

APPENDIX II

ILLUSTRATED QUICK REFERENCE GUIDE TO SPECIES PROHIBITED IN TEXAS

The following quick reference pages group fishes, invertebrates, and aquatic plants which are similar in appearance so that prohibited species can be identified with a minimal number of characters and can be quickly compared to other unprohibited species with which they may be confused. These guides are only for quick reference. Detailed text references should be consulted. Additionally, these species include only those specifically listed by Texas Parks and Wildlife Department; however, in several cases, comments on species covered under federal regulations are also noted. These groupings, which are sometimes rather artificial, include:

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EEL-LIKE FISHES WITHOUT JAWS

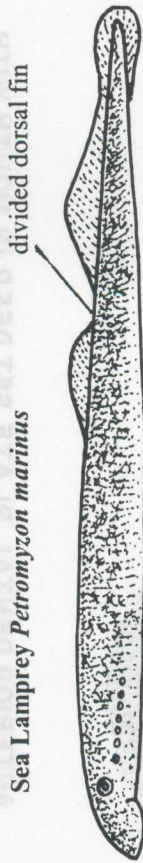
LAMPREYS

Prohibited

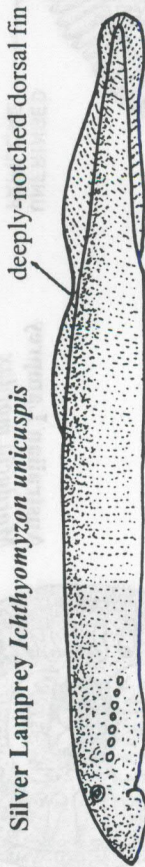
Pacific Lamprey *Entosphenus tridentata*



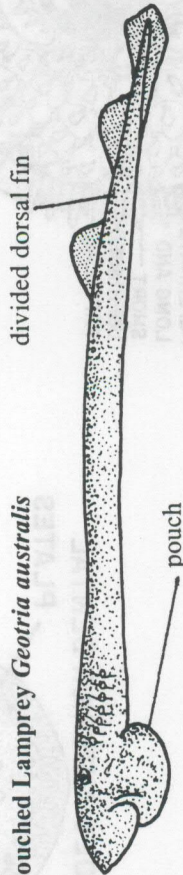
Sea Lamprey *Petromyzon marinus*



Silver Lamprey *Ichthyomyzon unicuspis*



Pouched Lamprey *Geotria australis*



Unprohibited

Chestnut Lamprey *Ichthyomyzon castaneus*



Southern Brook Lamprey *Ichthyomyzon gagei*



RESTRICTED LAMPREYS INCLUDE:

- Any with two dorsal fins
- Any with a deeply notched dorsal fin
- Any with two anterior central dental plates in mouth
- Any with two points and two prongs on the central dental plate
- Any with spatula-like teeth
- Any with single-pointed circumoral teeth
- Any with more than 54 muscle segments between the last gill opening and the vent (usually)
- Any without fringed papillae around mouth

NOTE

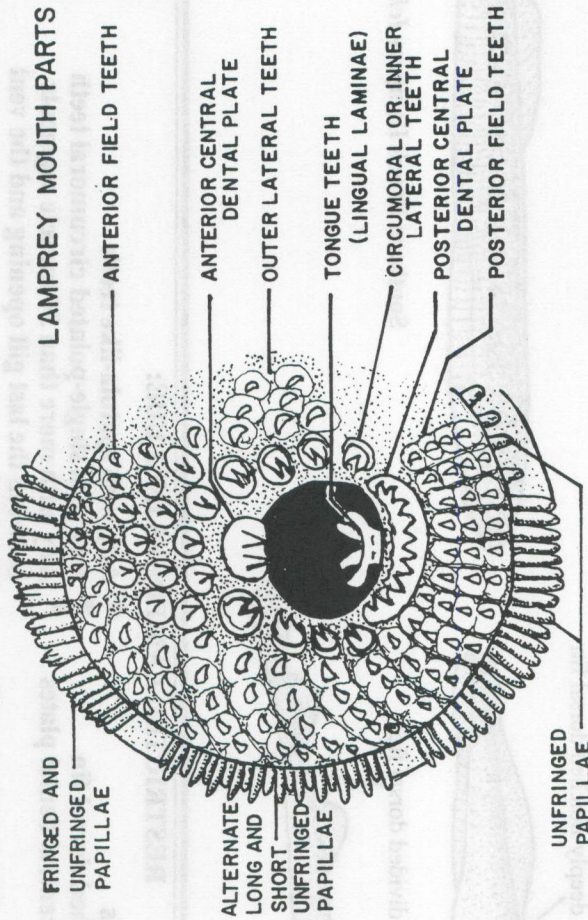
Larvae are often difficult or impossible to identify; if problems develop, contact TPWD Inland Fisheries Research staff at Heart of the Hills Research Station, Ingram, Texas

EEL-LIKE FISHES WITHOUT JAWS

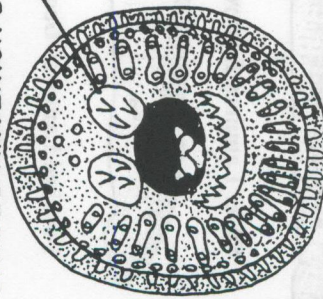
LAMPREYS

Unprohibited

Prohibited

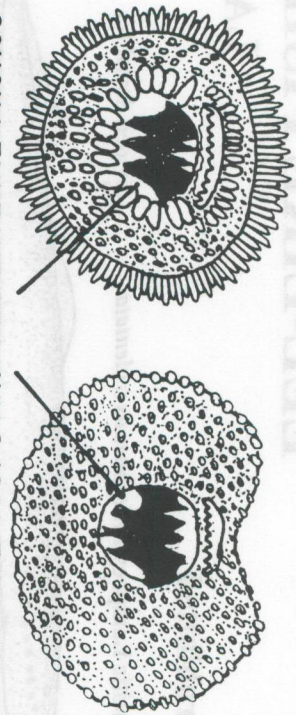


DIVIDED ANTERIOR DENTAL PLATES



Australian Lamprey
Mordacia mordax

ANTERIOR DENTAL PLATE SET DEEP IN MOUTH WITH TWO CENTRAL CUSPS AND TWO LATERAL PRONGS

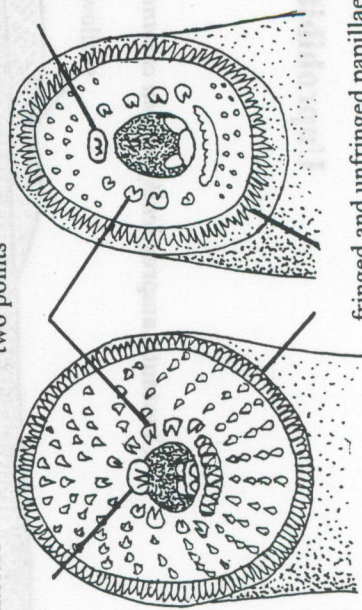


Pouched Lamprey
Geotria australis

one central anterior dental plate

innermost teeth with two points

fringed and unfringed papillae



Chestnut Lamprey
Ichthyomyzon castaneus

Southern Brook Lamprey
Ichthyomyzon gagei

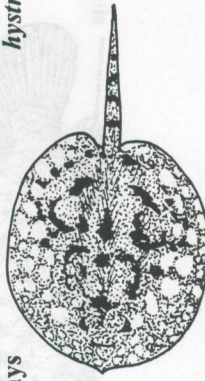
STINGRAYS

SOUTH AMERICAN FRESHWATER STINGRAYS

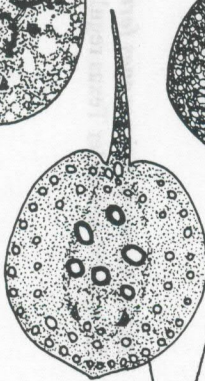
Prohibited

South American
Freshwater Stingrays

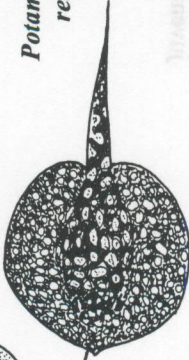
Potamotrygon
hystrix



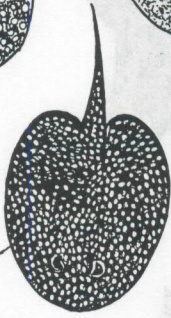
Potamotrygon
motoro



Potamotrygon
reticulatus



Potamotrygon
signata



Paratrygon
aiereba



Plesiotrygon
iwamae



TAIL FINFOLDS

Paratrygon



Potamotrygon



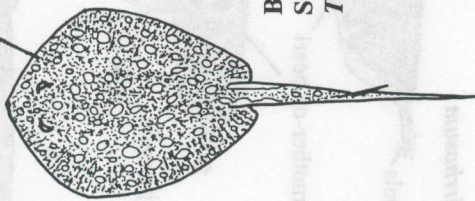
Plesiotrygon



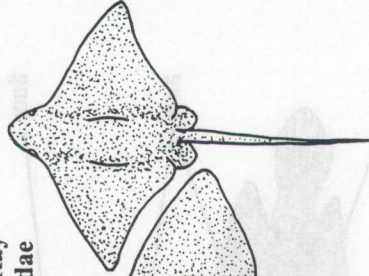
Unprohibited

disks not round

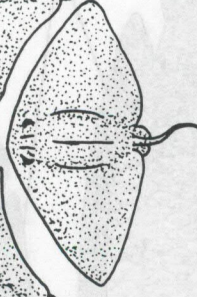
Manta
Mobulidae



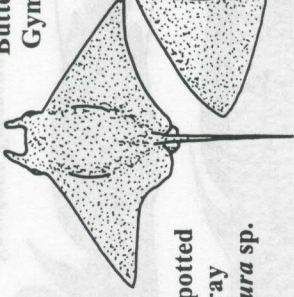
Eagle Ray
Myliobatidae



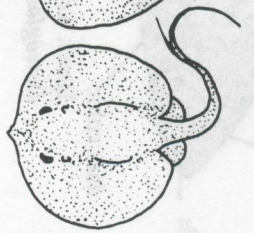
Butterfly Ray
Gymnuridae



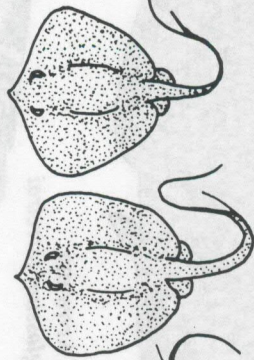
Bluespotted
Stingray
Taeniura sp.



