



Marine linefish programme priority species list

J H Wallace and R P van der Elst (Editors)

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PREFACE

In South Africa, use of coastal areas continues to increase, both for industrial and recreational purposes. Purposeful research into problems of national importance concerning man's use of the sea is supported by the South African National Committee for Oceanographic Research (SANCOR) of the CSIR's Cooperative Scientific Programmes (CSP). One of the programmes administered by SANCOR is the Marine Linefish Programme. (The others being Benguela Ecology, Coastal Processes, Estuaries, Marine Pollution, Marine Sedimentology and Oil Pollution).

The purpose of the Marine Linefish Programme is to direct effort towards increasing the state of knowledge about marine linefisheries in South Africa, so that this information can be used to aid in the development of effective management strategies.

During April 1982, a workshop was held in Durban to assemble and discuss existing knowledge on the biology of important angling fish in South African waters. This document is a product of this workshop and a synthesis of much of the information currently known on these fish. It has been prepared as a working document for the use by scientists and managers alike, to direct research towards providing information needed for the management of South African marine linefish resources when and if this becomes necessary.

ABSTRACT

This document is a syntheses of the current state of knowledge and of research requirements for 84 of the most important of South Africa's angling fish, and has been assembled from individual contributions which were presented at a workshop held in Durban in April 1982. For each species, information is presented on; distribution, angling status, preferred habitat, growth, reproduction, catch statistics and further research work required. The publication is intended to act as a working document and to direct research towards providing information which may be required for the future management of South Africa's marine linefish resource. It is proposed that this document will be periodically revised.

OPSOMMING

Hierdie dokument is 'n samevatting van die huidige stand van kennis en navorsingsbehoefte sover dit 84 van die belangrikste Suid-Afrikaanse hengelvisse betref. Dit is saamgestel uit individuele bydraes aangebied tydens 'n werksessie wat gedurende April 1982 in Durban gehou is. Inligting aangaande elke spesie word aangebied oor: verspreiding, hengelstatus, voorkeur-habitat, groei, voortplanting, vangs-statistieke en verdere navorsingswerk wat benodig word. Die oogmerk van die publikasie is om te dien as 'n werkdokument en om navorsing te rig na die verskaffing van inligting wat benodig mag word vir die toekomstige bestuur van die Suid-Afrikaanse mariene lynvisbron. Na verwagting sal hierdie dokument periodiek hersien moet word.

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INTRODUCTION: PURPOSE OF DOCUMENT

The difficulty of providing an overview of existing knowledge on the biology of angling fishes was addressed at the Marine Linefish Workshop held at the Oceanographic Research Institute, Durban, on 29/30 April 1982. With the collaboration of all participants, it was agreed that for selected species of importance, all relevant information would be listed. The parameters to be included in this listing were agreed upon, and rapporteurs were appointed to provide information on the various aspects of the fishery along different sectors of the coast (further details are obtainable in the report on the above Workshop).

The submissions were collated by Mr Rudy van der Elst (ORI) and Dr John Wallace (PEM), the documents prepared by CSP and presented to the Marine Linefish Steering Committee at its meeting in Stellenbosch on 3 September 1982. Final review and editing has since occurred, and has resulted in the preparation of this publication.

This publication, becoming known as the 'Visboekie' will serve as a working document to scientists and managers alike, to direct research towards providing information needed for management of South Africa's marine linefish resources when, and if this becomes necessary.

Concurrently, the South African Anglers Union has prepared a list of angling fish in South Africa which they consider to be scarce. This listing was based on extensive experience of anglers, and constitutes a valuable contribution to the knowledge of marine linefish in South Africa. Copies of this listing can be obtained from the South African Anglers Union, and have already been distributed to all participants at the Marine Linefish Workshop (see page 105).

EXPLANATION OF SYMBOLS AND ABBREVIATIONS USED IN TABLES

Occurrence:

The two matrices at the top of each page summarise the occurrence of each of the species, according to geographic area and life stage (large matrix), and portion of coastal zone in which the fish are primarily caught (small matrix).

The following abbreviations have been used in these matrices:

MN Mocambique/South African border northwards
 N * Natal/Transkei : Ponta do Ouro to Kei River
 SEC South East Coast : Kei River to Cape Infanta
 SWC South West Coast : Cape Infanta to Cape Point
 WC West Coast : Cape Point to Orange River
 NN Namibia/South African border northwards

X Presence recorded
 ? Presence unknown
 E Estuarine angling fish
 R/S Rock and Surf angling fish
 O/S Open Sea linefish

* This comprises information mainly of Natal origin

Status

For each of the species, status has been equated with perceived importance as an angling fish, and has been rated as follows:

Very important/prime importance
 Important
 Moderately important
 Low importance

Research Needs

This most important aspect of the tables was prepared by reviewing all information provided by collaborators. Research needs are identified in terms of the parameters which are most directly relevant to resource management, namely:

- length and weight composition of catches
- length and weight at sexual maturity
- ageing and growth
- spawning areas and seasons
- juvenile nursery areas
- distribution of stocks, residency and migration
- catch per unit effort
- total catch and total effort

Research needs have been given a priority rating to indicate their overall importance to the linefish programme. It must be noted, however that this rating should be viewed together with the amount of work currently underway in setting new research objectives.

This applied or goal-oriented approach to marine linefish research is necessitated by limitations in the financial and manpower resources available and the urgent need to assess whether resource management is required to protect heavily exploited stocks.

ORIGIN OF REFERENCES

The references cited in this document comprise South African published works, results in press, and results in preparation. Foreign references applicable to the occurrence of species outside South African waters have generally been excluded. A full list of references is given on pages 99-103.

CITATION OF INFORMATION CONTAINED IN THIS DOCUMENT

Data included in the tabulations are for information of the linefish research community and not for publication or citation without permission of the author concerned.

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PRIORITY SPECIES TABLES

PRESENTED IN ALPHABETICAL ORDER ACCORDING TO SCIENTIFIC NAMES

The following abbreviations have been used in the matrices in the following tables:

MN Mocambique/South African border northwards
N Natal/Transkei : Ponta do Ouro to Kei River
SEC South East Coast : Kei River to Cape Infanta
SWC South West Coast : Cape Infanta to Cape Point
WC West Coast : Cape Point to Orange River
NN Namibia/South African border northwards

X Presence recorded
? Presence unknown
E Estuarine angling fish
R/S Rock and Surf angling fish
O/S Open Sea linefish

SPECIES : ACANTHOPAGRUS BERDA - Perch/Slimjannie

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X		

REFERENCES

STATUS : Moderate angling importance - no commercial :
value

HABITAT a: Primarily estuarine : Wallace (1975); Wallace &
j: Natal estuaries only : Van der Elst (1975)
l: ? :

AGE & GROWTH: Juveniles only : Wallace & Van der Elst
(1975)

SIZE AT SEX

MATURITY : Data will follow : Wallace (1975)

REPRODUCTION: May-August ; Estuarine mouths : Wallace (1975)

FEEDING : :

POPULATION : Good estuarine data : Wallace (1975)

LGTH/WT : $g = 1.28 \times 10^{-5} L_c (cm)^{3.091}$: Van der Elst (1981)

CATCH STATS : Good data in catch statistics programme : Van der Elst (1978)

DISTRIBUTION: Widespread Indo Pacific : Wallace (1975); Day et al
(1981); Van der Elst (1981)

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
NEEDS Species decline probably prevents obtaining
adequate future samples
Length and weight composition of catches
Ageing and growth
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort

SPECIES : ARGYROSOMUS HOLOLEPIDOTUS - Kob

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X	X	X
juvenile	?	?	X	?	?	?
larvae	?	?	?	?	?	?

E	R/S	O/S
X	X	X

REFERENCE

- STATUS : Very important sport angling and commercial linefish; also an important trawl species : Van der Elst (1975); Wallace (1975)
- HABITAT a: Estuaries to muddy offshore banks down to 400 m : Van der Elst (1975); Wallace & Van der Elst (1975); Winter (1979); Lasiak (1981, 1982); Beckley (in prep); Marais (in prep)
- j: Mainly marine inshore (SEC); offshore muddy banks (Natal), also estuaries : Wallace (1975); Wallace & Van der Elst (1975); Van der Elst (in prep); Kok (in prep)
- l: : Melville-Smith & Baird (1980)
- AGE & GROWTH: 54 otoliths/lengths collected (UPE) : Wallace (1975); Wallace & Schleyer (1979) plus (Lasiak) 159 otoliths/lengths collected; SFRI (SWA)
- SIZE AT SEX MATURITY : Lt=750 : Wallace (1975); Lasiak (1982); Smale (1983); SFRI (SWA)
- REPRODUCTION: Possibly not in Natal. Occurs in Cape. 56 gonads processed for microscopic examination (UPE) : Wallace (1975); Lasiak (1982); Smale (in prep); SFRI (SWA)
- FEEDING : Carnivore, mainly fish and squid. PE Museum N=1008 : Whitfield & Blaber (1978); Lasiak (1982); Nepgen (1982); Smale (1983); Marais (in prep)
- POPULATION : 1:1 available 1983 (ORI); data available for analysing (UPE). SEC N=11 000 (Smale) : Wallace (1975); Winter (1979); Smale (1983); Kok (in prep); Beckley (in prep); Marais (in prep)
- LGTH/WT : 2.75×10^{-5} Lt^{2.837}. Figures available (UPE) : Marais & Baird (1980); Van der Elst (1981); Smale (1983); SFRI (SWA)

CATCH STATS : Natal estuaries. Catch statistics programme : Marais & Baird (1980,
SEC (CPUE, no total catch or effort; Smale 1980a); Kok (in prep);
(1983); SEC (UPE) (CPUE 1979-1981; Penrith & Loutit (1982)
historical records 1959-1978; postal
competitions 1977-1980))

DISTRIBUTION: South African west, south and east coasts : Wallace (1975); Wallace &
eastern Atlantic; Mediterranean Van der Elst (1975); Van der
Elst (1981); Kok (in prep)

MIGRATION : Movement to Natal in winter probably occurs : Wallace (1975): 665 tagged
but not yet documented SFRI (SWA)

MORTALITY :

RESEARCH : Top priority
NEEDS Length and weight composition of catches
Juvenile nursery areas
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort

SPECIES : ARGYROZONA ARGYROZONA - Carpenter/Kaapenaar/Silverfish

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			X	?		
larvae			?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Very important ski-boat angling and commercial line boat species :

HABITAT a: Deep reefs and mesopelagic :
 j: ? shallow reefs : Smale (1982)
 l: :

AGE & GROWTH: $L_t = 74.4 (1 - e^{-0.071(t + 1.524)})$: Nepgen (1977)

SIZE AT SEX :
 MATURITY : : Nepgen (1977)

REPRODUCTION: : Nepgen (1977)

FEEDING : : Nepgen (1977)
 Smale (1983)

POPULATION : SEC : N=4200 : Nepgen (1977)
 Smale (1983)

LGTH/WT : : Nepgen (1977)
 Smale (1983)

CATCH STATS : Sea Fisheries Institute: Commercial : Smale (1983)
 statistics. SEC : CPUE: total catch and
 total effort - no data. 30-200 tons trawled
 annually

DISTRIBUTION: Endemic, Table Bay to Transkei :

MIGRATION : Larger specimens may migrate extensively : Nepgen (1977)

MORTALITY : Total mortality for early period 1967-1969 : Nepgen (1977)

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Juvenile nursery areas (SWC)
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort
 Investigate it's role in 'doppies' fishery.

SPECIES : ATRACTOSCION AEQUIDENS - Geelbek

	MN	N	SEC	SWC	WC	NN
adult		X	X	X	X	X
juvenile		?	X	?	?	?
larvae		?	?	?	?	?

E	R/S	O/S
		X

REFERENCES

STATUS : Very important angling and commercial species :

HABITAT a: Pelagic, tending to shoal over prominent reefs : Van der Elst (1981)
 j: Demersal (little data) :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : :

REPRODUCTION: :

FEEDING : False Bay : N=124 : Neppen (1982)
 SEC : N=77 : Smale (1983)

POPULATION : SEC : N=870 : Smale (1983)

LGTH/WT : : Smale (1983)

CATCH STATS : SFI commercial statistics. :
 CPUE: PE area; no information. Total : Smale (1983)
 catch and total effort

DISTRIBUTION: African west coast south of equator; : Van der Elst (1981)
 South Africa south and east coasts to
 Pt. do Ouro; Australian east coast.

MIGRATION : Moves into Natal waters in spring :

MORTALITY : No information on natural mortality :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : AUXIS THAZZARD - Frigate mackerel/Fregat-makriel

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X	X	X
juvenile	X	X	X	X	X	X
larvae	?	?	?	?	?	?

