orange River mouth in approximately 15 metres of water. Bottom sand. *Cruise 2*: July, 1962. Between 12 and 70 miles north of Orange River mouth, in 10 to 20 metres of water. Bottom sand. *Cruise 3*: August,

1962. Approximately 70 miles north of the Orange River mouth in 17 to 30 metres of water. Bottom sand and rocks. *Cruise 4*: September, 1962. Between 10 and 80 miles north of Orange River mouth in 10 to 35 metres of water. Bottom sand gravel and rock. *Cruise 5*: October, 1962. From Orange River mouth to 15 miles south in 10 to 23 metres of water. Bottom sand and rock. *Cruise 6*: March, 1963. North of Orange River mouth in 10 to 35 metres of water. Bottom sand and rock. In addition a few specimens obtained by the *Emerson-K* in the same area more recently have been included. These specimens were presented to the South African Museum by Mr. P. Elston and Mr. J. Dichmont.

CHECK - LIST

Notes:

- 1 — The species are arranged in alphabetical order within each taxonomic group, while the groups are arranged in systematic sequence.
- 2 — The numbers of specimens recorded are not an indication of abundance, but are merely a record of the numbers of specimens preserved.
- 3 — The catalogue numbers of the specimens in the collections of the South African Museum are given, prefixed by 'S.A.M.'
- 4 — Specimens donated to the ecological collections of the zoology department of the University of Cape Town are denoted by 'U.C.T. Coll.'
- 5 — Specimens donated to the Zoological Museum in Amsterdam have catalogue numbers prefixed by 'Z.M.A.'

PORIFERA

Polymastia mammilaris Muller

S.A.M.A24542 (1)

Four other species

S.A.M.A24543

S.A.M.A24544

S.A.M.A24545

Cimbebasia

COELENTERATA

Hydroidea

<i>Amphisbetia operculata</i> (Linn.)	S.A.M.H403
<i>Bimeria vestita</i> Wright	S.A.M.H425
<i>Hydractinia altispina</i> Millard	S.A.M.H407
<i>Hydrocorella africana</i> Stechow	S.A.M.H408
	S.A.M.H427
<i>Obelia dichotoma</i> (Linn.)	S.A.M.H404
	S.A.M.H405
<i>Plumularia lagenifera</i> Allmann	S.A.M.H423
<i>Plumularia setacea</i> (Ell. & Sol.)	S.A.M.H422
	S.A.M.H406
<i>Symplectoscyphus arboriformis</i> (Markt.)	S.A.M.H409
<i>Symplectoscyphus macrogonus</i> (Treb.)	S.A.M.H424
<i>Tubularia</i> species	S.A.M.H426

Other Coelenterata

<i>Aequorea</i> sp.	S.A.M.H1593	(1)
<i>Bunodactis reynaudi</i> (M. Edw.)	S.A.M.H1592	(8)
<i>Melitodes dichotoma</i> Pallas	S.A.M.H1598	(1)
Skeleton only.		
<i>Isanthus capensis</i> ?	S.A.M.H1594	(5)
<i>Virgularia schultzei</i> Kuk. & Broch.	S.A.M.H1591	(40)
Other Anthozoa	S.A.M.H1597	(3)

POLYZOA

Five species	S.A.M.A26275
	S.A.M.A26276
	S.A.M.A26277
	S.A.M.A26278
	S.A.M.A26279
	S.A.M.A26280

PLATYHELMINTHES

Turbellarian	S.A.M.A29359	(1)
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NEMERTEA

Nemertines	S.A.M.A29360	(2)
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BRACHIOPODA

<i>Kraussina rubra</i> Pallas	S.A.M.A24422	(many)
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ANNELIDA

Sipunculoidea

<i>Golfingia capensis</i> (Teusch)	S.A.M.A22891	(11)
<i>Phascolosoma japonicum</i> (Grube)	S.A.M.A22892	(1)