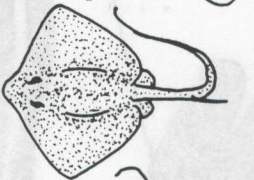
Marine Stingrays
Dasyatidae



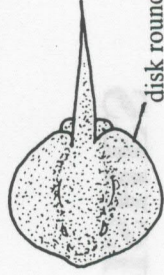
Himantura



Dasyatis



Round Stingrays Urolophidae



disk round

but

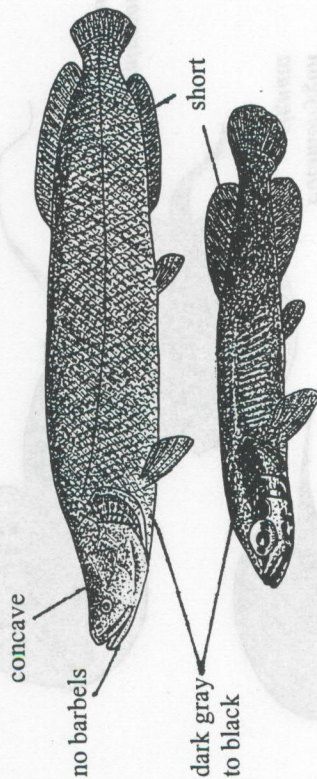
tail finfold distinct

BONY-TONGUE FISHES

ARAPAIMA

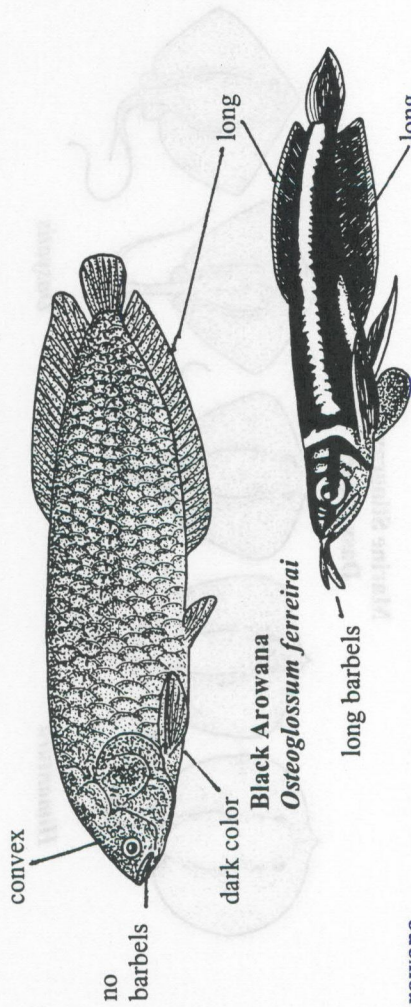
Prohibited

Arapaima gigas



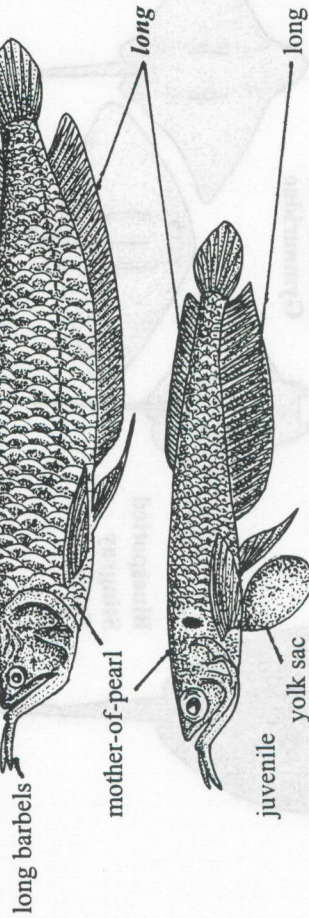
Unprohibited

African Bony-tongue *Heterotis niloticus*

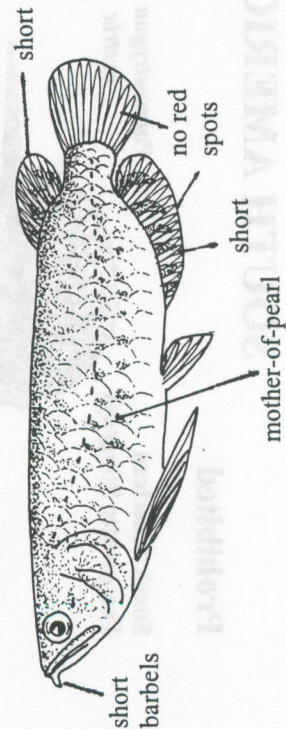


Black Arowana
Osteoglossum ferreirai

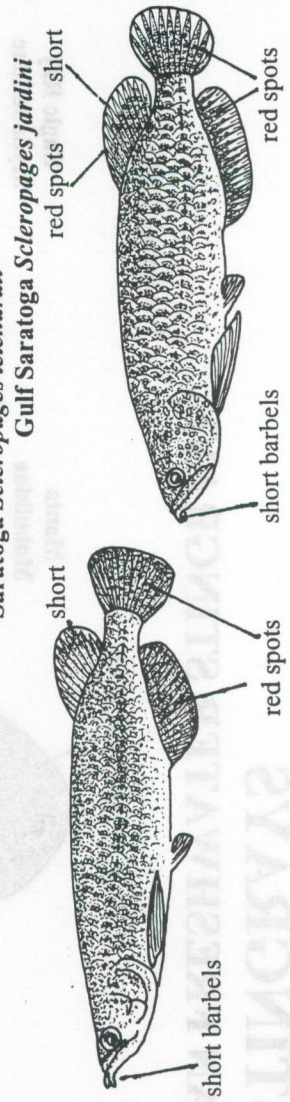
Silver Arowana
Osteoglossum bicirrhosum



Asian Arowana *Scleropages formosus*
(not prohibited under Texas regulations)



Saratoga *Scleropages leichardti*



Gulf Saratoga *Scleropages jardini*

EEL-LIKE FISHES WITH JAWS FRESHWATER EELS AND SWAMP EELS

Prohibited

Japanese Eel *Anguilla japonica*

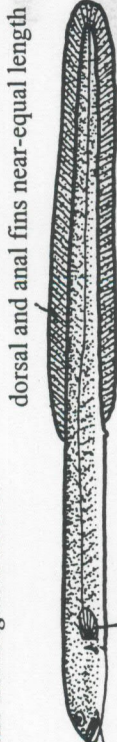
grooved maxillary
tooth band

vertebrae 111-119



preanal length 27% TL

Pacific Eel *Anguilla bicolor*



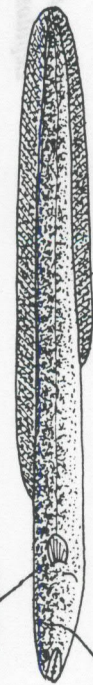
dorsal and anal fins near-equal length

not mottled

pectoral fins present

Marbled Eel *Anguilla marmorata*

mottled



two gill openings

Mottled Eel *Anguilla nebulosa*

mottled



lower jaw protrudes

rayed fins

Swamp Eel *Monopterus albus*

one gill opening

jaws near equal length

no pectoral fins

short, rayless dorsal fin

short, rayless anal fin



Unprohibited

American Eel *Anguilla rostrata*

no groove in
maxillary tooth
band

not
mottled

vertebrae
109-111



dorsal fin rayed and
longer than anal fin

lower
jaw protrudes

two gill openings

pectoral fins

preanal length 30% TL

anal rayed

Conger Eel *Conger oceanicus*

upper jaw
protrudes

two gill
openings

pectoral fins
present

dorsal fin very long and rayed

long, rayed anal fin



Freshwater Moray Eel *Gymnothorax polyuranodon*

very long dorsal fin with rays

tubular
nostrils

two gill
openings

no pectoral fins

long, rayed anal fin

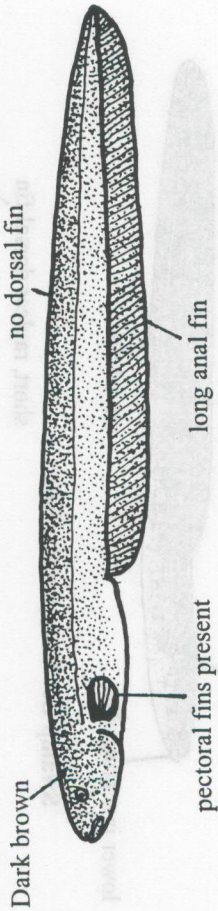


EEL-LIKE FISHES WITH JAWS

ELECTRIC EEL

Prohibited

Electric Eel *Electrophorus electricus*

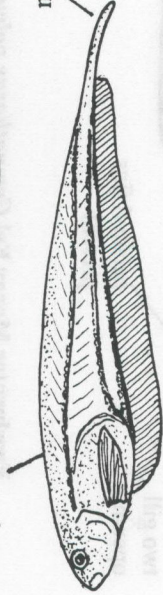


Unprohibited

Banded Knifefish *Gymnotus carapo*

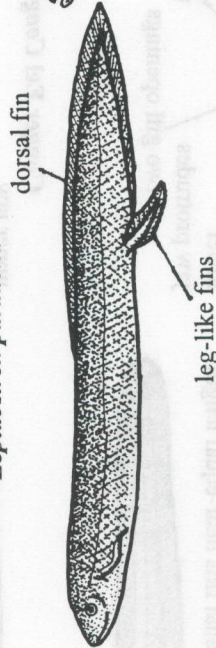


nearly transparent

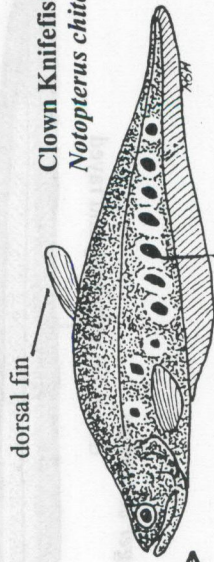


Green Knifefish
Eigenmannia virescens

South American Lungfish
Lepidosiren paradoxa



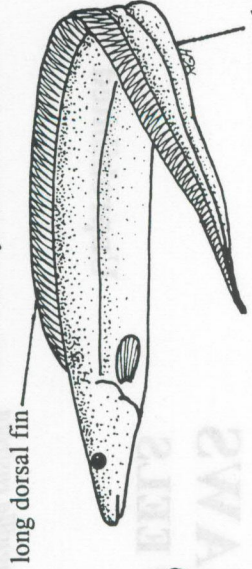
Clown Knifefish
Notopterus chitala



no dorsal fin



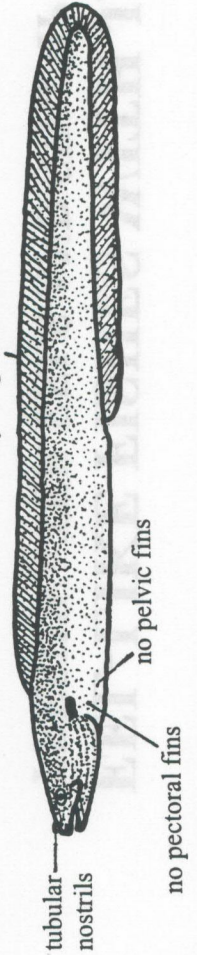
African Knifefish *Papyrocranus afer*
Aba *Gymnarchus niloticus*