E	R/S	O/S
		X

REFERENCES

STATUS : Moderate angling importance - low commercial value : good foreign data exists

HABITAT a: Oceanic and coastal waters :
 j: Pelagic :
 l: :

AGE & GROWTH: Foreign data available :

SIZE AT SEX

MATURITY : Limited local data : Van der Elst (in prep)

REPRODUCTION: Limited local data : Van der Elst (in prep)

FEEDING : :

POPULATION : :

LGTH/WT : $g=5.13 \times 10^{-2} Lcf(cm)^{2.72359}$: Van der Elst (1981)

CATCH STATS : No specific data in catch statistics programme. Lumped with E. affinis :

DISTRIBUTION: Circumtropical :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Good foreign data exists, confine research to length and weight composition of catches
 Catch/Unit effort

SPECIES : BOOPSOIDEA INORNATA - Fransmadam

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			X	X		
larvae			?	?		

E	R/S	Q/S
		X

REFERENCES

STATUS : Moderately important bait species :

HABITAT a: Reefs :
 j: Reefs :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Buxton (1984)

REPRODUCTION: : Buxton (1984)

FEEDING : : Buxton (1983)

POPULATION : : Buxton (1984)

LGTH/WT : : Buxton (1983)

CATCH STATS : SEC : CPUE (total catch and total effort - : Buxton (1983)
 nil)

DISTRIBUTION: Endemic; Cape Point to Port St Johns :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 Length and weight composition of catches
 Ageing and growth
 Juvenile nursery areas
 Catch/Unit effort
 Total catch and total effort
 Ongoing research needed.

SPECIES : CARANX IGNOBILIS - Giant kingfish/Reus-koningvis

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Important angling species with very little commercial value :

HABITAT a: Marine - pelagic but associated with reefs :
 j: Probably mainly estuarine :
 l: :

AGE & GROWTH: Juveniles : Williams (1965);
 Adults (East Africa) : Blaber (1982a)

SIZE AT SEX
 MATURITY : : Williams (1965); Blaber (1982a); Van der Elst (in prep)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Blaber (1982a); Van der Elst (in prep)

POPULATION : : Van der Elst (in prep); Kyle (in prep)

LGTH/WT : $\text{kg}=2.07 \times 10^{-5} \text{ Lcf}(\text{cm})^{2.987}$: Van der Elst (1981)

CATCH STATS : Moderate data in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CARANX SEM - Yellowtail kingfish/Geelstert-koningvis

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae		?				

E	R/S	O/S
	X	X

REFERENCES

STATUS : Moderate angling importance but little commercial value :

HABITAT a: Shallow nearshore reefs :
j: :
l: :

AGE & GROWTH: :

SIZE AT SEX
MATURITY : : Van der Elst (in prep)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : : Van der Elst (in prep)

CATCH STATS : only at generic level in catch statistics programme :

DISTRIBUTION: Entire W Indian Ocean :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
NEEDS Length and weight composition of catches
Ageing and growth
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort

SPECIES : CARANX SEXFASCIATUS - Bigeye kingfish/Grootoog-koningvis

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile		X				
larvae		?				

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Moderate angling value :

HABITAT a: Marine - shallow reefs :
 j: Estuarine - probably also marine :
 l: :

AGE & GROWTH: : Blaber (1982a)

SIZE AT SEX
 MATURITY : : Williams (1965); Blaber (1982)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Blaber (1982a)

POPULATION : : Blaber (1982a); Van der Elst (in prep)

LGTH/WT : kg = $2.47742 \times 10^{-4} \text{ Lcf (cm)}^{2.573}$: Van der Elst (1981)

CATCH STATS : Only at generic level in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific : Van der Elst (1981); Blaber (1982a)

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS : Length and weight composition of catches
 Ageing and growth
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort
 and possible juvenile nursery areas at sea

SPECIES : CARCHARHINUS LEUCAS - Zambezi shark/Zambesihaai

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	N/A	N/A				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Moderately important angling species :

HABITAT a: Estuarine and marine - especially river mouths :
 j: Mainly estuarine :
 l: :

AGE & GROWTH: Preliminary extrapolated data : Van der Elst (1981)

SIZE AT SEX

MATURITY : $L_t = 250$ cm : Bass et al (1975)

REPRODUCTION: 11 - 12 pups born in summer : Bass et al (1975)
 mostly close to estuaries.

FEEDING : Top carnivore - mostly on teleosts : Bass et al ((1975);
 Van der Elst (1979)

POPULATION : Sex ratio 1:1 : Bass et al (1975)

LGTH/WT : : Van der Elst (1981)

CATCH STATS : Good data in catch statistics programme : Van der Elst (1979)

DISTRIBUTION: Circumtropical :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS Length and weight composition of catches
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CARCHARINUS OBSCURUS - Dusky shark/Donkerhaai

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X		
juvenile	X	X	X	X		
larvae	N/A	N/A	N/A	N/A		

E	R/S	O/S
	X	X

REFERENCES

- STATUS : Important angling fish - no commercial value:
- HABITAT a: Pelagic - Agulhas current : Bass et al (1975); Van der Elst (1979)
 j: Sandy shores of Natal & E Cape :
 l: :
- AGE & GROWTH: Preliminary extrapolated data : Van der Elst (1979); Van der Elst (1981)
- SIZE AT SEX
- MATURITY : Both sexes $L_t = 2\ 800$ mm : Bass et al (1975)
- REPRODUCTION: 8 - 14 pups; mainly winter - Natal sandy shores : Bass et al (1975)
- FEEDING : Top carnivore on teleosts, elasmobranchs & cephalopods : Bass et al (1975); Van der Elst (1979)
- POPULATION : Sex ratio varies with locality - overall = 1:1 - nearshore population is unimodal : Bass et al (1975); Van der Elst (1979)
- LGTH/WT : $7.157 \times 10^{-5} L_t$ (cm) 2,986 : Van der Elst (1981)
- CATCH STATS : Good data in catch statistics programme : Van der Elst (1979)
- DISTRIBUTION: Circumtropical :
- MIGRATION : Onshore/offshore and longshore - sexually segregated : Bass et al (1975)
- MORTALITY :
- RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Catch/Unit effort
 Total catch and total effort, and adult phase aspects of distribution of stocks, residency and migration

SPECIES : CHEIMERIUS NUFAR - Soldier/Santer

	MN	N	SEC	SWC	WC	NN
adult	X	X	X			
juvenile	X	X	X			
larvae	?	?	?			

E	R/S	O/S
		X

REFERENCES

STATUS : Very important angling and commercial species :

HABITAT a: Abundant on offshore reefs : Coetzee & Baird (1981)
 j: Shallow reef & sandy shores to 60 m :
 l: :

AGE & GROWTH: $L_t = 953.56[1 - e^{-0.0654(t+2.6177)}]$: Coetzee & Baird (1981)
 Druzhinin (1975)

SIZE AT SEX

MATURITY : Both sexes = 250 mm : Coetzee (1978); Smale (1983)
 Garratt (in prep)

REPRODUCTION: Jun-Oct: Natal continental shelf : Coetzee (1978); Smale (1983)
 Garratt (in prep)

FEEDING : Carnivorous mainly on fish & squid : Druzhinin (1975); Coetzee &
 Baird (1981); Smale (N=300)
 (1983) Garratt (in prep)

POPULATION : M:F = 1:2 (Natal) : Coetzee & Baird (1981);
 Smale (N=3300)(1983);
 Garratt (in prep)

LGTH/WT : $g=2.4 \times 10^{-4} L_c f(\text{cm})^{2.5705}$: Smale (1983); Garratt (in
 prep)

CATCH STATS : Data on catch statistics programme : Coetzee (1981)
 CPUE data : P E M Smale (1983);

DISTRIBUTION: Entire West Indian Ocean :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CHRYSOBLEPHUS ANGLICUS - Englishman/Engelsman

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	?	?				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling fish of commercial value :

HABITAT a: Common on offshore reefs 20 - 120 m : Garratt (in prep)
 j: :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Garratt (in prep)

REPRODUCTION: Probably not in Natal : Garratt (in prep)

FEEDING : Carnivorous on decapod crustaceans and molluscs : Garratt (in prep)

POPULATION : : Garratt (in prep)

LGTH/WT : : Garratt (in prep)

CATCH STATS : Limited data in catch statistics programme :

DISTRIBUTION: Confined to Mocambique and Natal. A similar species may exist in Gulf of Aden :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CHRYSOBLEPHUS CRISTICEPS - Dageraad

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			X	?		
larvae			?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Important ski-boat angling and commercial linefish :

HABITAT a: Reefs : Buxton (1984)
 j: Shallow reefs : Buxton (1984)
 l: ? pelagic :

AGE & GROWTH: Otolith and scale examination ongoing : Buxton (1984)
 N=200

SIZE AT SEX

MATURITY : 50 % maturity at 320 mm F.L. : Buxton (1983)

REPRODUCTION: October - January incl. : Robinson (1976); Buxton (1984)

FEEDING : Analysis 257 adults complete : Buxton (1982)
 Juveniles ongoing

POPULATION : Data on ski-boat fishery. N=3269 : Crawford & Crous(1982);
 Buxton (1984)

LGTH/WT : : Buxton (1984)

CATCH STATS : CPUE: Ski-boats: PE area: 1978-1981. : Crawford & Crous(1982);
 Total catch and total effort: no data Buxton (1984)

DISTRIBUTION: Endemic. Cape Point to Transkei; :
 uncommon northwards to Durban

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CHRYSOBLEPHUS GIBBICEPS - Red stumpnose/Rooistompneus

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			X	?		
larvae			?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Moderate importance SEC ski-boat fishing. :
 ? SWC

HABITAT a: Reefs : Buxton (1984)
 j: Shallow reefs : Buxton (1984)
 l: ? Pelagic :

AGE & GROWTH: Otoliths and scales : N=100 : Buxton (1984)
 Data on juveniles lacking

SIZE AT SEX

MATURITY : Data on juveniles lacking : Buxton (1984)

REPRODUCTION: October - April : SEC : Buxton (1984)

FEEDING : Analysis of 76 adults complete. : Buxton (1982)
 Juveniles ongoing.

POPULATION : SEC: Ski-boat catches : N=376 : Crawford & Crous (1982);
 Buxton (1984)

LGTH/WT : : Buxton (1982)

CATCH STATS : CPUE: Ski-boats: PE area: 1978-1981. : Crawford & Crous (1982);
 Total catch and total effort: no data Buxton (1984)

DISTRIBUTION: Endemic. Cape Point to East London :

MIGRATION :

MORTALITY :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CHRYSOBLEPHUS LATICEPS - Roman

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			X	?		
larvae			?	?		

E	R/S	O/S
	X	X

REFERENCES

- STATUS : Prime importance commercially; moderate importance for angling :
- HABITAT a: Rocky seabed, shallow and offshore reefs : Penrith (1972); Buxton (1984)
 j: Rocky seabed, shallow and offshore reefs : Penrith (1972); Buxton (1984)
 l: : Brownell (1979)
- AGE & GROWTH: Otolith and scale examination ongoing : Buxton (1984)
 N=200
- SIZE AT SEX
- MATURITY : 50 % maturity less than 200 mm F.L. : Penrith (1972);
 Sex reversal at 270-330 mm F.L. Buxton (1983)
- REPRODUCTION: September-February inclusive : Penrith (1972);
 Buxton (1984)
- FEEDING : False Bay : Neppen (1981);
 Analysis 212 adults complete. Juveniles Buxton (1982)
 ongoing
- POPULATION : SEC N=2616 : Buxton (1984)
 Crawford & Crous (1982)
- LGTH/WT : : Buxton (1982)
- CATCH STATS : CPUE: Skiboats: PE area: 1978-1981 : Buxton (1983)
 No information on total catch and total effort. Commercial catch statistics: SWC Sea Fisheries
- DISTRIBUTION: Endemic, Cape Point to Transkei :
- MIGRATION : Thought to be territorial and resident on :
 reefs. Possibility of migration not researched.
- MORTALITY : :
- RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort
 (and possibly ageing and growth in SWC/WC area)

SPECIES : CHRYSOBLEPHUS PUNICEUS - Slinger

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Prime angling fish of important commercial value : Garratt (in prep)

HABITAT a: abundant on offshore reefs 20-100 m :
 j: widespread on reefs 20-60 m : Garratt (in prep)
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : f = 230 mm Lcf; sex reversal at \pm 350-400 mm: Garratt (in prep)

REPRODUCTION: June-October Natal North and Upper South Coast- on deep reefs. Sex reversal is probable : Garratt (in prep)

FEEDING : Carnivorous on crustacea, molluscs & echinoderms : Garratt (in prep)

POPULATION : Sex ratio - m : f = 1:9.5 : Garratt (in prep)

LGTH/WT : $g = 6.3 \times 10^{-5}$ Lcf 2.8494 : Garratt (in prep)

CATCH STATS : Limited data in catch statistics programme :

DISTRIBUTION: Confined primarily to Natal & southern Mocambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CORACINUS CAPENSIS - Galjoen

	MN	N	SEC	SWC	WC	NN
adult			X	X	X	
juvenile			?	?	?	
larvae			?	?	?	