Polychaeta

<i>Branchiomma quadrioculatum</i> (Willey)	S.A.M.A19995	(3)
<i>Cirriformia capensis</i> (Schm.)	S.A.M.A20001	(1)
<i>Diopatra monroi</i> Day	S.A.M.A20000	(2)
<i>Drilonereis falcata</i> Moore	U.C.T. Coll.	(1)
<i>Euclymene</i> c.f. <i>lombricoides</i> (Quatrefages)	S.A.M.A19991	(7 fragments)
<i>Euphrosine capensis</i> Kinberg	S.A.M.A19989	(11)
<i>Eupolytmnia nebulosa</i> (Montagu)	S.A.M.A19994	(many)
<i>Glycera benguellana</i> Augener	U.C.T. Coll.	(1)
<i>Glycera convoluta</i> Keferstein	S.A.M.A19992	(3)
<i>Harmothoe goreensis</i> Augener	S.A.M.A19979	(1)
<i>Hydroides norvegica</i> Gunnerus	S.A.M.A19978	(1)
<i>Lepidonotus semitectus</i> Stimps.	S.A.M.A19980	(1)
	S.A.M.A19988	(1)
<i>Lumbrinereis latreilli</i> A. & M.E.	S.A.M.A19999	(5)
<i>Marphysa capensis</i> (Schm.)	S.A.M.A19986	(1)
<i>Marphysa purcellana</i> Willey	S.A.M.A19985	(7)
<i>Nephtys hombergi</i> A. & M.E.	S.A.M.A19984	(1)
<i>Nereis (Neanthes) arenaceodonta</i> Moore	U.C.T. Coll.	
<i>Nereis (Neanthes) operata</i> Stimps.	S.A.M.A19983	(3)
<i>Notomastus latericeus</i> Sars	S.A.M.A19998	(1)
<i>Notophyllum splendens</i> (Schmarda)	S.A.M.A19996	(1)
<i>Parasclerocheilus capensis</i> Day	U.C.T. Coll.	(1)
<i>Pectinaria capensis</i> (Pallas)	S.A.M.A19982	(24)
<i>Pherusa laevis</i> (Stimpson)	S.A.M.A19990	(19)
<i>Pista qolora</i> Day	S.A.M.A19993	(1)
<i>Potamilla reneformis</i> Muller	S.A.M.A19976	(many)

Cimbebasia

<i>Scalisetosus fragilis</i> Clap.	S.A.M.A19987	(4)
<i>Sthenelais boa</i> (Johnston)	S.A.M.A19977	(1)
<i>Terebella schmardaei</i> Day	S.A.M.A19981	(1)
<i>Tharyx marioni</i> St. Joseph	U.C.T. Coll.	(1)
<i>Trypanosyllis gemmulifera</i> Aug.	S.A.M.A19997	(1)
Polychaete (unidentified)	S.A.M.A20002	(1)

CRUSTACEA

Cirripedia

<i>Balanus algicola</i> Pilsbry	S.A.M.A12097	(50)
<i>Balanus maxillaris</i> Gronovius	S.A.M.A12098	(4)

Leptostraca

<i>Nebalia capensis</i> Brnrd.	S.A.M.A12094	(2)
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Mysidacea

<i>Siriella dayi</i> O. Tattersall	S.A.M.A12401	(5)
Mysidacea (unidentified)	S.A.M.A12402	(1)

Isopoda

<i>Cirolana hirtipes</i> M.Edw.	S.A.M.A12101	(2)
<i>Cirolana saldanhae</i> Brnrd.	S.A.M.A12222	(many)
<i>Cirolana sulcata</i> Hansen	S.A.M.A12220	(many)
<i>Cirolana venusticauda</i> Stebbing	S.A.M.A12221	(many)
<i>Exosphaeroma planum</i> Brnrd.	S.A.M.A12225	(many)
<i>Idotea indica</i> M.Edw.	S.A.M.A12102	(2)
<i>Janira capensis</i> Brnrd.	S.A.M.A12226	(5)
<i>Leptanthura</i> sp.	U.C.T. Coll.	(2)
<i>Paranthura punctata</i> (Stimpson)	S.A.M.A12105	(3)
	S.A.M.A12256	(2)
<i>Synidotea hirtipes</i> (M.Edw.)	S.A.M.A12223	(3)