American Eel *Anguilla rostrata*



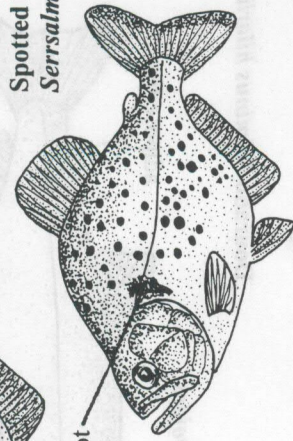
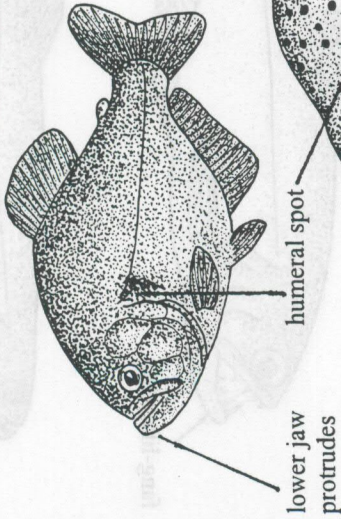
Freshwater Moray Eel *Gymnothorax polyuranodon*



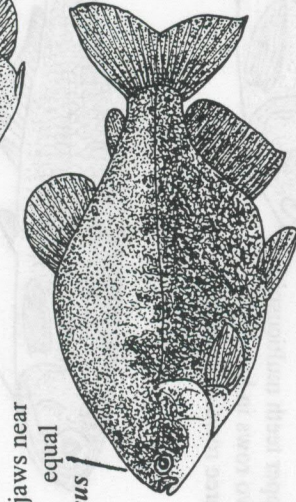
PIRANHAS

Prohibited

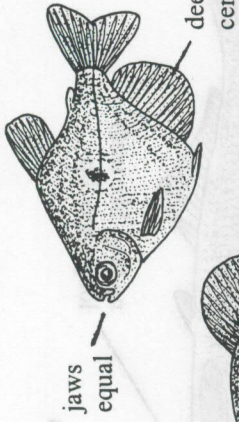
Black Piranha *Serrasalmus niger*



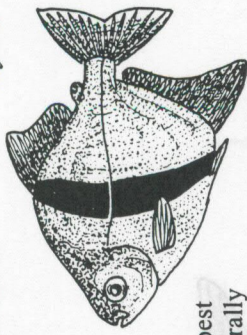
Spotted Piranha
Serrasalmus rhombeus



SILVER DOLLARS

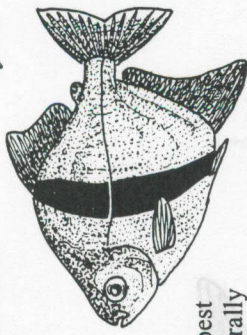


Mylossoma

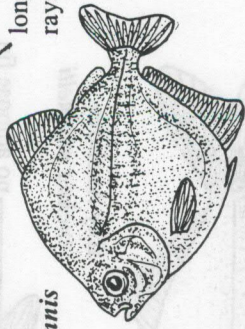


Unprohibited

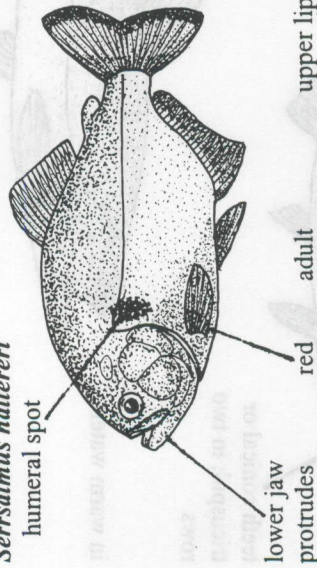
Myleus



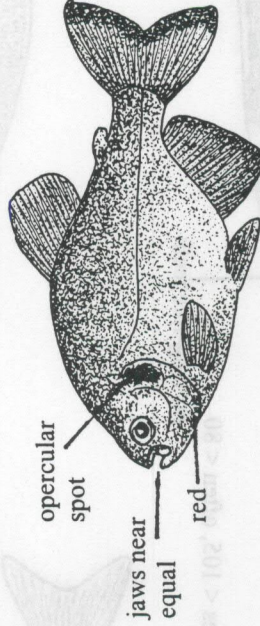
Metynnis



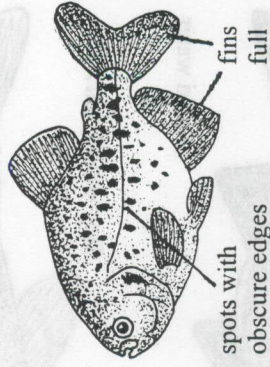
Redbellied Piranha
Serrasalmus mattereri



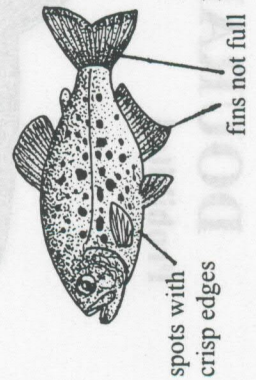
Black Pacu *Colossoma macropomum*



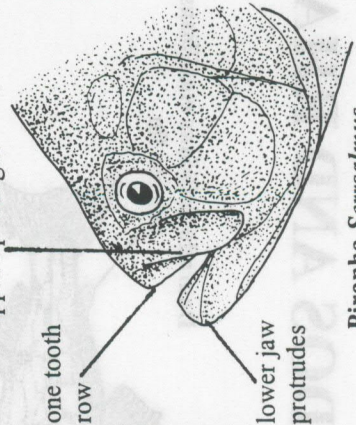
Redbellied Pacu *Colossoma brachyppomum*



juvenile

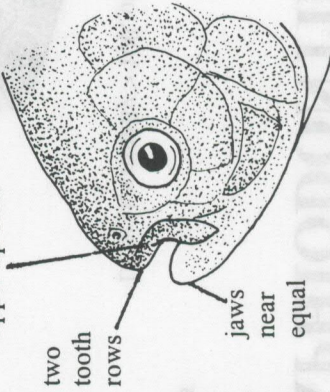


upper lip straight



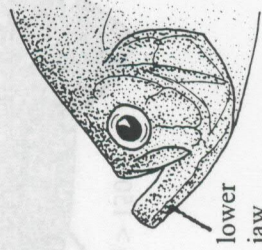
Piranha *Serrasalmus*

upper lip bent



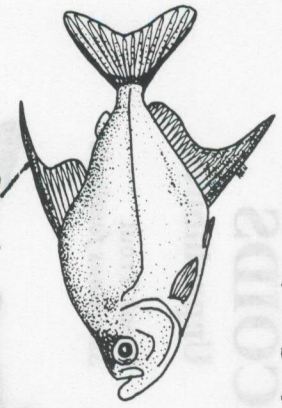
Pacu *Colossoma*

lower jaw strongly projects



Wimble Piranha *Catoprion mento*

rays long

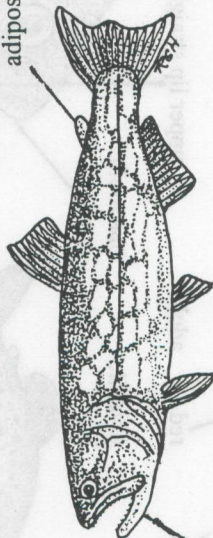


DOURADOS AND RHAPHIODONTID CHARACIDS

Prohibited

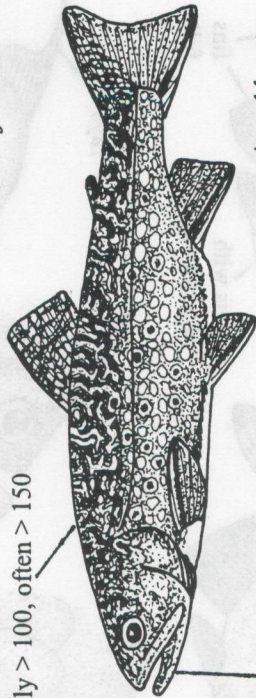
Unprohibited

Dourado *Salminus maxillosus*
adipose fin



teeth conical or
tricuspid; in two
rows

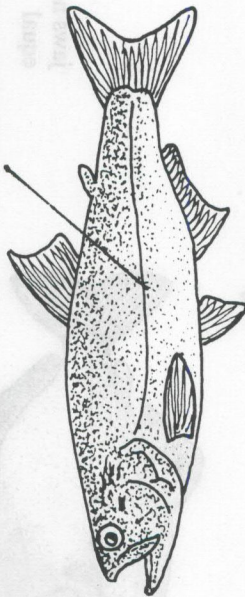
LL scales usually > 100, often > 150



no fang-like teeth

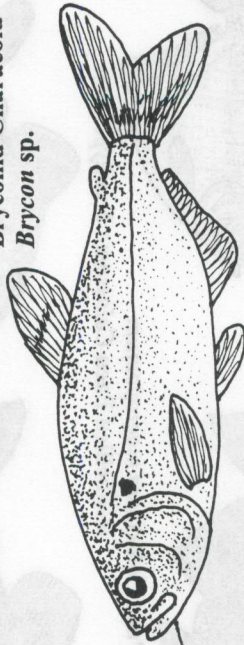
in cold water

LL scales < 105, often < 80



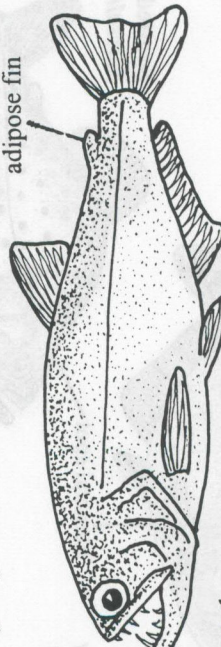
in warm water

Bryconid Characoid
Brycon sp.