E	R/S	O/S
	X	

REFERENCES

STATUS : Prime importance as an angling fish :

HABITAT a: Rocky areas :
j: :
l: :

AGE & GROWTH: SEC : 22 otoliths/lengths collected: UPE :
85 otoliths/lengths collected: SFRI (SWA)

SIZE AT SEX

MATURITY : 50 % 100 % Van der Elst pers comm :
32 cm 34 cm data sparse :
data available SFRI

REPRODUCTION: 31 gonads processed for microscopic :
examination : UPE

FEEDING : 31 stomachs analysed: UPE :
87 stomachs analysed: SFRI

POPULATION : Data available for analysing: UPE :

LGTH/WT : Figures available: UPE :

CATCH STATS : CPUE: 1979-1981; historical records: : Penrith & Loutit (1982)
1959-1978; postal competitions 1977-1980
Skeleton coast; 1978-1982

DISTRIBUTION: SWA to Natal : Van der Elst (1981)

MIGRATION : 1303 tagged SWA :

MORTALITY :

RESEARCH : Top priority :
NEEDS Length and weight composition of catches :
Length and weight at sexual maturity :
Ageing and growth :
Spawning areas and seasons :
Juvenile nursery areas :
Distribution of stocks, residency and migration :
Catch/Unit effort :
Total catch and total effort :
Priority species - urgently in need of study.

SPECIES : CORACINUS MULTIFASCIATUS - Banded galjoen/Bandgaljoen

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
	X	

REFERENCES

- STATUS : Important angling fish : Joubert (1981)
- HABITAT a: Shallow rocky areas :
 j: Rocky inter- and sub-tidal : Berry et al (1982)
 l: :
- AGE & GROWTH: :
- SIZE AT SEX
- MATURITY : f Lcf = 190 mm; m Lcf = 220 mm : Joubert (1981)
- REPRODUCTION: March-October. Natal Rocky littoral : Joubert (1981)
- FEEDING : Carnivorous on a wide range of small invertebrates : Joubert & Hanekom (1980)
- POPULATION : sex ratio = 1:1. Unimodal but different for sexes : Joubert (1981a)
- LGTH/WT : $g = 1.2 \times 10^{-5}$ Lcf 3.15 : Joubert (1981a)
- CATCH STATS : Limited data published - data in catch statistics programme : Joubert (1981b)
 Van der Elst (in prep)
- DISTRIBUTION: Confined primarily to Natal & Mocambique :
- MIGRATION : :
- MORTALITY : :
- RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CORYPHAENA HIPPURUS - Dolphinfish/Dorado

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X		
juvenile	X	X	X	X		
larvae	?	X	?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling species with possible commercial potential :

HABITAT a: Oceanic and coastal waters :
 j: Pelagic :
 l: Pelagic :

AGE & GROWTH: : Adequate foreign data

SIZE AT SEX
 MATURITY : : Van der Elst (in prep)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : :

POPULATION : : Van der Elst (in prep)

LGTH/WT : $g = 4.47142 \times 10^{-2} Lcf^{2.6015}$: Van der Elst (1981)

CATCH STATS : Moderate data in catch statistics programme :

DISTRIBUTION: Circumtropical :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Good foreign data is available for this species. Local research should concentrate on: Length and weight composition of catches
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : CYMATOCEPS NASUTUS - Black musselcracker/Poenskop

	MN	N	SEC	SWG	WC	NN
adult		X	X	X		
juvenile		X	X	?		
larvae		?	?	?		

E	R/S	O/S
	X	X

REFERENCES

STATUS : Important angling species :

HABITAT a: Inshore reefs :
 j: Tidal pools : Christensen (1978)
 l: : Beckley (in prep)

AGE & GROWTH: 28 otoliths/lengths collected (Coetzee) :
 UPE : 9 otoliths/lengths

SIZE AT SEX
 MATURITY :

REPRODUCTION: 28 gonads processed for microscopic :
 examination (Coetzee); UPE 9 processed gonads

FEEDING : Juvenile feeding : Christensen (1978)
 28 stomachs analysed : Coetzee (1978)
 UPE : 10 stomachs collected

POPULATION : UPE : data available for analysing (N=?) :

LGTH/WT : UPE : Figures available (N=?) :

CATCH STATS : UPE : CPUE 1979-81; historical records : Coetzee & Baird (1981)
 1959-78; postal competitions 1977-80

DISTRIBUTION: Endemic, Saldanha Bay to Tugela :

MIGRATION : :

MORTALITY :

RESEARCH : Top priority :
 NEEDS Difficulties arise due to rel. low numbers
 caught over a large stretch of coast.
 Ongoing longterm monitoring required whenever
 possible. Length and weight composition of
 catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : DASYATIS JENKINSII - Sharpnose brown stingray/Skerpneus-pylstert

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	N/A	N/A				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Important angling fish, food value not yet appreciated : Wallace (1967);
Van der Elst (1981)

HABITAT a: Sandy shores to 30 m : Wallace (1967)
j: Sandy shores to 30 m : Van der Elst (1981)
l: N/A :

AGE & GROWTH: Preliminary extrapolated data available : Van der Elst (1981)

SIZE AT SEX MATURITY : : Van der Elst (1981)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : : Van der Elst (1981)

CATCH STATS : Catch statistics programme :

DISTRIBUTION: East London northwards :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
NEEDS Length and weight composition of catches
Ageing and growth
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort

SPECIES : DINOPERCA PETERSI - Lampfish/Lampvis

	N	SEC	SWC	WC
adult	X	X		
juvenile	X	X		
larvae	?	?		

E	R/S	O/S
	X	X

REFERENCES

STATUS : Moderate angling importance - little commercial value :

HABITAT a: Reefs to depths of 50 m : Van der Elst (1981)
 j: Rocky shores - data sparse :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : 300 mm Lcf - data sparse : Van der Elst (1981)

REPRODUCTION: Winter spawning in Natal - data sparse : Van der Elst (1981);
 Van der Elst (in prep)

FEEDING : : Garratt (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : : Van der Elst (in prep)

CATCH STATS : Sparse data in catch statistics programme :

DISTRIBUTION: Confined primarily to Natal & Mocambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches :
 Ageing and growth :
 Juvenile nursery areas :
 Distribution of stocks, residency and migration :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : DIPLODUS CERVINUS - Zebra/Wildeperd

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		?	?	X		
larvae		?	?	X		

E	R/S	O/S
	X	X

REFERENCES

STATUS : Low importance :

HABITAT a: Rocky shores :
j: Tidal pools :
l: : Brownell (1979)
Beckley (in prep)

AGE & GROWTH: UPE : 20 otoliths/lengths collected :
30 otoliths/lengths (Coetzee)

SIZE AT SEX
MATURITY :

REPRODUCTION: UPE : 19 gonads processed for microscopic :
examination. :
15 processed gonads (Coetzee)

FEEDING : UPE : 20 stomachs collected : Christensen (1978)
20 stomachs analysed (Coetzee)

POPULATION : UPE : data available for analysing :

LGTH/WT : UPE : CPUE 1979-1981; historical records : Coetzee & Baird (1981)
1959-1978; postal competitions 1977-1980

CATCH STATS : Angler catch statistics :

DISTRIBUTION: Endemic, Cape Point to Durban :

MIGRATION :

MORTALITY :

RESEARCH : Low priority :
NEEDS Length and weight composition of catches :
Length and weight at sexual maturity :
Ageing and growth :
Spawning areas and seasons :
Juvenile nursery areas :
Distribution of stocks, residency and migration :
Catch/Unit effort :
Total catch and total effort :

SPECIES : DIPLODUS SARGUS - Blacktail/Dassie

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X	X	X
juvenile	X	X	X	X	X	X
larvae		?	X	X	?	?

E	R/S	O/S
	X	X

REFERENCES

- STATUS : Prime angling fish (favourite with André v d Westhuysen) :
- HABITAT a: Shallow reefs to depths of 15 m : Winter (1979); Joubert (1981)
 j: Rocky littoral, intertidal pools and estuarine mouths : Joubert (1981); Lasiak (1981,1982); Beckley (in prep); Berry et al (in press); Kok (in prep)
 l: Common midwater False Bay & probably most of SA Coast. : Brownell (1979)
- AGE & GROWTH: UPE 42 otoliths; preliminary growth rates juveniles available from ORI: 160 otoliths SFRI (SWA) : Kok (in prep); Coetzee (in prep); Bennett (in prep); Beckley (in prep)
- SIZE AT SEX : Both sexes Lt = 155 mm : Joubert (1981); Lasiak (1982); Coetzee (in prep);
- MATURITY SFRI (SWA)
- REPRODUCTION: May-Dec Natal inshore & deeper reefs UPE data N=46 - HERMAPHRODITE. SFRI (SWA) : Joubert (1981); Lasiak (1982); Coetzee (in prep)
- FEEDING : Omnivorous on seaweeds, sponges & bivalves : Christensen (1978);
 Juvenile data from SEC - UPE data N=46 : Joubert & Hanekom (1980);
 SFRI (SWA): N=160 : Lasiak (1982); Coetzee (in prep)
- POPULATION : Sex ratio 1:1 - Polymodel distribution : Joubert (1981); Kok (in prep); Bennett (in prep);
 SFRI (SWA) : Beckley (in prep)
- LGTH/WT : $g = 3.3 \times 10^{-5}$ Lcf (cm) 2.994 : Joubert (1981)
 also SFRI (SWA)
- CATCH STATS : Data published - also in catch statistics programme - SFRI (SWA) : Marais & Baird (1980);
 Joubert (1981a); Coetzee & Baird (1981); Penrith & Loutit (1982); Bennett (in prep); Van der Elst (in prep)
- DISTRIBUTION: Entire African Coast :
- MIGRATION :
- MORTALITY :

RESEARCH : Low priority :
NEEDS Length and weight composition of catches
Ageing and growth
Distribution of stocks, residency and migration
· Catch/Unit effort
Total catch and total effort

SPECIES : ELOPS MACHNATA - Tenpounder/Tienponder

	MN	N	SEC	SWC	WC	NN
adult	X	X	X			
juvenile	X	X	X			
larvae	?	?	?			

E	R/S	O/S
X	X	

REFERENCES

- STATUS : Important estuarine angling species :
 Infrequently caught at sea.
- HABITAT a: Common in estuaries and off sandy beaches : Wallace (1975)
 j: Common in estuaries : Wallace & Van der Elst
 (1975); Kok (in prep)
 l: : Melville-Smith (1980)
- AGE & GROWTH: : Beckley (in prep)
- SIZE AT SEX
- MATURITY : No information on South African population :
 Does not appear to spawn in our waters
- REPRODUCTION: As above :
- FEEDING : Data only available from estuaries : Whitfield & Blaber (1978)
- POPULATION : Data only available from estuaries : Wallace (1975); Beckley (in
 prep)
- LGTH/WT : grams 2.94786×10^{-2} Lcf cm^{2.534} : Marais & Baird (1980);
 Van der Elst (1981)
- CATCH STATS : Catch statistics programme : Marais & Baird (1980a);
 Marais (in prep)
- DISTRIBUTION: Widespread Indo Pacific : Wallace (1975); Van der Elst
 (1981); Beckley (in prep);
 Kok (in prep)
- MIGRATION : Very little information available :
- MORTALITY :
- RESEARCH : Low priority :
 NEEDS Distribution of stocks, residency and
 migration
 Abundance of estuarine populations

SPECIES : EPINEPHELUS ALBOMARGINATUS - White-edged rockcod/Witransd-klipkabeljou

	MN	N	SEC	SWC	WC	NN
adult	?	X				
juvenile	?	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling and commercial species : Van der Elst (1981)

HABITAT a: Deeper rocky reefs - 40-100 m : Garratt (in prep)
 j: Deeper rocky reefs - 40-100 m :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : :

REPRODUCTION: Sex reversal probable :

FEEDING : :

POPULATION : :

LGTH/WT : :

CATCH STATS : :

DISTRIBUTION: Confined to Natal & S. Mocambique :

MIGRATION : Seasonal variability in catches suggests : Garratt (in prep)
 migrations

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : EPINEPHELUS ANDERSONI - Catface rockcod/Katgesig-klipkabeljou

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
	X	X

REFERENCES

STATUS : Very important angling & commercial species :

HABITAT a: Offshore reefs to 50 m :
 j: Shallow rocky littoral : Joubert (1981); Berry et al
 (1982)
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Van der Elst (in prep)

REPRODUCTION: Sex reversal probable : Garratt (in prep)