Amphipoda

<i>Amaryllis macrophthalma</i> Haswell	S.A.M.A12260	(15)
	S.A.M.A12270	
<i>Ampelisca chiltoni</i> Stebbing	S.A.M.A12254	(4)
<i>Ampelisca fusca</i> Stebbing	S.A.M.A12249	(many)
	S.A.M.A12250	

<i>Ampelisca palmata</i> Barnard		
<i>Caprella</i> c.f. <i>scaura</i>	S.A.M.A12257	(1)
<i>Ceradocus rubromaculatus</i> (Stimpson)	S.A.M.A12267	(13)
<i>Epimeria cornigera</i> (Fabricius)	S.A.M.A12263	(1)
<i>Eusiroides monoculoides</i> (Haswell)		
Jassidae (unidentified)	S.A.M.A12259	(3)
<i>Leucothoe richiardii</i> Lesson	S.A.M.A12252	(6)
<i>Lysianassa ceratina</i> (Walker)	S.A.M.A12265	(17)
<i>Lysianassa variegata</i> (Stimpson)	S.A.M.A12300	(3)
Lysianassidae (unidentified)	S.A.M.A12264	(3)
<i>Maera hironellei</i> Chevreux	S.A.M.A12251	(1)
<i>Maera inaequipes</i> (Costa)	S.A.M.A12266	(2)
<i>Maera vagans</i> Barnard	S.A.M.A12261	(13)
<i>Maera</i> spp.	S.A.M.A12301-4	(45)
<i>Nototropis</i> c.f. <i>guttatus</i>	S.A.M.A12258	(5)
<i>Paramoera capensis</i> (Dana)	S.A.M.A12248	(12)
	S.A.M.A12262	
<i>Podocerus inconspicuus</i> (Stebbing)	S.A.M.A12255	(6)
<i>Tryphosa</i> c.f. <i>normalis</i>	S.A.M.A12269	(many)
<i>Urothoe</i> c.f. <i>elegans</i>	S.A.M.A12268	(11)
Decapoda		
<i>Callinassa rotundicaudata</i> Stebb.	S.A.M.A12137	(2)
<i>Callinassa</i> sp.	S.A.M.A12103	(2)
Apparently an undescribed species		
<i>Cryptodromiopsis spongiosa</i> (Stimp.)	S.A.M.A12096	(1)
<i>Dromia</i> c.f. <i>vulgaris</i> M. Edw.	S.A.M.A12247	(2)
<i>Dromidia hirsutissima</i> (Lam.)	S.A.M.A12092	(2)
<i>Nautilocorystes ocellata</i> (Gray)	S.A.M.A12089	(16)
<i>Ogyrides saldanhae</i> Brnrd.	S.A.M.A12090	(11)
<i>Ovalipes punctatus</i> (de Haan)	S.A.M.A12097	(19)
	S.A.M.A12098	
<i>Pilumnoides perlatus</i> (Poëppig)	S.A.M.A12091	(9)
<i>Pylopagurus</i> c.f. <i>liochele</i> Brnrd.	S.A.M.A12093	(18)
(Refer Barnard (1950) <i>Ann.S.Afr.Mus.</i>		

Cimbebasia

<i>Upogebia africana</i> (Ortmann)	S.A.M.A12099	
Juvenile Anomura	S.A.M.A12095	(24)
<i>Jasus ladandii</i> (M. Edw.)	S.A.M.A12403	(1)
Puerulus stage.		