upper teeth multicuspid
two rows in lower jaw
three rows in upper jaw

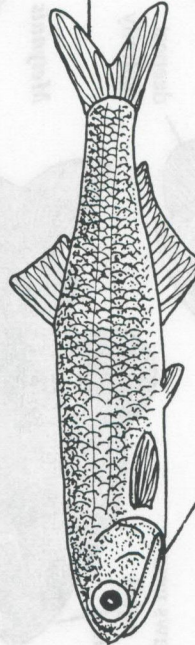
Dourado *Salminus hilarii*



adipose fin

Payara *Hydrolycus scomberoides*

fang-like teeth



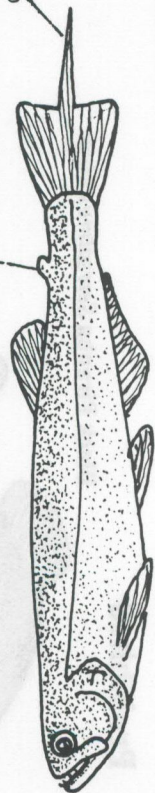
Bay Anchovy
Anchoa mitchelli

no adipose fin

adipose fin

no fang-like teeth
long upper lip

caudal extension

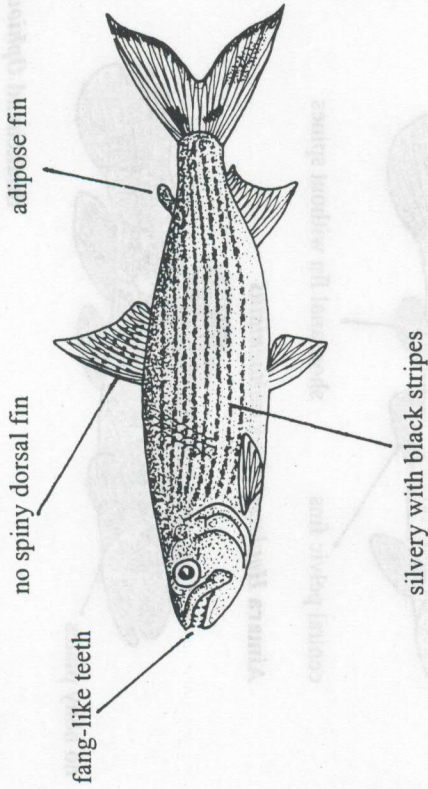


Biara *Rhaphiodon vulpinus*

AFRICAN TIGER FISHES

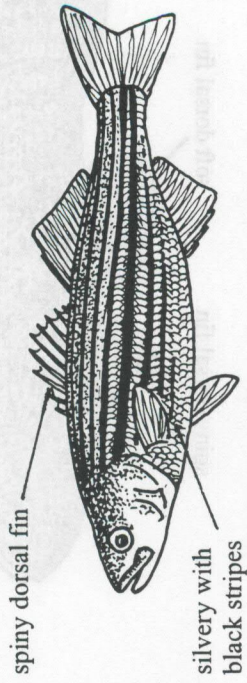
Prohibited

African Tiger Fish
Hydrocynus vittatus

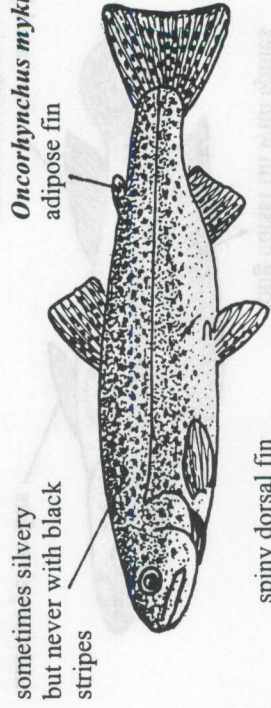


Unprohibited

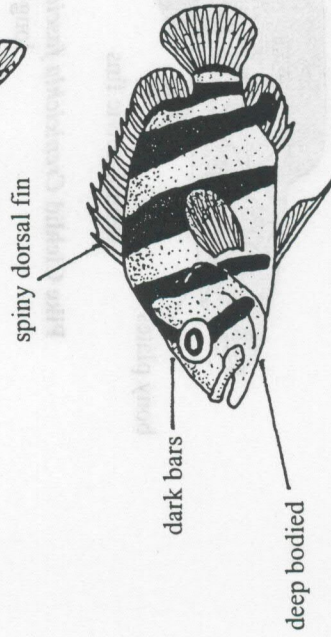
Striped Bass
Morone saxatilis



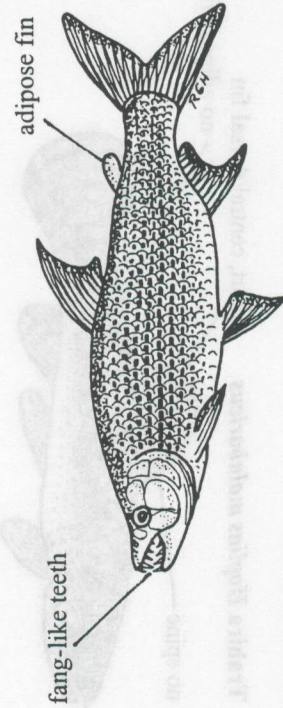
Rainbow Trout
Oncorhynchus mykiss



Asian Tiger Fish (Tripletail)
Daniooides sp.

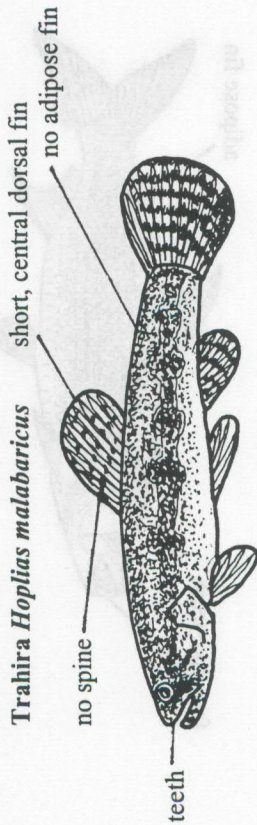


African Tiger Fish
Hydrocynus goliath

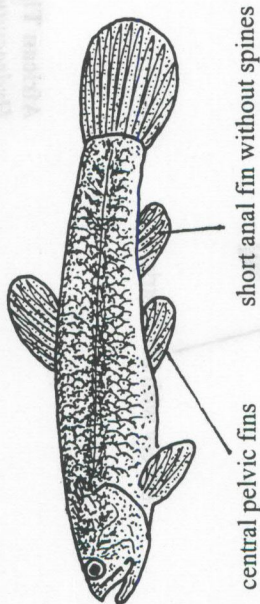


SOUTH AMERICAN TIGER FISHES

Prohibited



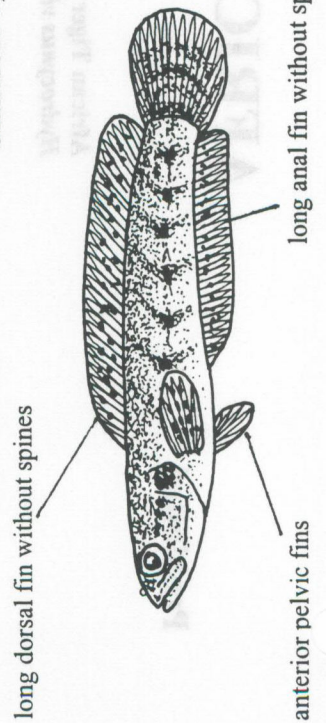
South American Tiger Fish *Erythrinus erythrinus*



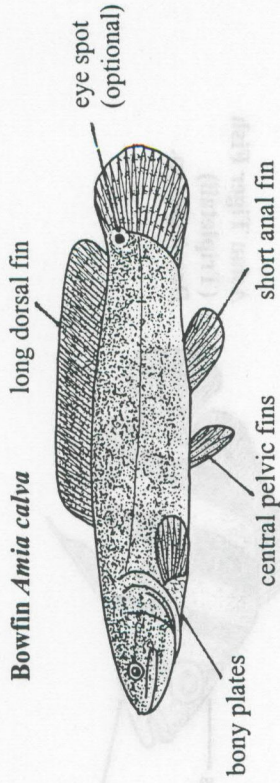
Aimara *Hoplerythrinus unitaeniatus*



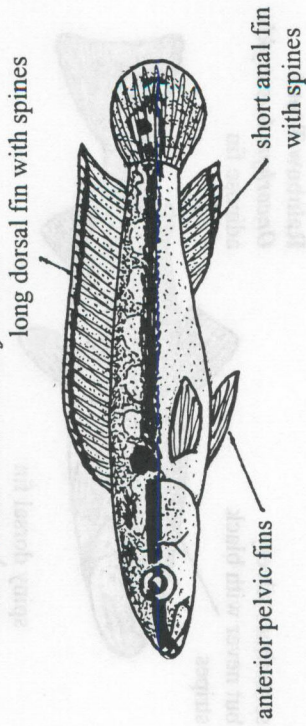
Snakehead *Ophiocephalus africanus*



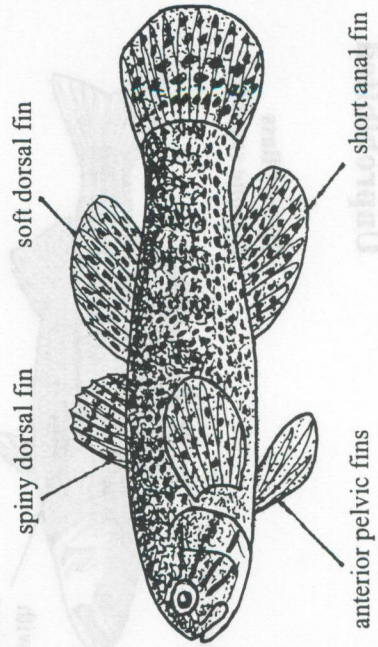
Unprohibited



Pike Cichlid *Crenicichla fasciatus*



Pacific Fat Sleeper *Dormitator latifrons*



ELONGATE PIKE-LIKE FISHES

PIKE CHARACOIDS

Prohibited

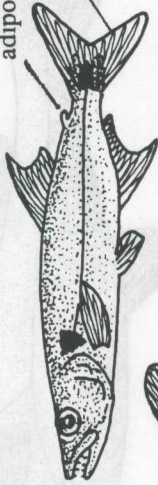
upper jaw flap



SOUTH AMERICAN SPECIES

posterior dorsal fin

Speckled Pike Characoid
Luciocharax maculata



Pike Characoid
Acestrorhynchus falcatus

adipose fin
forked caudal fin



Gar Characin
Ctenolucius hujeta

Pike Characoid
Gavialtocharax sp.

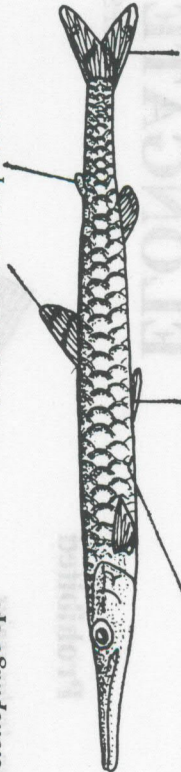


Pike Characoid
Mesoborus sp.



African Gar Characoid
Belonophago sp.

central dorsal fin
adipose fin



large scales

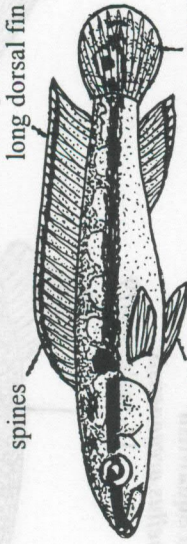
central pelvic fins

forked caudal fin

Unprohibited

Pike Cichlid

Crenicichla lepidota



spines

long dorsal fin

anterior pelvic fins

Chain Pickerel
Esox niger

posterior dorsal fin
no adipose fin



forked
caudal fin

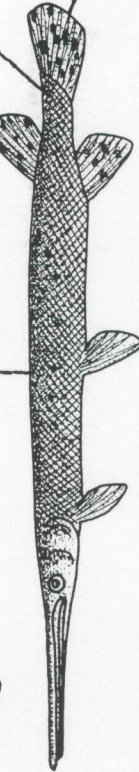
Kafue Pike

Hepsetus odoe

bony ganoid scales

posterior dorsal fin

no adipose fin



Pike Characoid
Phago sp.