FEEDING : Carnivore - both juvenile & adult : Joubert & Hanekom (1981);
 Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : $g = 1.696 \times 10^{-5} L_t (cm)^{2.955}$: Van der Elst (1981)

CATCH STATS : Limited data in catch statistics programme :

DISTRIBUTION: Confined to Natal & S Mocambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Especially offshore aspects of:
 Length and weight composition of catches
 Spawning areas and seasons
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : EPINEPHELUS GRAMMATOPHORUS - Halfmoon rockcod/Halfmaan-klipkabeljou

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling and food fish : Van der Elst (1981)

HABITAT a: Abundant on offshore reefs (20-100 m) :
 j: :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Garratt (in prep)

REPRODUCTION: Sex reversal probable : Garratt (in prep)

FEEDING : : Garratt (in prep)

POPULATION : : Garratt (in prep)

LGTH/WT : : Garratt (in prep)

CATCH STATS : :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort
 Also taxonomic investigation with E rhyncholepis

SPECIES : EPINEPHELUS GUAZA - Yellowbelly rockcod/Geelpens-klipkabeljou

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		X	X	X		
larvae		?	?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Very important angling & food species :

HABITAT a: Deeper rocky reefs to 100 m :
 j: Shallow rocky littoral : Joubert (1981); Berry et al
 (in press)
 l: ? :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Smale (1983)

REPRODUCTION: Limited data. Sex reversal probable : Smale (1983) Garratt (in
 prep)

FEEDING : PEM N=84 carnivore : Joubert & Hanekom (1980);
 Smale (1983) Garratt (in
 prep)

POPULATION : PEM N=313 : Smale (1983)

LGTH/WT : $g = 1.696 \times 10^{-5} L_t (cm) 2.955$: Van der Elst (1981)

CATCH STATS : Some data on catch statistics programme : Joubert (1980a); Smale
 (1983)

DISTRIBUTION: Primarily Atlantic from Cape to :
 Mediterranean

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Spawning areas and seasons
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : EPINEPHELUS MALABARICUS - Malabar rockcod

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	X	?				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Moderately important angling fish, often :
in estuaries

HABITAT a: Shallow nearshore reefs :
j: Estuaries and marine littoral :
l: :

AGE & GROWTH: :

SIZE AT SEX

MATURITY : Limited data (N = ± 200) : Van der Elst (1981)

REPRODUCTION: Limited data - sex reversal probable : Van der Elst (in prep)

FEEDING : :

POPULATION : :

LGTH/WT : :

CATCH STATS : Some data in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : No information on natural mortality :
Artificial mortality from catch statistics
programme

RESEARCH : Medium priority :
NEEDS Length and weight composition of catches :
Length and weight at sexual maturity :
Ageing and growth :
Spawning areas and seasons :
Juvenile nursery areas :
Distribution of stocks, residency and migration :
Catch/Unit effort :
Total catch and total effort :
Recently distinguished from E. tauvina :
hence requires literature survey

SPECIES : EUTHYNNUS AFFINIS - Little tuna/Kleintuna

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling and commercial species :

HABITAT a: Oceanic & coastal waters :
 j: :
 l: :

AGE & GROWTH: Good foreign data exists :

SIZE AT SEX

MATURITY : : Van der Elst (in prep)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Van der Elst (in prep)

POPULATION : Sex ratio 1:1 : Van der Elst (in prep)

LGTH/WT : $g = 3.00 \times 10^{-5}$ Lcf 2.908 : Van der Elst (in prep)

CATCH STATS : Data in catch statistics programme :

DISTRIBUTION: Circumglobal :

MIGRATION : Foreign data :

MORTALITY : Foreign data :

RESEARCH : Medium priority :
 NEEDS Adequate foreign data exists :
 Length and weight composition of catches
 Catch/Unit effort
 Total catch and total effort

SPECIES : GALEORHINUS GALEUS - Vaalhaai

	MN	N	SEC	SWC	WC	NN
adult				X	X	
juvenile				?	?	
larvae						

E	R/S	O/S
		X

REFERENCESSTATUS : Moderately important in commercial handline :
and trawl fisheryHABITAT a: Normally near seabed, down to 100 m : Bass et al (1975)
j: :
l: N/A :

AGE & GROWTH: Preliminary extrapolated data : Van der Elst (1981)

SIZE AT SEX

MATURITY : :

REPRODUCTION: :

FEEDING : :

POPULATION : :

LGTH/WT : :

CATCH STATS : SFRI commercial statistics :

DISTRIBUTION: West and south-west coast of Republic. :
Mediterranean, Europe, west coast Americas

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :

NEEDS
Length and weight composition of catches
Length and weight at sexual maturity
Ageing and growth
Pupping area and seasons
Juvenile nursery areas
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort
An important species that has hitherto been
neglected

SPECIES : GATERIN NIGER - Harry hotlips/Swart rubberlip

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Moderately important angling & food fish :

HABITAT a: Rocky & coral reefs 20-80 m : Van der Elst (1981)
 j: Estuarine :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : :

REPRODUCTION: :

FEEDING : :

POPULATION : :

LGTH/WT : :

CATCH STATS : No data on catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS :

SPECIES : HIMANTURA UARNAK - Honeycomb Ray

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	N/A	N/A				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Moderately important angling species - :
no commercial value

HABITAT a: Shallow marine & estuarine :
j: Mainly estuarine :
l: :

AGE & GROWTH: Extrapolated data : Van der Elst (1981)

SIZE AT SEX :
MATURITY : Van der Elst (in prep)

REPRODUCTION: : Wallace (1967); Van der Elst
(in prep)

FEEDING : Limited data : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : : Van der Elst (1981)

CATCH STATS : Good data in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : . :

RESEARCH : Medium priority :
NEEDS Length and weight composition of catches
Catch/Unit effort
Total catch and total effort

SPECIES : ISTIOPHORIDAE - Billfishes/Marlyne

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X	X	
juvenile	X	X	X	X	X	
larvae	?	?	?	?	?	

E	R/S	O/S
		X

REFERENCES

STATUS : Prime sport fish with low commercial value :

HABITAT a: Oceanic and coastal waters :
j: Pelagic - oceanic :
l: Pelagic - oceanic :

AGE & GROWTH: Good foreign data available :

SIZE AT SEX

MATURITY : Good foreign data available : Van der Elst (in prep)

REPRODUCTION: Good foreign data : Van der Elst (in prep)

FEEDING : Good foreign data : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : Good foreign data : Van der Elst (in prep)

CATCH STATS : Some data in catch statistic programme : Van der Elst (in prep)

DISTRIBUTION: Circumglobal :

MIGRATION : Extensively documented :

MORTALITY : :

RESEARCH : Low priority: oceanic and coastal :
NEEDS Length and weight composition of catches
Distribution of, stocks residency and migration
Catch/Unit effort
Total catch and total effort
(Species include : black/blue/striped marlins
and sailfish)

SPECIES : JOHNIUS BELENGERII - Nondi/Minikob

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Little importance to anglers :

HABITAT a: Estuarine/marine :
j: Estuarine :
l: :

AGE & GROWTH: :

SIZE AT SEX
MATURITY : : Wallace (1975)

REPRODUCTION: : Wallace (1975)

FEEDING : :

POPULATION : : Wallace (1975)

LGTH/WT : $g = 1.51617 \times 10^{-4} Lcf(cm)^{2.9503}$: Van der Elst (1981)

CATCH STATS : :

DISTRIBUTION: :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
NEEDS :

SPECIES : KATSUWONUS PELAMIS - Skipjack tuna/Pensstreep-tuna

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X		
juvenile	X	X	X	X		
larvae	?	?	?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Very important angling species with moderate commercial value :

HABITAT a: Oceanic and coastal waters :
 j: Pelagic :
 l: :

AGE & GROWTH: Foreign data only :

SIZE AT SEX

MATURITY : Foreign data : Van der Elst (in prep)

REPRODUCTION: Foreign data : Van der Elst (in prep)

FEEDING : Foreign data PEM N=465 : Smale (1983);
 Van der Elst (in prep)

POPULATION : PEM N=765 : Smale (1983);
 Van der Elst (in prep)

LGTH/WT : $g = 2.0 \times 10^{-6}$ Lcf (cm) 3.378 : Van der Elst (1981);
 Smale (1983)

CATCH STATS : Data in catch statistics programme : Smale (1983);
 Van der Elst (in prep)

DISTRIBUTION: Circumglobal :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Good foreign data exists for this species
 Length and weight composition of catches
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : LICHIA AMIA - Leervis

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		X
juvenile			X	X		
larvae		?	?	?		?

E	R/S	O/S
X	X	

REFERENCES

- STATUS : Very important angling species, of low importance commercially : Van der Elst (1981)
- HABITAT a: Nearshore shallow littoral :
 j: and adolescents: estuaries and sandy littoral in Cape : Talbot (1955); Wallace & Van der Elst (1975); Winter (1979); Lasiak (1981,1982); Smale & Kok (in prep) and Beckley (in prep)
 l: :
- AGE & GROWTH: 87 otoliths/lengths collected (UPE); age from population analysis (ORI) : Day et al (1981); Van der Elst (in prep); Kok (in prep) Bennett (in prep)
- SIZE AT SEX :
 MATURITY : Day et al (1981); Van der Elst (1981); Lasiak (1982); Bennett (1982); Van der Elst (1983)
- REPRODUCTION: 23 gonads processed for microscopic examination (UPE) : Lasiak (1982); Van der Elst (1983); Smale (1983); Bennet (in prep)
- FEEDING : : Day et al (1981); Blaber (1982a); Lasiak (1982); Smale (N=92) (in prep); Coetzee (in prep); Smale & Kok (in prep); Bennett (in prep); Whitfield (in prep); Marais (in prep); Van der Elst (in prep).
- POPULATION : Data available for analysing (UPE) : Winter (1979); Smale (N=267) (1983); Van der Elst (1983); Coetzee (in press); Smale & Kok (in prep); Bennett (in prep); Whitfield (in prep)
- LGTH/WT : : Marais & Baird (1980); Van der Elst (1981); Smale (1983); Van der Elst (1983)

CATCH STATS : Catch statistics programme; SEC - UPE : Ratte (1977); Van Wyk (1979)
 CPUE 1979-81, historical records 1959-78, : Marais & Baird (1980 &
 postal competitions 1977-80, SEC - Open : 1980a); Smale (1983);
 sea CPUE : Bennett (in prep); Whitfield
 (in prep); Marais (in prep);
 Kok (in prep)

DISTRIBUTION: Mediterranean, African west coast, South :
 African south and east coasts to Pt. do
 Ouro

MIGRATION : : Day et al (1981); van der
 Elst (in prep)

MORTALITY : Natal possibly available 1983 :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches :
 Ageing and growth
 Juvenile nursery areas (in marine environment)
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : LITHOGNATHUS AURETI - West Coast Steenbras/Weskus-steenbras

	MN	N	SEC	SWC	WC	NN
adult						X
juvenile						X
larvae						?

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Prime angling species and caught commercially in beach seines :

HABITAT a: Inshore over sandy bottoms :
 j: :
 l: :

AGE & GROWTH: 359 otoliths/lengths collected : SFRI :

SIZE AT SEX

MATURITY : Data available : SFRI ;

REPRODUCTION: Data available : SFRI :

FEEDING : 359 stomachs analysed : SFRI :

POPULATION : Data available SFRI ;

LGTH/WT : Data available SFRI :

CATCH STATS : 1978 - 1982 Skeleton Coast Park :
 SFRI Commercial statistics :

DISTRIBUTION: SWA :

MIGRATION : 1955 fish tagged :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight at sexual maturity :
 Ageing and growth :
 Spawning areas and seasons :
 Juvenile nursery areas :
 Distribution of stocks, residency and migration :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : LITHOGNATHUS LITHOGNATHUS - White steenbras/Witsteenbras

	MN	N	SEC	SWC	WC	NN
adult			X	X	X	X
juvenile			X	X	X	X
larvae			?	?	?	?