STOMATOPODA

<i>Squilla armata</i> M.Edw.	S.A.M.A12246	(1)
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PYCNOGONIDA

<i>Hannonia spinipes</i> Stock	S.A.M.A10158	(1)
<i>Nymphon comes</i> Flynn	S.A.M.A10155	(2)
	Z.M.A.Pa1610	
<i>Nymphon lobatum</i> Stock	S.A.M.A10156	(1)
<i>Nymphon lobatum?</i> Stock	S.A.M.A10160	(1)
<i>Nymphon phasmatodes</i> Bohm	S.A.M.A10161	(1)
	S.A.M.A10162	(1)
	Z.M.A.Pa1612	
<i>Pycnogonum c.f. angulirostrum</i> Stock	S.A.M.A10159	(2)
	Z.M.A.Pa1611	

MOLLUSCA

Amphiura

<i>Ischnochiton. (textilis or tigrinus)</i>	S.A.M.A29845	(1)
Juvenile		

Gastropoda

<i>Amblychilepas scutella</i> (Gmelin)		(2)
<i>Argobuccinum argus</i> (Gmelin)	S.A.M.A29834	(6)
Eggs of <i>Argobuccinum argus</i>		
<i>Bullia digitalis</i> Meuschen	S.A.M.A29831	(1)
<i>Bullia laevissima</i> (Gmelin)	S.A.M.A29832	(5)
<i>Burnupena limbosa</i> (Lam.)	S.A.M.A29857	(1)
<i>Burnupena delalandii</i> (Kienes)		(1)
<i>Calyptraea chinensis</i> (Linn.)	S.A.M.A29849	(1)
<i>Conus elongatus</i> Chemn.	S.A.M.A29833	(1)
<i>Conus gradatulus</i> Weink.	S.A.M.A29958	(1)
<i>Conus patens</i> Sow.		(1)

<i>Crepidula porcellana</i> (Lam.)	S.A.M.A29835	(9)
<i>Drillia omia</i> Brnrd.		(4)
<i>Fasciolaria lugubris</i> Rve.	S.A.M.A29957	(1)
<i>Fusus verruculatus</i> var. <i>adamsi</i> Lam.	S.A.M.A29852	(3)
<i>Gibbula rosea</i> (Gmelin)	S.A.M.A29854	(1)
<i>Littorina punctata</i> Phil.	S.A.M.A29855	(1)
<i>Marginella biannulata</i> (Fabr.)	S.A.M.A29853	(2)
<i>Marginella musica</i> Hinds	S.A.M.A29960	(1)
<i>Nassa analogica</i> Sow.	S.A.M.A29844	(1)
<i>Nassa muiri</i> Brnrd.	S.A.M.A29843	(9)
<i>Nassa speciosa</i> (A.Ad.)	S.A.M.A29961	(1)
<i>Natica genuana</i> Rve.	S.A.M.A29959	(1)
<i>Patella argenvillei</i> Krss.		(3)
<i>Patella compressa</i> Linn.		(1)
<i>Patella granatina</i> Linn.		(1)
<i>Patella granularis</i> Linn.		(7)
<i>Pleurobranchus</i> sp?	S.A.M.A29962	(1)
<i>Poropteron uncinarius?</i>	S.A.M.A29869	(1)
Dead shell only		
<i>Thais cingulata</i> (Linn.)	S.A.M.A29840	(2)
<i>Thais dubia</i> (Krss.)	S.A.M.A29839	(7)
<i>Thais squamosa</i> (Lam.)	S.A.M.A29851	(1)
<i>Tricolia capensis?</i> Dunker	S.A.M.A29846	(16)
<i>Tricolia neritina</i> Dunker	S.A.M.A29841	(1)
<i>Tritonalia scrobiculata</i> (Dunker)	S.A.M.A29870	(3)
Dead shells only		
<i>Tritonalia</i> sp.	S.A.M.A29871	(1)
<i>Turris saldanhae</i> Barnard	S.A.M.A29956	(1)
<i>Volutocorbis lutosa</i> Koch	S.A.M.A30039	(1)
Unidentified sub-fossil gastropods	S.A.M.A29979	(6)
L a m e l l i b r a n c h i a t a		
<i>Anomia</i> sp.	S.A.M.A29859	(3)
<i>Aulacomya magellanicus</i> (Chemn.)	S.A.M.A29850	(many)
<i>Chloromytilus meridionalis</i> (Krss.)		(1)