central dorsal fin

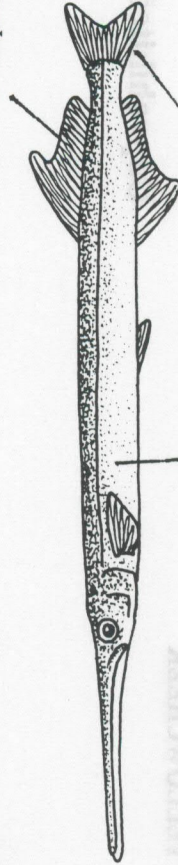


forked caudal fin

Atlantic Needlefish
Strongylura marina

posterior dorsal fin

no adipose fin



small scales

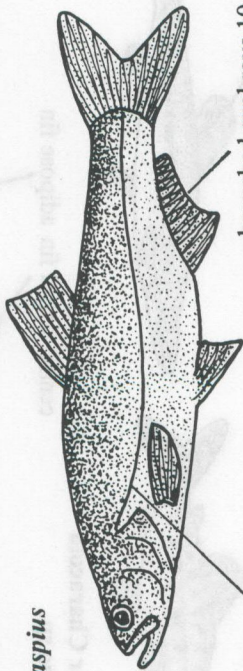
forked caudal fin

ELONGATE PIKE-LIKE FISHES

ASPS AND YELLOWCHECK

Unprohibited

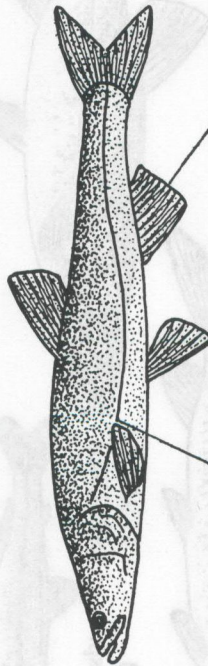
Prohibited



branched anal rays 10-15

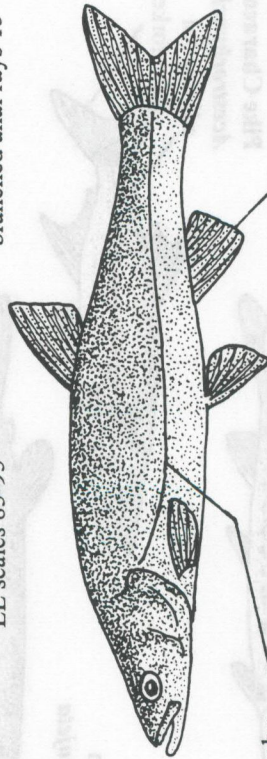
LL scales 62-105

Asp-pike *Aspiolucis eocinus*



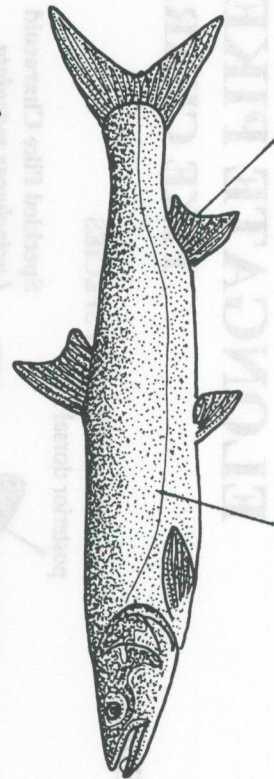
branched anal rays 15

LL scales 83-95



branched anal rays 8-9

LL scales 91-102

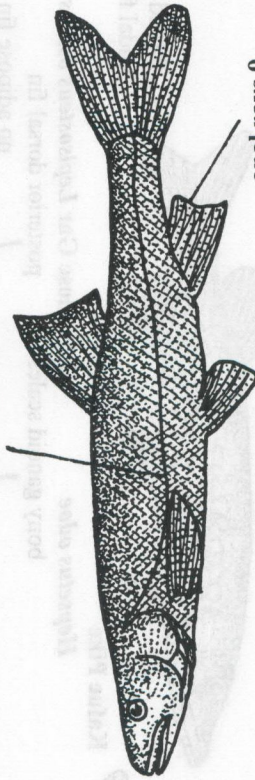


branched anal rays 10-13

LL scales 105-110

Colorado Squawfish
Ptychocheilus lucius

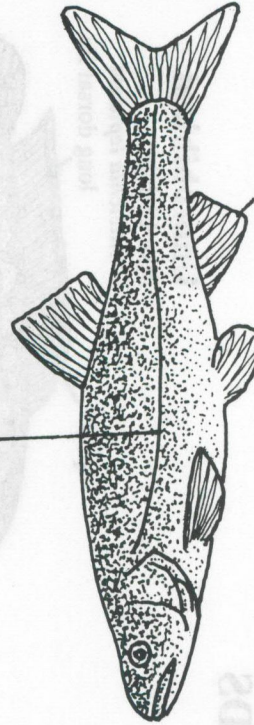
LL scales 76-97



anal rays 9

Northern Squawfish
Ptychocheilus oregonensis

LL scales 64-79



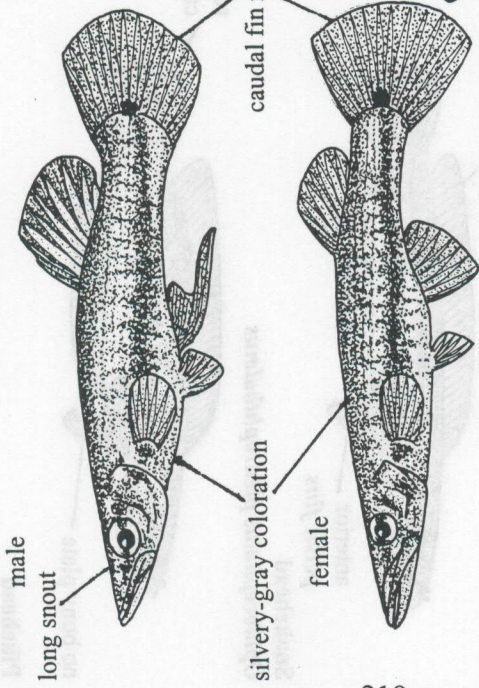
anal rays 8

ELONGATE PIKE-LIKE FISHES

PIKE KILLIFISH

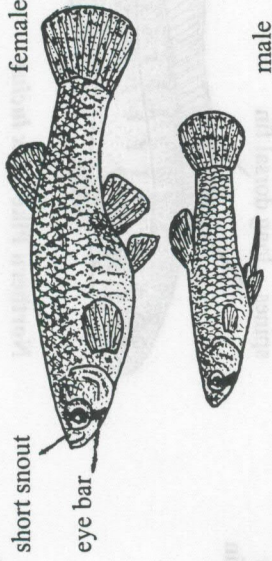
Prohibited

Pike Killifish
Belonesox belizanus

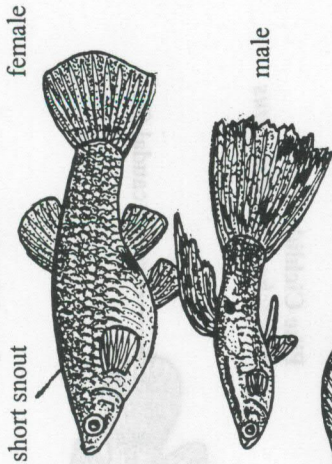


Unprohibited

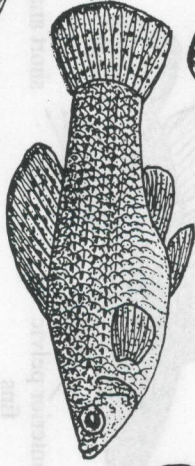
Mosquitofish
Gambusia affinis



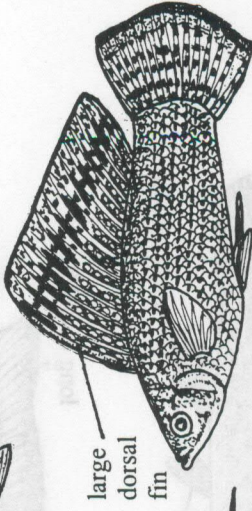
Guppy
Poecilia latipinna



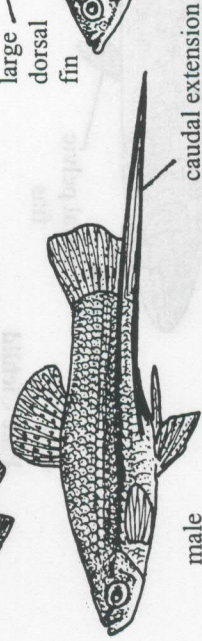
female



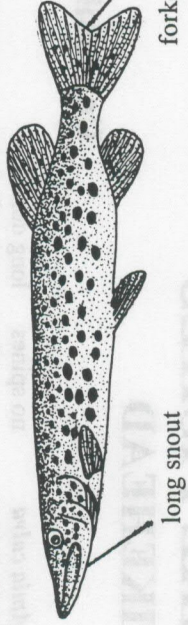
male



Sailfin Molly
Poecilia latipinna



Green Swordtail
Xiphophorus helleri

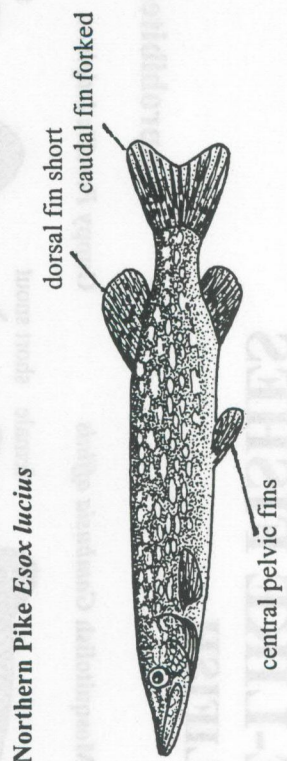
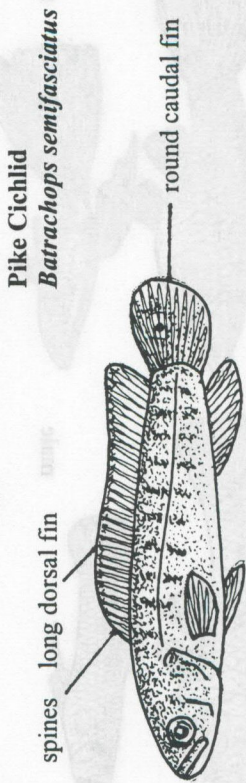
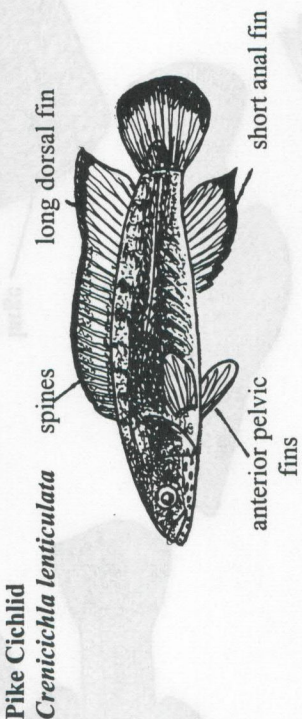
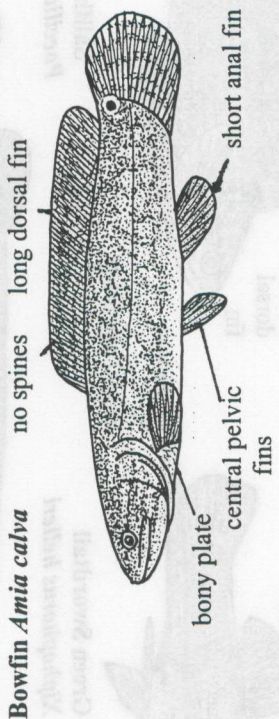