E	R/S	O/S
X	X	

REFERENCES

- STATUS : Prime angling species and caught commercially in beach seines :
- HABITAT a: Inshore over sandy bottoms : Talbot (1955); Mehl (1973); Winter (1979)
- j: Estuaries : Lasiak (1981, 1982); Kok (in prep); Beckley (in prep); Bennett (in prep)
- l: :
- AGE & GROWTH: : Mehl (1973); (50 otoliths/lengths); Lasiak (89 otoliths/lengths); Blaber (1974a); Van Wyk (1977a); Kok (in prep); Beckley (in prep)
- SIZE AT SEX MATURITY : : Mehl (1973)
- REPRODUCTION: Bisexuality common (UPE 54 gonads processed for microscopic examination) : Mehl (1973); Lasiak (1982)
- FEEDING : Scott et al (1952); Talbot (1955); Mehl (1973) (N=437); Lasiak (1982) (N=54); Nepgen (1982); Whitfield (in prep)
- POPULATION : (UPE - data available for analysing) Mehl (1973) (N=437); Winter (1979); Kok (in prep); Whitfield (in prep); Beckley (in prep)
- LGTH/WT : Figures available (UPE) : Mehl (1973); Blaber (1974a); Kok (in prep)
- CATCH STATS : UPE, CPUE, 1979-1981; Historical records 1959-1978; postal competitions 1977-1980 on disc. Limited data SFRI (SWA) : Ratte (1977); Marais & Baird (1980, 1980a); Kok (in prep); Whitfield (in prep); Marais (in prep)

DISTRIBUTION: Endemic, Saldanha Bay to Natal. :
South Coast :
MIGRATION : :
MORTALITY : :
RESEARCH : Medium priority :
NEEDS : Length and weight composition of catches :
Catch/Unit effort :
Total catch and total effort :

SPECIES : LITHOGNATHUS MORMYRUS - Sand steenbras/Sandsteenbras

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X	X	X
juvenile	?	?	X	?	?	?
larvae	?	?	?	?	?	?

E	R/S	O/S
	X	

REFERENCES

STATUS : Low importance as angling fish :

HABITAT a: Along sandy shores :
 j: Shallow sandy shores :
 l: : Gilchrist (1903, 1916)
 Brownell (1979)

AGE & GROWTH: :

SIZE AT SEX

MATURITY : Very limited data : P E M : Buxton

REPRODUCTION: :

FEEDING : : Buxton (1982)

POPULATION : :

LGTH/WT : : Buxton (1982)

CATCH STATS : :

DISTRIBUTION: Circum - Africa : Buxton (1981); South Cape
 Distribution

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS Numerically important component of inshore
 trawling catch off S Cape coast by T B Davie
 in 1980. Data on most aspects of biology
 lacking. With P olivaceum and to a lesser
 extent L mormyrus may warrant further research
 as potentially exploitable species.

SPECIES : LUTJANUS ARGENTIMACULATUS - River snapper/Rivier-snapper

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X		X

REFERENCES

STATUS : Moderately important angling species :

HABITAT a: Offshore coral and rocky reefs to 80 m : Van der Elst (1981)
 j: Estuarine (marine?) :
 l: :

AGE & GROWTH: :

SIZE AT SEX

MATURITY : Limited data : Wallace (1975); Van der Elst (in prep)

REPRODUCTION: Limited data : Wallace (1975); Van der Elst (in prep)

FEEDING : :

POPULATION : Limited data : Wallace (1975); Van der Elst (in prep); Kyle (in prep)

LGTH/WT : : Van der Elst (1981)

CATCH STATS : Limited data in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : MEGALOPS CYPRINOIDES - Tarpon/Osoog-tarpon

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X		

REFERENCES

STATUS : Important to a small group of specialized anglers :

HABITAT a: Estuarine :
 j: Estuarine mainly :
 l: :

AGE & GROWTH: :

SIZE AT SEX :
 MATURITY : :

REPRODUCTION: :

FEEDING : :

POPULATION : Data sparse : Wallace (1975); Kyle (in prep)

LGTH/WT : $g = 1.29143 \times 10^{-2} Lt(cm)^{2.88457}$: Van der Elst (1981)

CATCH STATS : Very little data on catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS : Some foreign data exists :

SPECIES : NEOSCORPIS LITHOPHILUS - Stonebream/Stinkvis

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
	X	

REFERENCES

STATUS : Very important angling species with little commercial value :

HABITAT a: Shallow rocky shores : Joubert (1981)
 j: Abundant in rocky intertidal : Berry et al (1982)
 l: :

AGE & GROWTH: :

SIZE AT SEX

MATURITY : m Lcf = 270; f Lcf = 300 mm : Joubert (1981)

REPRODUCTION: Jun-Nov. Natal rock littoral : Joubert (1981)

FEEDING : Omnivore - mainly red algae plus wide variety of invertebrates : Joubert & Hanekom (1980)

POPULATION : Sex ratio = 1:1 - Polymodal distribution : Joubert (1981)

LGTH/WT : $g = 1.4 \times 10^{-5}$ Lcf (cm) 3.08 : Joubert (1981)

CATCH STATS : Good data in catch statistics programme : Joubert (1981a)

DISTRIBUTION: Confined to Natal & S Mocambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : OPLEGNATHUS CONWAYI - Cape knifejaw/Kaapse kraaibek

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		?	X	?		
larvae		?	?	?		

E	R/S	O/S
	X	X

REFERENCES

STATUS : Vulnerable to spear-fishing. : Van der Elst (1981)
 Low importance.

HABITAT a: Shallow inshore reefs :
 j: Shallow inshore reefs :
 l: :

AGE & GROWTH: :

SIZE AT SEX :
 MATURITY :

REPRODUCTION: :

FEEDING : : Buxton (1983)

POPULATION : :

LGTH/WT : : Buxton (1983)

CATCH STATS : :

DISTRIBUTION: Endemic, Cape Point to Tugela :
 MIGRATION : :
 MORTALITY : :

RESEARCH : Low priority :
 NEEDS Improve biological sampling when opportunities :
 available.
 Assess impact of spearfishing.

SPECIES : PACHYMETOPON AENEUM - Blue hottentot/Blou hottentot

	MN	N	SEC	SWC	WC	NN
adult		X	X			
juvenile		?	?			
larvae		?	?			

E	R/S	O/S
		X

REFERENCES

STATUS : Moderately popular as angling and food fish :

HABITAT a: Rocky reefs 20-80 m : Buxton (1984)
 j: :
 l: :

AGE & GROWTH: PEM otoliths & scales N=100 :

SIZE AT SEX

MATURITY : 50 % at ± Lcf 220 mm : Buxton (1983)

REPRODUCTION: Oct-April - Cape : Buxton (1984)

FEEDING : Ongoing analysis at PEM N=88 : Buxton (1982)

POPULATION : PEM Sample N=761 : Buxton (1984)

LGTH/WT : : Buxton (1982)

CATCH STATS : Data in catch statistics programme : Buxton (1983)

DISTRIBUTION: Endemic to Southern Natal & E Cape :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : PACHYMETOPON BLOCHII - Hottentot

	MN	N	SEC	SWC	WC	NN
adult				X	X	
juvenile				X	X	
larvae				?	?	

E	R/S	O/S
	X	X

REFERENCES

- STATUS : Prime importance as angling and commercial species :
- HABITAT a: In kelp beds and down to 50 m over rocky seabed :
 j: In kelp beds :
 l: : Brownell (1979)
- AGE & GROWTH: $L_t = 42.04 [1 - e^{-0.144(t-1.20)}]$: Nepgen (1977)
- SIZE AT SEX MATURITY : : Nepgen (1977)
- REPRODUCTION: : Nepgen (1977)
- FEEDING : : Nepgen (1977)
 C Griffiths (UCT) (in prep)
- POPULATION : :
- LGTH/WT : : Nepgen (1977)
- CATCH STATS : :
- DISTRIBUTION: Endemic, west and south-west coasts of Republic : Van der Elst (1981)
- MIGRATION : Adults semi-resident : Nepgen (1977)
 ? larvae and juveniles
- MORTALITY : Z = 0,33 in False Bay. SWC 1967-1969. : Nepgen (1977)
 M unknown.
- RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Distribution of stocks, residency and migration (degree of residency)
 Catch/Unit effort
 Total catch and total effort

SPECIES : PACHYMETOPON GRANDE - Bronze bream/Bruin hottentot

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		?	?	?		
larvae		?	?	?		

E	R/S	O/S
	X	X

REFERENCES

STATUS : Moderately important angling fish :
 HABITAT a: Shallow reefs to 10 m. :
 j: :
 l: :
 AGE & GROWTH: UPE otolith N=51; limited Natal data : Van der Elst (in prep)
 SIZE AT SEX :
 MATURITY : Limited Natal data : Van der Elst (in prep)
 REPRODUCTION: UPE sample N=49 - limited Natal data : Van der Elst (in prep)
 FEEDING : Limited Natal data - herbivore : Van der Elst (in prep)
 POPULATION : Limited Natal data : Van der Elst (in prep)
 LGTH/WT : : Van der Elst (in prep)
 CATCH STATS : Some data in catch statistics programme : Joubert (1980a)
 DISTRIBUTION: Endemic to Natal and eastern Cape :
 MIGRATION : :
 MORTALITY : :
 RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches :
 Ageing and growth :
 Juvenile nursery areas :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : PAGELLUS NATALENSIS - Red tjor-tjor/Rooitjor-tjor

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Moderately important angling fish :

HABITAT a: Deeper sandy bottoms, usually reef associated
j: :
l: :

AGE & GROWTH: Some foreign data : Druzhinin (1975)

SIZE AT SEX
MATURITY : :

REPRODUCTION: Limited foreign data : Druzhinin (1975)

FEEDING : : Buxton (1982)

POPULATION : :

LGTH/WT : : Druzhinin (1975);
Buxton (1982)

CATCH STATS : :

DISTRIBUTION: West Indian Ocean :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
NEEDS Length and weight composition of catches
Length and weight at sexual maturity
Ageing and growth
Spawning areas and seasons
Juvenile nursery areas
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort

SPECIES : PETRUS RUPESTRIS - Red steenbras/Rooisteenbras

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		?	?	?		
larvae		?	?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Prime angling and commercial fish; :
apparently declining in abundance

HABITAT a: Offshore reefs down to 160 m : Van der Elst (1981)
j: Reefs :
l: :

AGE & GROWTH: SEC some otolith material collected (PEM) :

SIZE AT SEX

MATURITY : Sex reversal probable : Smale (1983)

REPRODUCTION: : Smale (1983)

FEEDING : Natal - limited data :
SEC - N=100 Smale (1983)

POPULATION : SEC - N=693 : Smale (1983)

LGTH/WT : : Smale (1983)

CATCH STATS : CPUE (total catch and total effort = nil) : Smale (1983)

DISTRIBUTION: Endemic, False Bay to St. Lucia :

MIGRATION : Appears in Natal in winter, but not :
documented

MORTALITY : :

RESEARCH : Top priority :
NEEDS Length and weight composition of catches :
Ageing and growth :
Spawning areas and seasons :
Juvenile nursery areas :
Distribution of stocks, residency and migration :
Catch/Unit effort :
Total catch and total effort :

SPECIES : PLATYCEPHALUS INDICUS - Bartailed flathead/Balkstert-platkop

	MN	N	SEC	SWC	WC	NN
adult		X				
juvenile		?				
larvae		?				

E	R/S	O/S
X		

REFERENCES

STATUS : Moderately important estuarine angling fish : Van der Elst (1981)

HABITAT a: estuaries (? shallow muddy inshore areas) :
 j: estuaries (? marine) :
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Wallace (1975)

REPRODUCTION: :

FEEDING : : Wallace (1975)

POPULATION : :

LGTH/WT : : Van der Elst (1981)

CATCH STATS : Catch statistics programme : Van der Elst (in prep)

DISTRIBUTION: : Wallace (1975)

MIGRATION : :

MORTALITY : :

RESEARCH
 NEEDS : Low priority :

Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : POLYSTEKANUS COERULEOPUNCTATUS - Blueskin/Blouvel

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	?	?				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Moderate importance as angling & commercial species : Van der Elst (1981)

HABITAT a: Deeper reefs 66 to 405 m : Busakhin (1980)
 j: :
 l: :

AGE & GROWTH: Some foreign data :

SIZE AT SEX
 MATURITY : Some foreign data :

REPRODUCTION: Some foreign data :

FEEDING : :

POPULATION : :

LGTH/WT : :

CATCH STATS : Limited data on catch statistics programme :

DISTRIBUTION: Natal to Red Sea :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : POLYSTEKANUS PRAEORBITALIS - Scotsman/Skotsman

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling and commercial species :

HABITAT a: Widespread on reefs 20-120 m :
 j: Present on reefs 20-70 m :
 l: :

AGE & GROWTH: :

SIZE AT SEX

MATURITY : : Garratt (in prep)

REPRODUCTION: : Garratt (in prep)

FEEDING : : Garratt (in prep)

POPULATION : : Garratt (in prep)

LGTH/WT : : Garratt (in prep)

CATCH STATS : Limited data on catch statistics programme :

DISTRIBUTION: Confined to Natal & S Mocambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches :
 Ageing and growth :
 Juvenile nursery areas :
 Distribution of stocks, residency and migration :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : POLYSTEKANUS UNDULOSUS - Seventyfour/Vier-en-sewentig

	MN	N	SEC	SWC	WC	NN
adult		X	X			
juvenile		?	?			
larvae		?	?			