Cimbebasia

<i>Carditella capensis</i> Smith	S.A.M.A29836	(3)
<i>Lutraria oblonga</i> (Chemn. Gmelin)	S.A.M.A29856	(1)
<i>Macoma ordinaria</i> Sow.		(30)
<i>Nucula nucleus</i> (Linn.)	S.A.M.A29842	(1)
<i>Ostrea atherstonei</i> Newton	S.A.M.A29860	(8)
Sub-fossil specimens		
This species does not occur living on this coast to-day.		
<i>Phaxas pellucidus</i> (Pennant)	S.A.M.A29848	(63)
Including several sub-fossil specimens		
<i>Solen capensis</i> Fischer	S.A.M.A29847	(1)
<i>Tapes corrugata</i> (Gmelin)		(1)
<i>Tellina triangularis</i> Chemn		(1)
<i>Venericardia elata?</i> (Sow.)	S.A.M.A29837	(1)
Cephalopoda		
<i>Eledone</i> sp.	S.A.M.A29861	(1)
ECHINODERMATA		
Asteroidea		
<i>Henricia ornata</i> Per.	S.A.M.A22675	(8)
<i>Patiria granifera</i> Gray	S.A.M.A22679	(4)
<i>Pteraster capensis</i> Gray	S.A.M.A22680	(1)
Asteroidea (unidentified)	S.A.M.A22687	(1)
Ophiuroidea		
<i>Amphipholis squamata</i> (Delle Chiaje)	S.A.M.A22686	(many)
<i>Amphiura capensis</i> Ljungman	S.A.M.A22681	(7)
<i>Ophioderma leonis</i> (Lyman)	S.A.M.A22691	(4)
<i>Ophiothrix triglochis</i> M & T	S.A.M.A22682	(25)
Echinoidea		
<i>Parechinus angulosus</i> (Leske)	S.A.M.A22676	(27)
Holothuroidea		
<i>Cucumaria capensis</i> Théel	S.A.M.A22684	(1)
<i>Cucumaria frauenfeldii</i> Ludwig	S.A.M.A22677	(3)
<i>Pentacta doliolum</i> (Pallas)	S.A.M.A22696	(2)

<i>Rhopalodinopsis capensis</i> Heding	S.A.M.A22683	(3)
This species has not been recorded since it was originally described from Kalk Bay by Heding (<i>Ann. S. Afr. Mus.</i> 32 : 31-40, 1937).		
<i>Thyone aurea</i> Quoy & Gaim.	S.A.M.A22678	(7)
Holothuroidea (unidentified)	S.A.M.A22712	(1)

PROTOCHORDATA

Compound ascidian	S.A.M.A25688	(3)
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PISCES

<i>Callorhynchus capensis</i> Dumeril	S.A.M.23267	(3)
Juveniles	S.A.M.23298	(4)
	S.A.M.23308	(1)
	S.A.M.23697	(4)
Egg cases of <i>Callorhynchus capensis</i> Dumeril	S.A.M.23270	(7)
	S.A.M.23299	(4)
<i>Cancelloxis burrelli</i> Smith	S.A.M.23272	(1)
<i>Chorisochismus dentex</i> Bloch	S.A.M.23300	(1)
<i>Congiopodus torvus</i> (Walbaum) (Juv.)	S.A.M.23695	(1)
<i>Genypterus capensis</i> (Smith)	S.A.M.23271	(1)
Fossil skull		
<i>Gonorhynchus gonorhynchus</i> (Linn.)	S.A.M.23268	(2)
	S.A.M.23696	(1)
<i>Haploblepharus edwardsi</i> (Cuvier)	S.A.M.23269	(2)
Juveniles	S.A.M.23297	(1)
	S.A.M.23307	(1)
<i>Ophthalmolophus agilis</i> (Smith)	S.A.M.23694	(3)
<i>Synaptura kleini</i> (Bonap)? Juvenile	S.A.M.23312	(1)

SUMMARY

1. A check-list is given of the benthonic marine fauna obtained by the diamond dredger *Emerson-K* off the Orange River mouth and the southern part of the coast of South West Africa.
2. Species of Porifera, Coelenterata, Brachiopoda, Annelida, Crustacea, Pycnogonida, Mollusca, Echinodermata and Pisces are listed.

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