Amur Pike
Esox reicherti

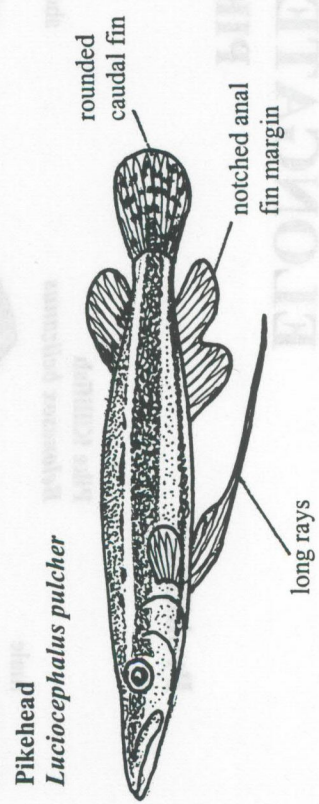
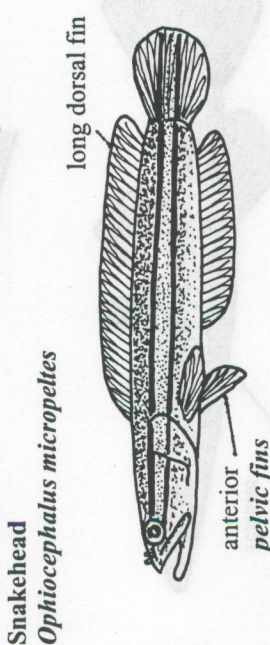
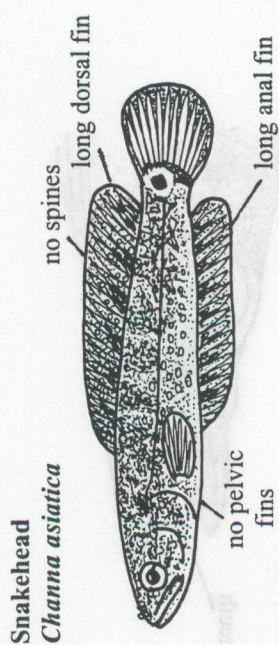
ELONGATE PIKE-LIKE FISHES

SNAKEHEADS AND PIKEHEAD

Unprohibited



Prohibited

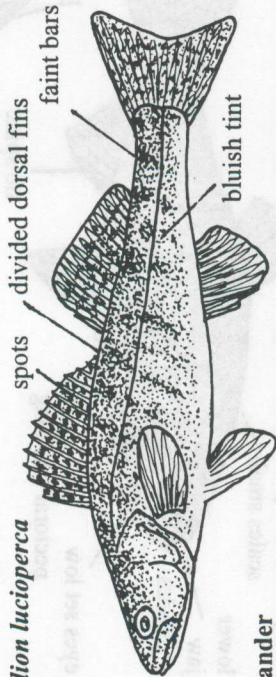


ELONGATE PIKE-LIKE FISHES

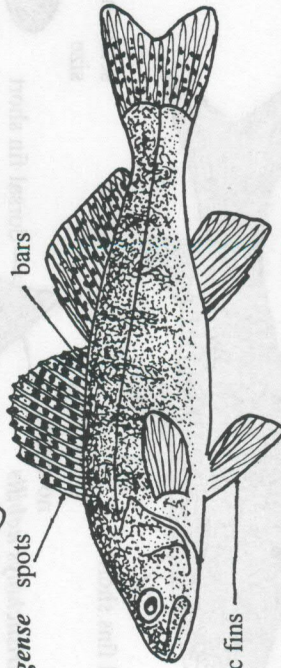
ZANDERS (EUROPEAN PIKE-PERCH) AND SOME NILE PERCHES

Prohibited

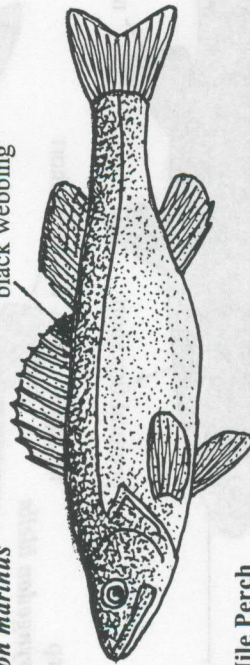
Zander
Stizostedion lucioperca



Volga Zander
Stizostedion volgense



Sea Zander
Stizostedion marinus

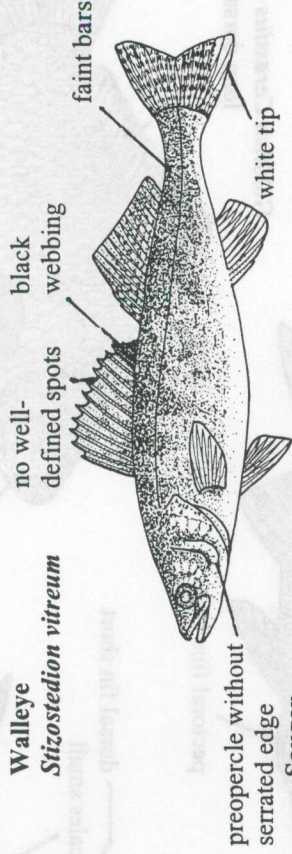


Slender Nile Perch
Lucioides stappersi

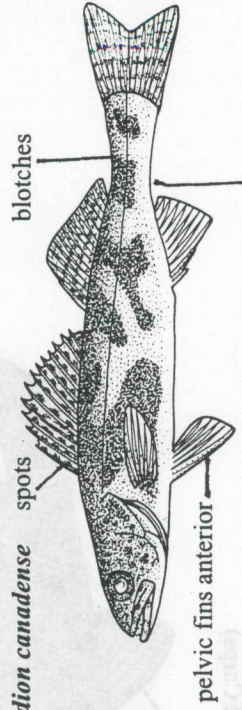


Unprohibited

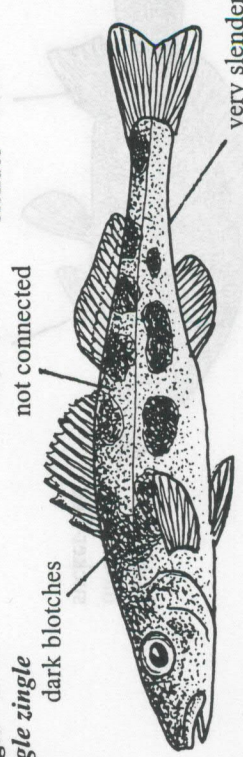
Walleye
Stizostedion vitreum



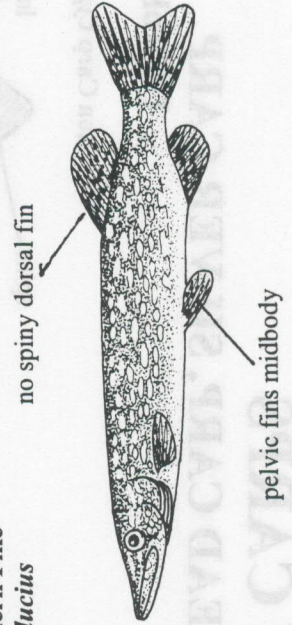
Sauger
Stizostedion canadense



Zingle
Zingel zingel



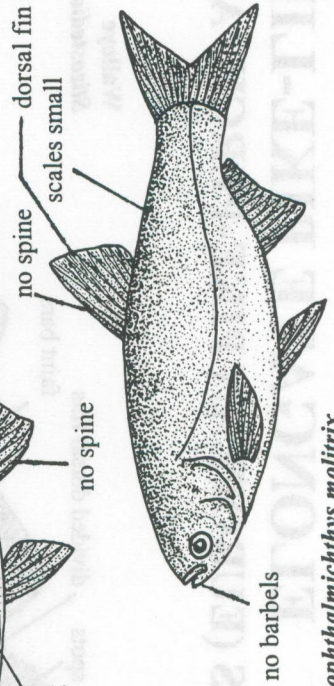
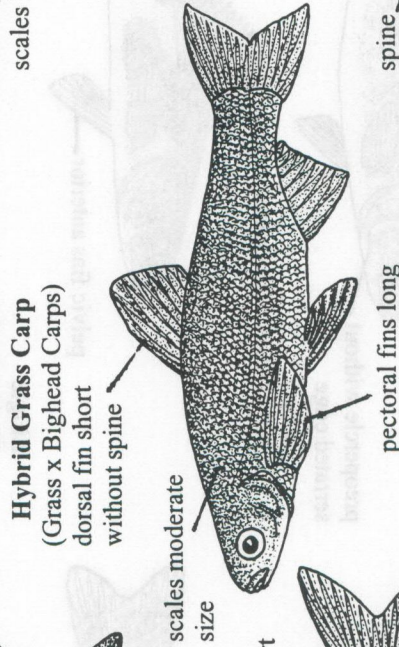
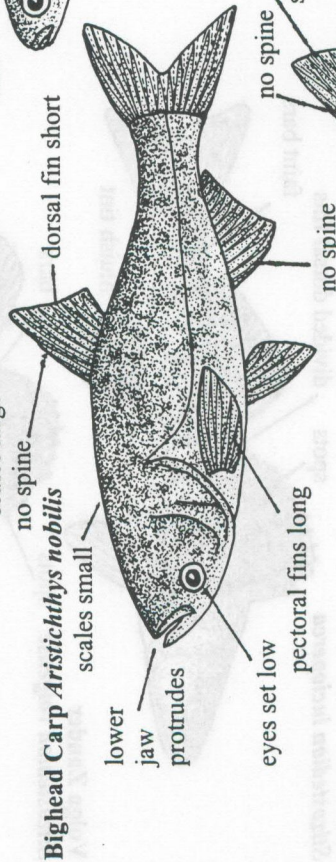
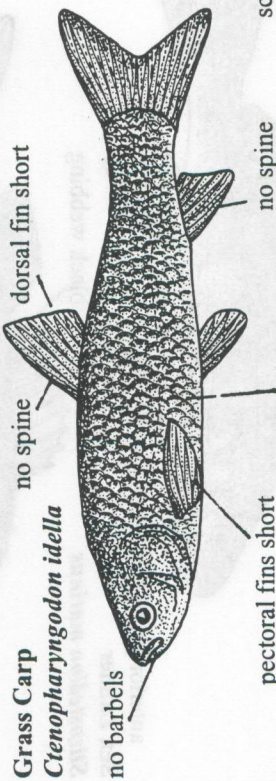
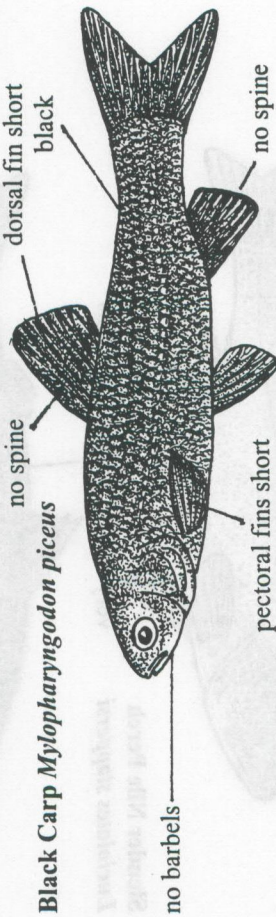
Northern Pike
Esox lucius