E	R/S	O/S
		X

REFERENCES

STATUS : Important angling and commercial fish, reduced in abundance through overfishing :

HABITAT a: Deep Reefs 20-200 m : Ahrens (1964)
 j: :
 l: :

AGE & GROWTH: Adequate data : Ahrens (1964)

SIZE AT SEX

MATURITY : Male 330 mm : Ahrens (1964)
 Female 350 mm

REPRODUCTION: September-November : Ahrens (1964)
 Natal continental shelf

FEEDING : Carnivore, mainly piscivorous but includes cephalopods and pteropods. : Ahrens (1964)
 Smale (1983) (N=10)

POPULATION : Males : Females : 1:1 : Ahrens (1964)
 Smale N=800 Smale (1983)

LGTH/WT : : Ahrens (1964)

CATCH STATS : Limited data. Catch statistics programme : Crawford & Crous (1982);
 CPUE : SEC Smale (1983)

DISTRIBUTION: Endemic, Agulhas to Maputo :

MIGRATION : Cape to Natal during winter months : Ahrens (1964)

MORTALITY :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Spawning areas and seasons
 (extent of spawning areas)
 Juvenile nursery areas
 Catch/Unit effort
 Total catch and total effort

SPECIES : POMADASYS HASTA - Javelin grunter/Spies-knorder

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X		X

REFERENCES

STATUS : Moderate angling importance in estuaries and offshore

HABITAT a: Deep reefs to 75 m :
 j: Estuarine - possibly also marine : Van der Elst (in prep)
 l: :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : :

REPRODUCTION: :

FEEDING : :

POPULATION : Estuarine populations only : Wallace (1975); Day et al (1981)

LGTH/WT : $g = 6.57 \times 10^{-5} (Lt)_{cm} 2.7125$: Van der Elst (1981)

CATCH STATS : No data on catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort
 Marine aspects of juvenile nursery areas

SPECIES : POMADASYS COMMERSONNI - Spotted grunter/Spikkel-knorder

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X		
juvenile	?	X	X	No		
larvae	?	?	X	No		

E	R/S	O/S
X	X	

REFERENCES

- STATUS : Very important angling species, not exploited commercially : Wallace (1975)
- HABITAT a: Sandy shores and sand near rocky outcrops, estuaries : Wallace (1975); Wallace & Van der Elst (1975); Van der Elst (1981); Kok (in press); Beckley (in press)
- j: Estuaries: : Wallace & Van der Elst (1975); Winter (1979)
- l: : Melville-Smith & Baird (1980)
- AGE & GROWTH: UPE : 20 otoliths/lengths collected plus 20 otoliths/lengths (Lasiak).
895 [1 - e^{-0.066(t-.348)}] : Wallace (1975); Wallace & Schleyer (1979)
- SIZE AT SEX : Female L_t=500. Male L_t=800 : Wallace (1975)
- MATURITY
- REPRODUCTION: August to December, Natal inshore. UPE 15 gonads processed for microscopic examination : Wallace (1975)
- FEEDING : : Van der Westhuisen & Marais (1977); Lasiak (1982); Marais (in prep); Blaber (in progress)
- POPULATION : ORI : available 1983; polymodal: : Wallace (1975); Winter (1979); Kok (in prep); Beckley (in prep); Marais (in prep)
- LGTH/WT : g = 1.4 x 10⁻⁵L_t^{2.96} : Marais & Baird (1980); Van der Elst (1981);
- CATCH STATS : ORI records; CPUE (1978); total catch (1978); total effort (1978); Catch Statistics Programme. UPE: CPUE 1979-1981, historical records 1959-1978: postal competitions 1977-1980 : Marais & Baird (1980,1980a); Kok (in prep)

DISTRIBUTION: Cape Agulhas northwards to Indian Ocean : Van der Elst (1981)
coasts including Australia

MIGRATION : : Wallace (1975)

MORTALITY : :

RESEARCH : Medium priority :
NEEDS Length and weight composition of catches
Juvenile nursery areas (do they occur at sea?)
Catch/Unit effort
Total catch and total effort

SPECIES : POMADASYS OLIVACEUM - Piggy/Varkie

	MN	N	SEC	SWC	WC	NN
adult		X	X			
juvenile		X	X			
larvae		?	?			

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Important angling fish :

HABITAT a: Only common on reefs deeper than 10 m :
 j: Recruited to intertidal & deeper reefs of : Berry et al (1982)
 Natal at early age : Joubert (1981)
 l: ? :

AGE & GROWTH: Unpublished data on juvenile growth available from ORI

SIZE AT SEX

MATURITY : M Lcf = 130; F Lcf = 150 : Joubert (1981)

REPRODUCTION: Mar-Dec - Natal deep reefs : Joubert (1981)

FEEDING : Omnivorous on seaweeds, sponges & small bivalves : Joubert & Hanekom (1980)
 Buxton (1982)

POPULATION : Sex ratio 1:1 - size distribution depends on depth range : Joubert (1981)

LGTH/WT : Juvenile g = 1.4×10^{-5} Lcf (cm) 3.07 : Joubert (1981)
 Adult g = 8.8×10^{-5} Lcf (cm) 2.70i : Buxton (1982)

CATCH STATS : No data in catch statistics programme : Joubert (1981a)

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : Nearshore - Offshore : Joubert (1981)

MORTALITY :

RESEARCH : Low priority :
 NEEDS Length and weight composition of catches :
 Ageing and growth :
 Distribution of stocks, residency and migration :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : POMATOMUS SALTATRIX - Elf

	MN	N	SEC	SWC	WC	NN
adult		X	X	X	X	
juvenile		X	X	X	X	
larvae		?	?	?	?	

E	R/S	O/S
	X	X

REFERENCES

- STATUS : Prime angling fish with moderate commercial value
- HABITAT a: Rocky and sandy shores : Van der Elst (1976); Lasiak (1981, 1982); Smale (in prep).
 j: Sandy littoral of SEC & SWC, limited estuarine : Van der Elst (in prep); Smale & Kok (in prep)
 l: :
- AGE & GROWTH: $L_t = 840 [1 - e^{-.1966(t-0.32)}]$ - UPE otoliths (N = 212) : Van der Elst (1976); Bennett (in prep); Lasiak (in prep)
- SIZE AT SEX
- MATURITY : M = 240; F = 250 : Van der Elst (1976)
- REPRODUCTION: Sep-Dec: Natal shelf - UPE data N=144 : Van der Elst (1976); Smale (1983); Lasiak (in prep)
- FEEDING : ORI data = 87 % piscivore - PEM data N = ± 1 000 : Van der Elst (1976); Lasiak (1982); Smale (in prep)
- POPULATION : Sex ratio 1:1 Polymodal distribution. PEM data N=9000 : Van der Elst (1976); Smale (1983); Smale & Kok (in prep); Bennett (in prep)
- LGTH/WT : $g = 1.307 \times 10^{-5} L_t$ (cm) 2.934 : Van der Elst (1976)
- CATCH STATS : Good data in catch statistics programme : Van der Elst (1976); Ratte (1977); Marais & Baird (1980, 1980a); Smale (1983); Marais (in prep); Kok (in prep)
- DISTRIBUTION: Worldwide : Van der Elst (1976)
- MIGRATION : Seasonally between Cape & Natal : Van der Elst (1976); Van der Elst (in prep)
- MORTALITY : Both fishing and natural mortality available: Van der Elst (in prep)
- RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Juvenile nursery areas
 Catch/Unit effort
 Total catch and total effort

SPECIES : PORCOSTOMA DENTATA - Dane/Deen

	MN	N	SEC	SWC	WC	NN
adult		X				
juvenile		?				
larvae		?				

E	R/S	O/S
		X

REFERENCES

STATUS : Prominent in offshore catches but low commercial value :
HABITAT a: Abundant on Natal reefs 20-100 m : Garratt (in prep)
j: :
l: :
AGE & GROWTH: :
SIZE AT SEX :
MATURITY : Garratt (in prep)
REPRODUCTION: Spring: Natal continental shelf : Garratt (in prep)
FEEDING : Carnivorous on crinoids, ophiuroids, : Garratt (in prep)
decapod crustaceans & polychaetes
POPULATION : : Garratt (in prep)
LGTH/WT : : Garratt (in prep)
CATCH STATS : No data in catch statistics programme :
DISTRIBUTION: Confined to Natal and S Mocambique :
MIGRATION : :
MORTALITY : :
RESEARCH : Top priority :
NEEDS Length and weight composition of catches :
Length and weight at sexual maturity :
Ageing and growth :
Spawning areas and seasons :
Juvenile nursery areas :
Distribution of stocks, residency and migration :
Catch/Unit effort :
Total catch and total effort :

SPECIES : PORODERMA AFRICANUM - Striped catshark/Streep-kathaai

	MN	N	SEC	SWC	WC	NN
adult			X	X	X	
juvenile			?	?	?	
larvae						

E	R/S	O/S
	X	X

REFERENCES

STATUS : Low importance

: Bass et al (1975)
: Van der Elst (1981)

HABITAT a: Reefs
j:
l: N/A

:
:
:

AGE & GROWTH: Preliminary extrapolated data

: Van der Elst (1981)

SIZE AT SEX

MATURITY :

: Bass et al (1975)

REPRODUCTION: Data being collected

:

FEEDING

: Buxton (1984)

POPULATION :

:

LGTH/WT :

: Van der Elst (1981)

CATCH STATS : Some data in catch statistics programme

:

DISTRIBUTION: Endemic to SA from Natal to Cape Town

:

MIGRATION :

:

MORTALITY :

:

RESEARCH : Low priority

:

NEEDS

Length and weight composition of catches

Length and weight at sexual maturity

Ageing and growth

Pupping areas and seasons

Juvenile nursery areas

Distribution of stocks, residency and migration

Catch/Unit effort

Total catch and total effort

Data collection incidental and opportunistic, and should be ongoing.

SPECIES : PORODERMA PANTHERINUM - Spotted catshark/Spikkel-kathaai

	MN	N	SEC	SWC	WC	NN
adult			X			
juvenile			?			
larvae			N/A			

E	R/S	O/S
	X	X

REFERENCES

STATUS : : Bass et al (1975)

HABITAT a: Reef :
 j: :
 l: N/A :

AGE & GROWTH: :

SIZE AT SEX
 MATURITY :

REPRODUCTION: Data being collected : SEC : Bass et al (1975)

FEEDING : : Buxton (1984)

POPULATION :

LGTH/WT : Juveniles lacking : SEC :

CATCH STATS :

DISTRIBUTION: Endemic :

MIGRATION :

MORTALITY :

RESEARCH : Low priority :
 NEEDS Length and weight composition of catches :
 Length and weight at sexual maturity :
 Ageing and growth :
 Pupping areas and seasons :
 Juvenile nursery areas :
 Distribution of stocks, residency and migration :
 Catch/Unit effort :
 Total catch and total effort :
 Data collection incidental and opportunistic, and should be ongoing

SPECIES : PTEROGYMNUS LANIARIUS - Panga

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			?	?		
larvae			?	?		

E	R/S	O/S
		X

REFERENCES

STATUS : Important ski-boat and commercial line-boat :
species

HABITAT a: Deep water, reef and sand : Hecht (1976); Buxton (1984)
j: :
l: :

AGE & GROWTH: : Hecht (1976)

SIZE AT SEX

MATURITY : : Hecht (1976)

REPRODUCTION: : Hecht (1976);
Buxton (1983)

FEEDING : Preliminary study : Hecht (1976);
More detail N=83 Buxton (1982)

POPULATION : N=1711 : Buxton (1984)

LGTH/WT : : Hecht (1976);
Buxton (1982)

CATCH STATS : CPUE : Ski-boats : PE area : 1978-1981 : Buxton (1983)
Total catch and total effort : Nil

DISTRIBUTION: Endemic, False Bay to Durban :
Malagasy

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
NEEDS Length and weight composition of catches
Juvenile nursery areas
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort
Investigate role in 'doppie' fishery.

SPECIES : RHABDOSARGUS GLOBICEPS - White stumpnose/Witstompneus

	MN	N	SEC	SWC	WC	NN
adult			X	X	X	X
juvenile			X	X	X	?
larvae			?	?	?	?