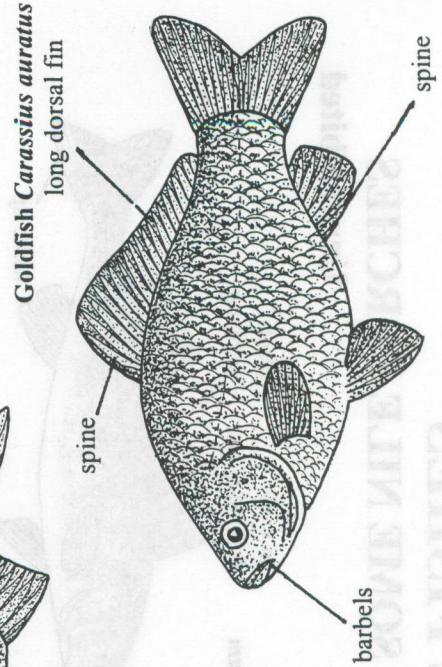
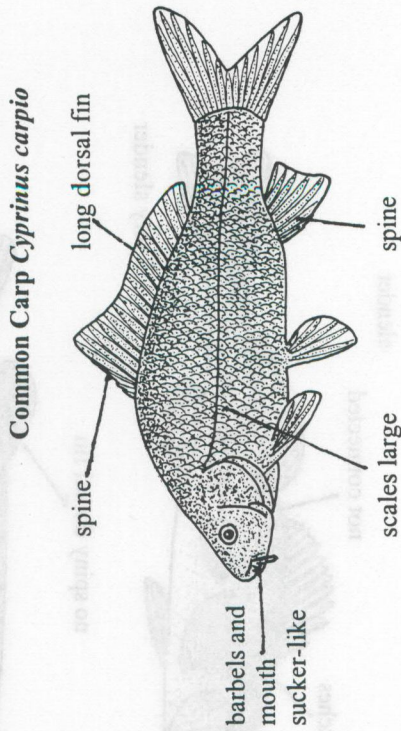
LARGE ASIAN CARPS

GRASS CARP, BLACK CARP, BIGHEAD CARP, SILVER CARP

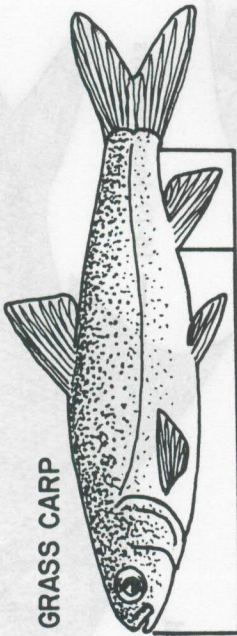
Prohibited



Unprohibited

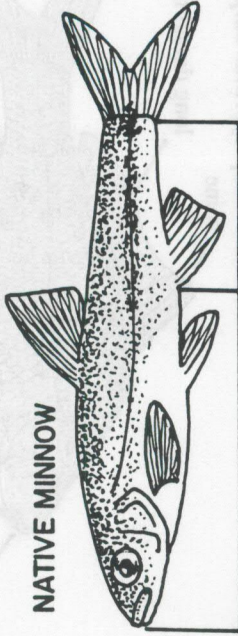


LARGE ASIAN CARPS IDENTIFICATION GUIDE



GRASS CARP

VENT
POSITION



NATIVE MINNOW

CHINESE CARP IDENTIFICATION GUIDE: Texas Parks and Wildlife Department
Robert G. Howells, Heart of the Hills Research Station

SPECIES	DORSAL FIN RAYS	ANAL FIN RAYS	LATERAL LINE	SCALES		GILL RAKERS	PHARYNGEAL TEETH
				ROWS ABOVE LL	ROWS BELOW LL		
Grass carp	i-iii, 7-11	ii-iii, 7-11	36-45 large	6-7	4-5	12-15 short	2, 5-4, 1 2, 4-4, 2
Hybrid** grass carp	ii, 7-8	ii, 8-11	42-65 medium	8-13	6-10	18-23 medium	5-4
Black carp	iii, 7-8	iii, 8-9	39-45 large	6	4	19-21 short	1, 4-4, 1 4-5
Bighead carp	ii, 8 (10?)	ii, 11-14 (16?)	98-100 (to 120?) small	26-28	15-19	many, long, not connected	4-4
Silver carp	iii, 7 (8-10?)	ii-iii, 12-14 (13-17?)	107-125 small (83?)	28-33	16-28	many, long, connected in a single band	4-4
SPECIES	JAW LENGTHS	PECTORAL FIN LENGTH	VENTRAL KEEL	COLOR			
Grass carp	near equal, or upper jaw projects slightly	does not reach pelvic fins	none	olive above; silver below			
Hybrid** grass carp	near equal, or lower jaw projects slightly	reaches to or beyond pelvic fins	present, pelvics to anal fin	olive above; silvery below			
Black carp	near equal, or upper jaw projects slightly	does not reach pelvic fins	none	black			
Bighead carp	lower jaw protrudes to anal fin	reaches beyond pelvic fins	present, scaled, pelvics	tan above; silvery below			
Silver carp	near equal, or lower jaw projects	reaches beyond pelvic fins	present, unscaled (?), breast to anal fin	tan above; silvery below			

** Hybrid grass carp = grass carp x bighead carp

? Data questionable or unclear

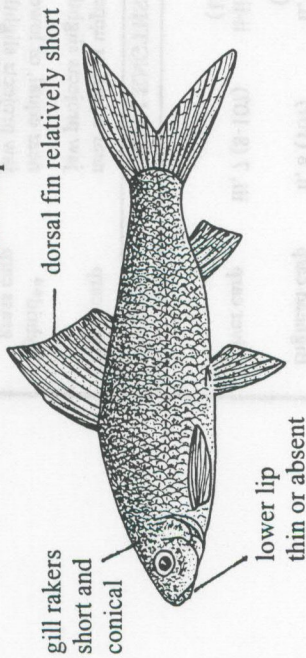
LARGE ASIAN CARPS

MUD CARP, SANDHKOL CARP, AND RELATED SPECIES, CATLA

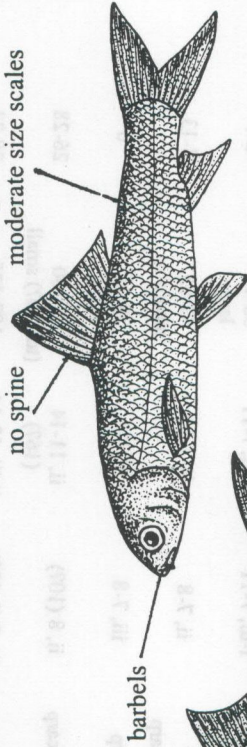
Prohibited

Unprohibited

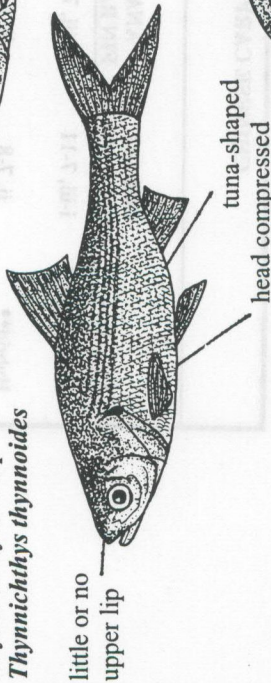
Mud Carp *Cirrhinus molitorella*



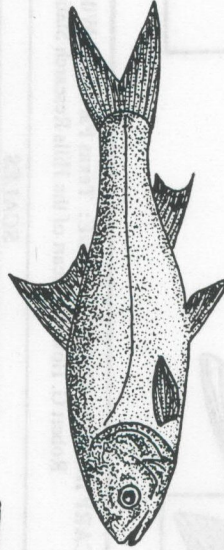
Mrigala *Cirrhinus mrigala*



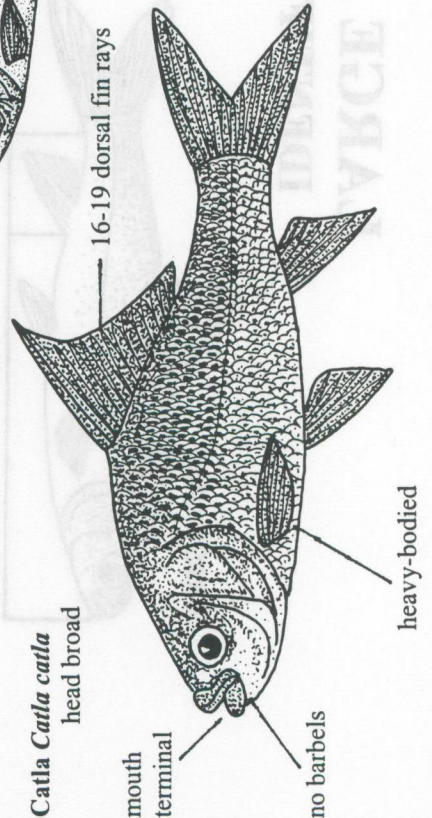
Thynnichthyid Carp *Thynnichthys thynnoides*