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Important angling and commercial species. :

HABITAT a: Littoral and shallow inshore :
 j: Estuaries and shallow inshore (especially in SWC and WC) : Talbot (1955); Wallace & Van der Elst (1975); Beckley (in prep); Kok (in prep); Bennett (in prep)

l: :

AGE & GROWTH: : Talbot (1955)

SIZE AT SEX
 MATURITY : : Talbot (1955)

REPRODUCTION: : Talbot (1955)

FEEDING : False Bay : N=78 (SFRI) : Scott et al (1952); Talbot (1955) (N=360 on estuaries, N=58 in sea); Neppen (1982); Bennett (in prep)

POPULATION : : Talbot (1955); Bennett (in prep); Kok (in prep); Beckley (in prep)

LGTH/WT : :

CATCH STATS : Swartkops estuary : Marais & Baird (1980)

DISTRIBUTION: African west coast Angola southwards; South African west, south-west and south-east coasts. : Van der Elst (1981)

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS : Length and weight composition of catches
 Length and weight at sexual maturity (expand on Talbot's work)
 Ageing and growth (expand on Talbot's work)
 Spawning areas and seasons (expand on Talbot's work)
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : RHABDOSARGUS HOLUBI - Cape stumpnose/Kaapse stompneus

	MN	N	SEC	SWC	WC	NN
adult		X	X			
juvenile		X	X			
larvae		?	?			

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Important estuarine angling fish :

HABITAT a: Mainly inshore marine :
 j: Estuaries : Talbot (1955); Blaber (1974); Wallace (1975); Wallace & Van der Elst (1975); Winter (1979); Kok (in prep); Beckley (in prep)
 l: : Mellville-Smith & Baird (1980)

AGE & GROWTH: : Blaber (1974a); Wallace & Van der Elst (1975); Winter (1979); Kok (in prep); Bennett (in prep); Beckley (in prep)

SIZE AT SEX MATURITY : :

REPRODUCTION: : Wallace (1975)

FEEDING : : Blaber (1974); Talbot (1975); Whitfield (1981); Bennett (in prep); Whitfield (in prep); De Wet (in prep)

POPULATION : : Blaber (1974); Winter (1979); Kok (in prep); Whitfield (in prep); Beckley (in prep)

LGTH/WT : : Blaber (1974a); Winter (1979); Marais & Baird (1980)

CATCH STATS : : Blaber (1973); Marais & Baird (1980, 1980a); Kok (in prep); Whitfield (in prep)

DISTRIBUTION: Endemic, Mossel Bay to Maputo :

MIGRATION : Into SEC estuary : Blaber (1973, 1974)

MORTALITY : In SEC estuary : Blaber (1973)

RESEARCH : Medium priority :

NEEDS Length and weight at sexual maturity
Spawning areas and season
(must be studied at sea)
Occurrence at sea.

SPECIES : RHABDOSARGUS SARBA - Natal stumpnose/Natalse stompneus

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Prime angling fish with low commercial value:

HABITAT a: Primarily marine : Wallace (1975)
 j: Estuarine :
 l: :

AGE & GROWTH: :

SIZE AT SEX

MATURITY : Both sexes $L_t = 240$ mm : Wallace (1975)

REPRODUCTION: July-November - Natal sandy shores : Wallace (1975); Van der Elst
 (protogynous hermaphrodite) (in prep)

FEEDING : Carnivorous on molluscs, hippids & : Wallace (in prep)
 echinodiscus

POPULATION : Both estuarine & marine - good data : Wallace (1975)

LGTH/WT : $g = 1.794 \times 10^{-5} L_t$ (cm) 2.973 : Van der Elst (1981)

CATCH STATS : Good data in catch statistics programme : Van der Elst (in prep)

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : Preliminary estimates only in 1983 : Van der Elst (in prep)

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches :
 Ageing and growth :
 Distribution of stocks residency and migration :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : RHINOBATUS ANNULATUS - Lesser sandshark/Kleiner sandkruiper

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		X	X	X		
larvae		N/A	N/A	N/A		

E	R/S	O/S
	X	

REFERENCES

STATUS : Important angling fish - no commercial value:

HABITAT a: Shallow coastal waters : Wallace (1976)
 j: Shallow sandy shores :
 l: :

AGE & GROWTH: Preliminary extrapolated data : Van der Elst (1981)

SIZE AT SEX

MATURITY : : Van der Elst (in prep)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : $g = 7.881 \times 10^{-5} L_t (cm)^{2.53}$: Van der Elst (1981)

CATCH STATS : Good data in catch statistics programme : Van der Elst (1979)

DISTRIBUTION: Confined to S Mocambique and East coast of :
 South Africa

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :

NEEDS Length and weight composition of catches
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : RHIZOPRIONODON ACUTUS - Milkshark/Melkhaai

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	N/A	N/A				

E	R/S	O/S
	X	

REFERENCES

- STATUS : Very important angling species - no commercial value :
- HABITAT a: Natal sandy shores :
 j: Natal sandy shores : Bass et al (1975)
 l: :
- AGE & GROWTH: Extrapolated data : Van der Elst (1981)
- SIZE AT SEX
- MATURITY : m $L_t = 700$ mm; f $L_t = 750$ mm : Bass et al (1975)
- REPRODUCTION: 3-6 pups born: Nov-Jan - Natal sandy shores : Bass et al (1975)
- FEEDING : Carnivorous on small teleosts, crustaceans and cephalopods : Bass et al (1975)
- POPULATION : F:M = 1:1 - normal distribution : Bass et al (1975); Van der Elst (1979)
- LGTH/WT : $1.59 \times 10^{-5} L_t$ (cm) 2.809 : Van der Elst (1981)
- CATCH STATS : Good data in catch statistics programme : Van der Elst (1979);
 Van der Elst (in prep)
- DISTRIBUTION: Widespread Indo Pacific :
- MIGRATION : Seasonal : Bass et al (1975);
 Van der Elst (1979)
- MORTALITY :
- RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : RHYNCOBATUS DJEDDENSIS - Giant sandshark/Reus-sandkruiper

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	N/A	N/A				

E	R/S	O/S
	X	X

REFERENCES

STATUS : Important angling species - no commercial value :

HABITAT a: Shallow and deeper coastal waters to 30 m : Wallace (1967)
 j: Shallow sandy shores :
 l: :

AGE & GROWTH: Preliminary extrapolated data : Van der Elst (1981)

SIZE AT SEX
 MATURITY : : Van der Elst (in prep)

REPRODUCTION: Limited data : Wallace (1967); Van der Elst (in prep)

FEEDING : : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : $2.7287 \times 10^{-6} L_t^{3.086}$: Van der Elst (1981)

CATCH STATS : Good data as "sandshark" in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : SARPA SALPA - Strepie

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile			X	X		
larvae			?	?		

E	R/S	O/S
	X	

REFERENCES

- STATUS : Important angling fish, caught as food :
- HABITAT a: Shallow water; rocky shores : Joubert (1981); Van der Elst (1981)
 j: Sandy littoral and estuaries S & E Cape :
 l: :
- AGE & GROWTH: Preliminary unpublished data available at ORI :
- SIZE AT SEX
- MATURITY : Male 145 mm : Joubert (1981)
 Female 165 mm
- REPRODUCTION: April-September, Natal rocky littoral, : Joubert (1981)
 (rudimentary hermaphrodite)
- FEEDING : True herbivore grazing mainly on Hypnea sp. : Joubert & Hanekom (1980)
- POPULATION : Sex ratio 1:1, unimodal but distinctly : Joubert (1981)
 different between sexes
- LGTH/WT : 5.9×10^{-5} Lcf 2.793 : Joubert (1981)
- CATCH STATS : Limited unpublished data at ORI :
- DISTRIBUTION: Saldanha Bay to Maputo; NE Atlantic and :
 Mediterranean
- MIGRATION : :
- MORTALITY : :
- RESEARCH : Low priority :
 NEEDS Length and weight composition of catches
 Ageing and growth
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort
 Same research needed in the Cape as that completed in Natal.

SPECIES : SCOMBER JAPONICUS - Mackerel/Makriel

	MN	N	SEC	SWC	WC	NN
adult				X	X	X
juvenile				?	?	?
larvae				?	?	?

E	R/S	O/S
		X

REFERENCES

STATUS : Important commercially by line- and purse-
seine :

HABITAT a: Pelagic, shoaling :
j: :
l: :

AGE & GROWTH: : Baird (1977)

SIZE AT SEX
MATURITY : : Baird (1974)

REPRODUCTION: : Baird (1977)

FEEDING : : Baird (1978a)

POPULATION : : Baird (1974); Baird (1978a)

LGTH/WT : :

CATCH STATS : SFI: Pelagic and handline stats. :

DISTRIBUTION: African west coast Angola southwards; :
South African south and east coasts to
Maputo

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
NEEDS Length and weight composition of catches
Juvenile nursery areas
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort
Stock assessment

SPECIES : SCOMBEROMORUS COMMERSON - King mackerel/Katonkel

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Prime angling and commercial species :
 HABITAT a: Pelagic - coastal waters to shelf :
 j: :
 l: :
 AGE & GROWTH: ORI otoliths selected (N=1200) Australian records exist : Van der Elst (in prep)
 SIZE AT SEX
 MATURITY : Good data (N = ± 4 000) : Van der Elst (in prep)
 REPRODUCTION: Primarily outside SA waters : Van der Elst (in prep)
 FEEDING : Limited data - primarily piscivorous : Van der Elst (in prep)
 POPULATION : Good data (N = ± 4 000) : Van der Elst (in prep)
 LGTH/WT : $g = 7.95 \times 10^{-6} \text{ Lcf (cm)} 2.997$: Van der Elst (1981)
 CATCH STATS : Data in catch statistics programme :
 DISTRIBUTION: Widespread Indo Pacific :
 MIGRATION : Seasonally very pronounced : Van der Elst (in prep)
 MORTALITY : :
 RESEARCH : Top priority :
 NEEDS Length and weight composition of catches :
 Distribution of stocks, residency and migration :

SPECIES : SCOMBEROMORUS PLURILINEATUS - Spotted mackerel

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
		X

REFERENCES

STATUS : Prime angling fish with considerable commercial value :

HABITAT a: Pelagic but reef associated : Collette & Van der Elst (in prep)
 j: Pelagic - coastal waters :
 l: :

AGE & GROWTH: Available 1984 : Van der Elst (in prep)

SIZE AT SEX MATURITY : : Van der Elst (in prep)

REPRODUCTION: : Van der Elst (in prep)

FEEDING : : Van der Elst (in prep)

POPULATION : : Van der Elst (in prep)

LGTH/WT : $g = 9.88 \times 10^{-4} Lcf(cm) 2.2766$: Van der Elst (1981)

CATCH STATS : Some data in catch statistics programme :

DISTRIBUTION: Confined primarily to Natal & Mocambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Catch/Unit effort
 Total catch and total effort

SPECIES : SERIOLA LALANDI - Cape yellowtail/Kaapse geelstert

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		?	X	X		
larvae		?	?	?		

E	R/S	O/S
		X

REFERENCES

- STATUS : Very important angling and commercial species :
- HABITAT a: Pelagic, coastal waters, often near reefs :
 j: Pelagic, coastal waters :
 l: : Brownell (1979)
- AGE & GROWTH: SFRI data, collected annually, preliminary analysis complete. :
- SIZE AT SEX
- MATURITY : SFRI data analysed :
- REPRODUCTION: Natal shelf. PEM : SEC limited data, : Penney (1982); Smale (1983);
 SFRI : limited data on spawning area and : Van der Elst (in prep)
 trawl, not yet fully analysed
- FEEDING : False Bay only; SFRI little data available. (N=200) : Nepgen (1982); Smale (1983)
- POPULATION : SFRI: Annual length frequency and biological: Smale (1983)
 sampling data partially analysed (N=520)
- LGTH/WT : SFRI: Extensive data fully analysed : Smale (1983)
- CATCH STATS : SFRI: Commercial catch data collected : Smale (1983)
 annually, partially analysed; insufficient
 for stock assessment. SEC. CPUE only
- DISTRIBUTION: West coast of Africa south of equator, South:
 Africa south and east coast to Tugela. Also
 Brazil south of equator.
- MIGRATION : Annual along Natal, SWC and SEC coasts :
 SFRI tagging studies
- MORTALITY : SFRI: some data available, not adequate :
- RESEARCH : Top priority :
 NEEDS Length and weight composition of catches
 Ageing and growth (ongoing)
 Spawning areas and seasons (ongoing)
 Juvenile nursery areas
 Distribution of stocks, residency and migration (ongoing)
 Catch/Unit effort
 Total catch and total effort
 Investigation of sport angling, commercial
 line and commercial trawl aspects of the fishing.

SPECIES : SPARODON DURBANENSIS - Musselcracker/Witbiskop

	MN	N	SEC	SWC	WC	NN
adult			X	X		
juvenile			X	?		
larvae			?	?		

E	R/S	O/S
	X	

REFERENCES

STATUS : Important angling species but diminished catches in Natal. :

HABITAT a: Inshore reefs :
 j: Tidal pools : Christensen (1978); Beckley (in prep)
 l: :

AGE & GROWTH: 28 otoliths/lengths collected : Coetzee (1978)
 UPE : 9 otoliths/lengths

SIZE AT SEX
 MATURITY :

REPRODUCTION: 28 gonads processed for microscopic examination; UPE 9 processed gonads : Coetzee (1978)

FEEDING : 28 stomachs analysed UPE : 10 stomachs collected : Christensen (1978); Coetzee (1978)

POPULATION : UPE : data available for analysing (N=?) :

LGTH/WT : UPE : Figures available (N=?) :

CATCH STATS : UPE : CPUE 1979-81; historical records 1959-78; postal competitions 1977-80 : Coetzee & Baird (1981)

DISTRIBUTION: Endemic, Saldanha Bay to Tugela :

MIGRATION :

MORTALITY :

RESEARCH : Top priority :
 NEEDS Difficulties arise due to rel. low numbers caught over a large stretch of coast.
 Ongoing longterm monitoring required whenever possible.
 Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : SPONDYLIOSOMA EMARGINATUM - Steentjie

	MN	N	SEC	SWC	WC	NN
adult				X	X	
juvenile				?	?	
larvae				?	?	

E	R/S	O/S
		X

REFERENCES

STATUS : Bait fish, moderately important :
HABITAT a: Reef : Buxton (1984)
j: Reef/sand ? :
l: : Bruggen (1965)
AGE & GROWTH: Otoliths and scales being collected : Buxton (1984) ?
SIZE AT SEX :
MATURITY : : Buxton (1983)
REPRODUCTION: : Buxton (1983)
FEEDING : : Buxton (1982)
POPULATION : : Buxton (1984)
LGTH/WT : : Buxton (1983)
CATCH STATS : CPUE ; (total catch and total effort: nil) : Buxton (1983)
DISTRIBUTION: Endemic, west coast to Kei River :
MIGRATION : :
MORTALITY : :
RESEARCH : Medium priority :
NEEDS Length and weight composition of catches :
Juvenile nursery areas :
Catch/Unit effort :
Total catch and total effort :
Ongoing research needed :

SPECIES : TACHYSURUS FELICEPS - Sea catfish/Seebaber

	MN	N	SEC	SWC	WC	NN
adult		X	X	X	X	
juvenile		X	X	X	X	
larvae						

E	R/S	O/S
X	X	X

REFERENCES

STATUS : Commercially exploited on a small scale at :
 Port Alfred, St. Helena Bay and few others -
 though probably underutilized.

HABITAT a: Continental shelf. Occurs in SEC estuaries : Winter (1979); Kok (in prep);
 Beckley (in prep)
 j: Continental shelf. Occurs in SEC estuaries : Bennett (in prep)
 l: N/A Mouth breeders : Kok (in prep)

AGE & GROWTH: :

SIZE AT SEX
 MATURITY : : Marais (in prep)

REPRODUCTION: : Kok (in prep); Marais (in
 prep); Bennett (in prep)

FEEDING : : Scott et al (1952); Bennett
 (in prep); Whitfield (in
 prep); Marais (in prep)

POPULATION : : Winter (1979); Kok (in prep)
 Whitfield (in prep); Marais
 (in prep)

LGTH/WT : : Marais & Baird (1980)

CATCH STATS : : Marais & Baird (1980, 1980a);
 Kok (in prep); Bennett (in
 prep); Whitfield (in prep);
 Marais (in prep)

DISTRIBUTION: Endemic Southern African Coast from Angola :
 to Mozambique

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Ageing and growth :
 Length and weight composition of catches (when comm. expl. develops)
 Catch/Unit effort (,, ,, ,,)
 Total catch and total effort (,, ,, ,,)

SPECIES : THUNNUS ALALUNGA - Longfin tuna/Albakoor

	MN	N	SEC	SWC	WC	NN
adult				X	X	
juvenile				?	?	
larvae				?	?	

E	R/S	O/S
		X

REFERENCES

STATUS : Very important, main species of tuna caught :
on west coast

HABITAT a: Oceanic :
j: Oceanic :
l: :

AGE & GROWTH: Good Foreign Data. :

SIZE AT SEX

MATURITY : Good Foreign Data. :

REPRODUCTION: Good Foreign Data :

FEEDING : Good Foreign Data : De Jager et al (1963)
Nepgen (1970)

POPULATION : Good Foreign Data : Nepgen (1970)

LGTH/WT : $Wt=0.000006303 \times Lcf^{3.28}$: ICCAT data record Vol. 19
(1978)

CATCH STATS : Supplied annually by SFI to ICCAT :

DISTRIBUTION: World-wide :

MIGRATION : : Extensive : ICCAT refs

MORTALITY : : ICCAT refs

RESEARCH : Top priority :
NEEDS Continued participation in ICCAT :

SPECIES : THUNNUS ALBACARES - Yellowfin tuna/Geelvin-tuna

	MN	N	SEC	SWC	WC	NN
adult	X	X	X	X	X	
juvenile	X	X	X	X	X	
larvae	?	?	?	?	?	

E	R/S	O/S
		X

REFERENCES

STATUS : Very important angling and commercial species :

HABITAT a: Oceanic and coastal waters :
 j: Pelagic offshore :
 l: Oceanic :

AGE & GROWTH: Good foreign data :

SIZE AT SEX

MATURITY : Good foreign data : De Jager (1963); Nepgen (1970); Smale (1983); Van der Elst (in prep)

REPRODUCTION: Good foreign data : De Jager (1963); Nepgen (1970); Smale (1983); Van der Elst (in prep)

FEEDING : Good foreign data; PEM data N=614 : De Jager (1963); Talbot & Penrith (1968); Nepgen (1970); Smale (1983); Van der Elst (in prep)

POPULATION : PEM data N=694 : de Jager (1963); Nepgen (1970); Smale (1983); Van der Elst (in prep)

LGTH/WT : $g = 1.05 \times 10^{-4} Lcf^{2.738}$: Van der Elst (1981); Smale (1983)
 Good foreign data

CATCH STATS : Data on catch statistics - data from ICCAT :

DISTRIBUTION: Circumglobal :

MIGRATION : Foreign data ICCAT :

MORTALITY : Good foreign data :

RESEARCH : Top priority :
 NEEDS Length and weight composition of catches :
 Distribution of stocks, residency and migration :
 Catch/Unit effort :
 Total catch and total effort :

SPECIES : THUNNUS OBESUS - Bigeye tuna/Grootoog-tuna

	MN	N	SEC	SWC	WC	NN
adult				X	X	X
juvenile				?	?	?
larvae				?	?	?

E	R/S	O/S
		X

REFERENCES

STATUS : Commercially important to longline fishermen only :

HABITAT a: Offshore oceanic :
j: :
l: :

AGE & GROWTH: : Collect vol: Scientific papers ICCAT 9(2)

SIZE AT SEX
MATURITY : : Collect vol: Scientific papers ICCAT 9(2)

REPRODUCTION: : Collect vol: Scientific papers ICCAT 9(2)

FEEDING : : De Jager et al (1963);
Nepgen (1970);
Collect vol: Scientific papers ICCAT 9(2)

POPULATION : : Collect vol: Scientific papers ICCAT 9(2)

LGTH/WT : $Wt=0.000012494 \times Lcf^3.12082$: Collect vol: Scientific papers ICCAT 9(2)

CATCH STATS : : Supplied annually by SFI to ICCAT

DISTRIBUTION: Atlantic Ocean : ICCAT

MIGRATION : Entire West Cape : ICCAT

MORTALITY : No information on natural mortality : ICCAT
Artificial mortality from catch statistics programme

RESEARCH : Low priority :
NEEDS Continued participation in ICCAT

SPECIES : THYRSITES ATUN - Snoek

	MN	N	SEC	SWC	WC	NN
adult			X	X	X	X
juvenile			?	?	?	?
larvae			?	?	?	?

E	R/S	O/S
		X

REFERENCES

STATUS : Prime importance commercially and important angling species, particularly on SWC and WC :

HABITAT a: pelagic, shoaling :
j: :
l: :

AGE & GROWTH: 64 otoliths/lengths : SFRI (SWA) :

SIZE AT SEX

MATURITY : 100 % at Lcf=520 mm :

REPRODUCTION: : Neppen (1979)
(Fish Bull. 12)

FEEDING : : Neppen (1979)
(Fish Bull. 11)

POPULATION : : Neppen (1979)
(Fish Bull. 12)

LGTH/WT : : Neppen (1979)
(Fish Bull. 12)

CATCH STATS : SFRI commercial statistics. More caught by trawlers than by line :

DISTRIBUTION: West coast of Africa south of equator; :
South African coast eastwards to Port Alfred.

MIGRATION : ? extensive along west coast : De Jager (1955)

MORTALITY : :

RESEARCH : Top priority :
NEEDS Length and weight composition of catches
Length and weight at sexual maturity
Ageing and growth
Juvenile nursery areas
Distribution of stocks, residency and migration
(include investigation of possible west coast migration)
Catch/Unit effort
Total catch and total effort

SPECIES : TRACHINOTUS AFRICANUS - African pompano/Suidelike pompano

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
X	X	

REFERENCES

STATUS : Important angling fish of low commercial value :

HABITAT a: Sandy and rocky marine shores :
 j: Shallow sandy beaches - sometimes estuarine : Berry et al (1982)
 l: :

AGE & GROWTH: Tank growth experiments : Van der Elst (in prep)

SIZE AT SEX

MATURITY : Limited data : Wallace (1975); Van der Elst (in prep)

REPRODUCTION: Limited data : Van der Elst (in prep)

FEEDING : Limited data : Wallace (in prep)

POPULATION : Estuarine and marine : Wallace (1975)

LGTH/WT : Limited data : Van der Elst (in prep)

CATCH STATS : Data in catch statistics programme :

DISTRIBUTION: Confined primarily to Mocambique & Natal :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
 NEEDS Length and weight composition of catches
 Length and weight at sexual maturity
 Ageing and growth
 Spawning areas and seasons
 Juvenile nursery areas
 Distribution of stocks, residency and migration
 Catch/Unit effort
 Total catch and total effort

SPECIES : TRACHINOTUS BOTLA - Largespot pompano/Grootkol-pompano

	MN	N	SEC	SWC	WC	NN
adult	X	X				
juvenile	X	X				
larvae	?	?				

E	R/S	O/S
	X	

REFERENCES

STATUS : Important angling species with moderate food value :

HABITAT a: Sandy back surf zone :
j: Super shallow surf zone :
l: ? :

AGE & GROWTH: :

SIZE AT SEX MATURITY : :

REPRODUCTION: :

FEEDING : :

POPULATION : Limited data : Van der Elst (in prep)

LGTH/WT : $g = 2.21623 \times 10^{-5} Lcf (mm) 2.9441$: Van der Elst (1981)

CATCH STATS : Data in catch statistics programme :

DISTRIBUTION: Widespread Indo Pacific :

MIGRATION : :

MORTALITY : :

RESEARCH : Medium priority :
NEEDS Length and weight composition of catches
Length and weight at sexual maturity
Ageing and growth
Spawning areas and seasons
Juvenile nursery areas
Distribution of stocks, residency and migration
Catch/Unit effort
Total catch and total effort

SPECIES : UMBRINA Species - Tasselfish/Baardman

	MN	N	SEC	SWC	WC	NN
adult		X	X	X		
juvenile		?	X	?		
larvae		?	?	?		

E	R/S	O/S
	X	X

REFERENCES

STATUS : Low angling importance, landed in beach seines and trawls. More important in False Bay :

HABITAT a: Rocky shores and bays :
 j: :
 l: :

AGE & GROWTH: :

SIZE AT SEX :
 MATURITY : :

REPRODUCTION: :

FEEDING : :

POPULATION : :

LGTH/WT : :

CATCH STATS : :

DISTRIBUTION: Endemic, Southern Cape to Natal, extending into Mozambique :

MIGRATION : :

MORTALITY : :

RESEARCH : Low priority :
 NEEDS Basic biology when opportunities arise :
 Taxonomic study of SA species :

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PARTICIPANTS AT MARINE LINEFISH WORKSHOP, APRIL 1982Cape Department of Nature and Environmental Conservation

Dr C J Loedolff Private Bag X9086
 CAPE TOWN
 8000

Cooperative Scientific Programmes, CSIR

Mr O A van der Westhuysen P O Box 395
 PRETORIA
 * Dr D A Lord 0001

 Mrs A S Wolvaardt

Fisheries Development Corporation

Mr C A R Bross P O Box 539
 CAPE TOWN
 8000

JLB Smith Institute of Ichthyology

* Prof M M Smith Private Bag 1015
 GRAHAMSTOWN
 6140

Kwazulu Nature and Conservation Department

Mr R Kyle P O Box 43
 KWANGWANASE
 3973

Natal Anti Shark Measures Board

* Mrs B Davis Private Bag X2
 UMHLANGA ROCKS
 Mr G Charter 4320

Natal Parks, Game and Fish Preservation Board

* Mr M Brokensha P O Box 662
 PIETERMARITZBURG
 Mr R S Crass 3200

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