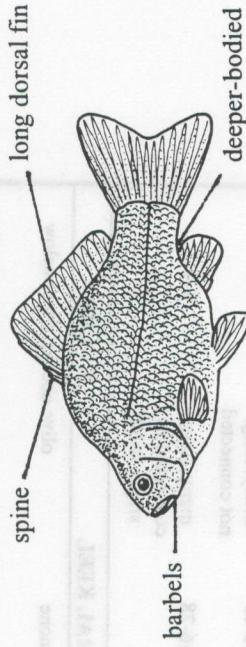
Sandhkol Carp *Thynnichthys sandhkol*



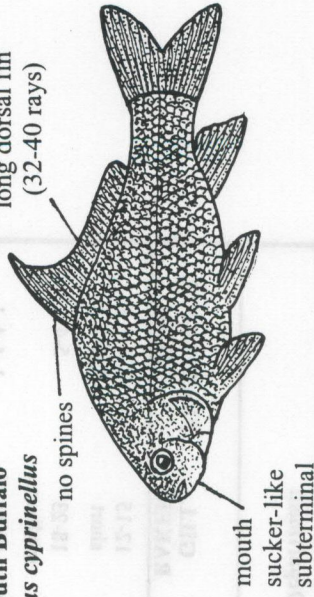
Catla *Catla catla*



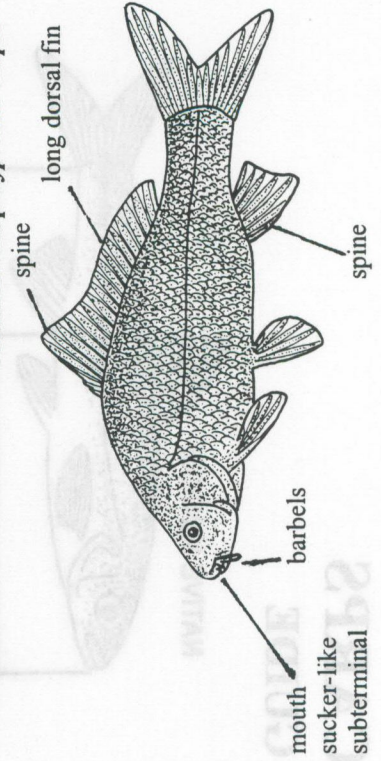
Goldfish *Carassius auratus*



Bigmouth Buffalo *Ictiobus cyprinellus*

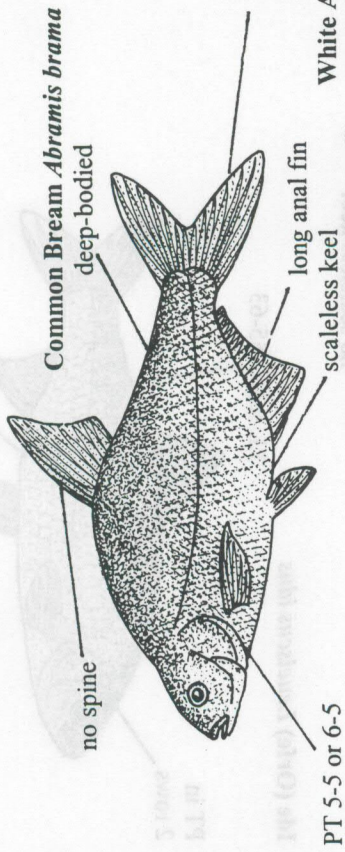


Common Carp *Cyprinus carpio*

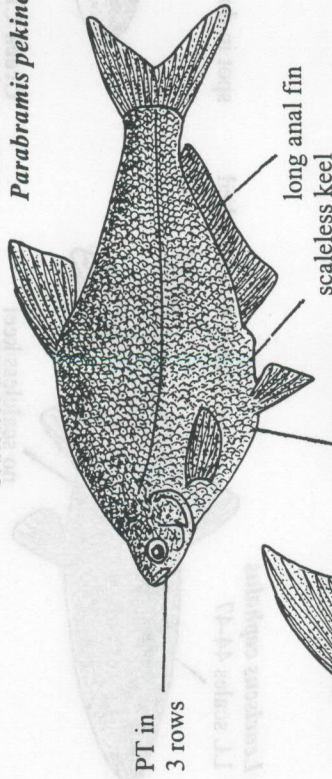


OLD WORLD BREAMS

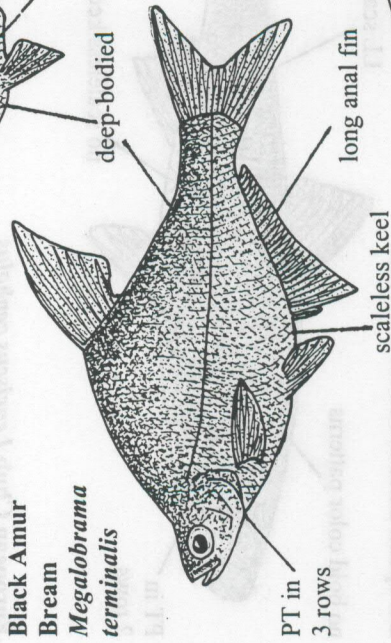
Prohibited



White Amur Bream
Parabramis pekinensis

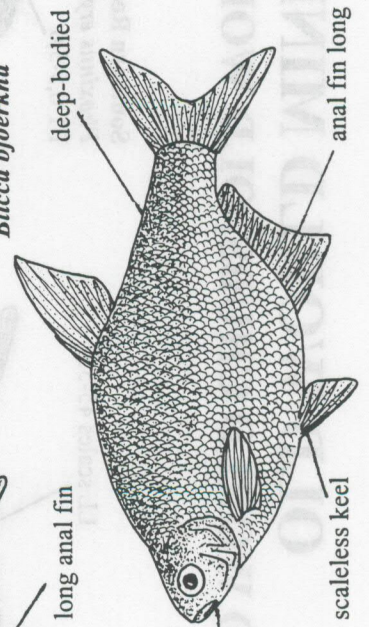


Black Amur Bream
Megalobrama terminalis



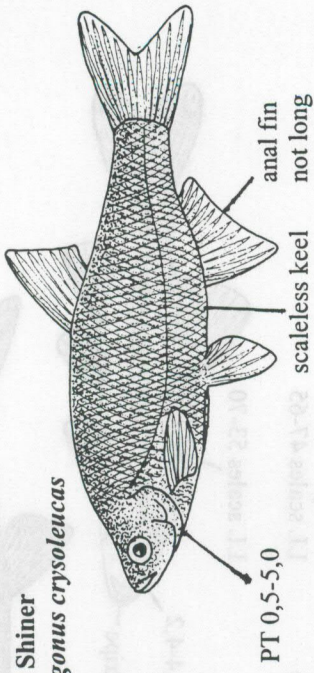
PT 2,5-5,2 or 3,5-5,2

Silver Bream
Blicca bjoerkna

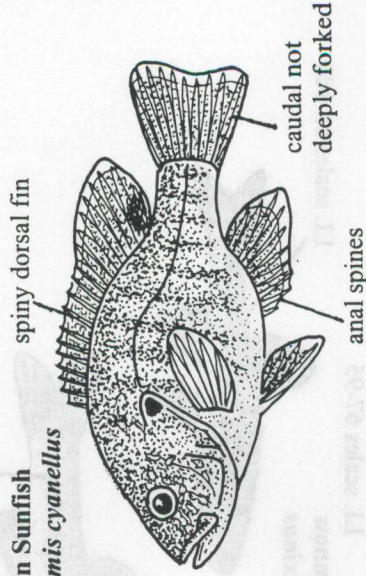


Unprohibited

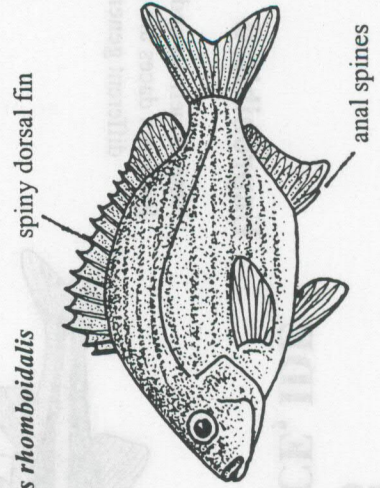
Golden Shiner
Notemigonus crysoleucas



Green Sunfish
Lepomis cyanellus



Sea Bream
Archosargus rhomboidalis



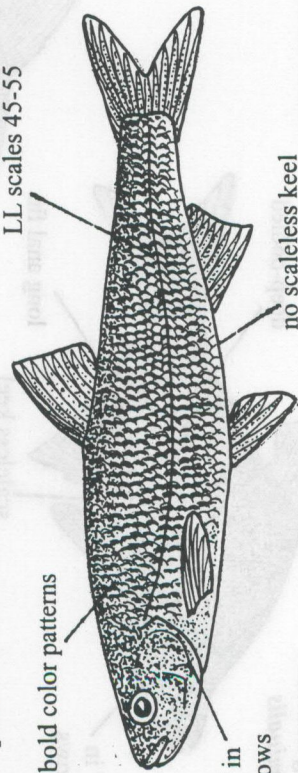
OLD WORLD MINNOWS

OLD WORLD CHUBS, OLD WORLD DACE, IDE

Prohibited

European Dace *Leuciscus leuciscus*

no bold color patterns

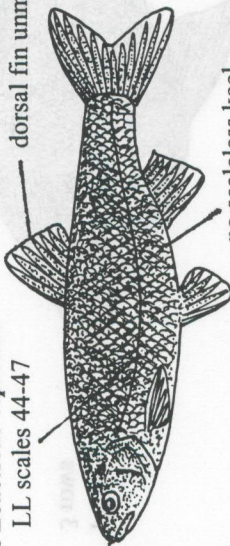


PT in 2 rows

European Chub *Leuciscus cephalus*

LL scales 44-47

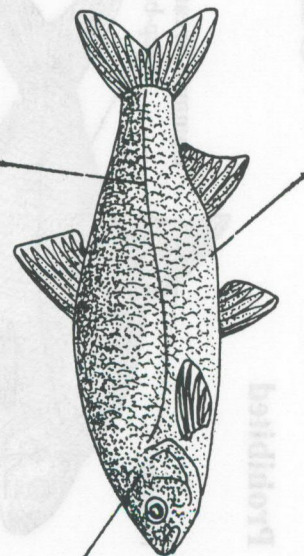
dorsal fin unmarked



PT in 2 rows

Ide (Orfe) *Leuciscus idus*

LL scales 55-63



PT in 2 rows

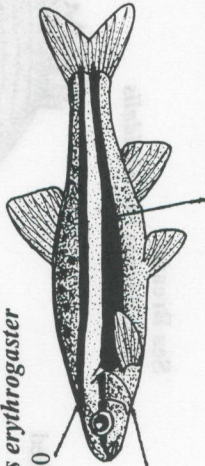
Unprohibited

Note: American and European daces are in different genera

Southern Redbellied Dace

Phoxinus erythrogaster

PT 0,5-5,0



LL scales 67-95

European Minnow

Phoxinus phoxinus

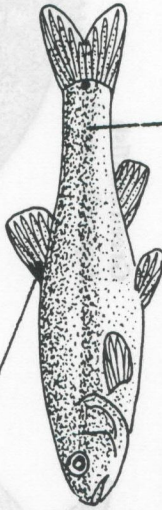
LL scales 85-100



Creek Chub

Semotilus atromaculatus

LL scales 47-65



Blacknose Dace

Rhinichthys atratulus

LL scales 53-70

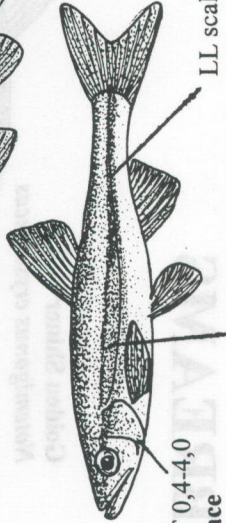


PT 0,4-4,0

Redside Dace

Clinostomus elongatus

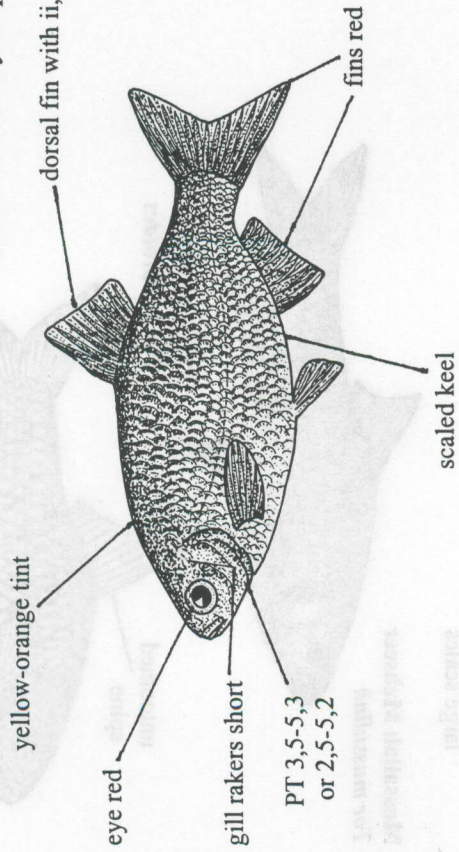
LL scales 55-75



Note: Minnows of the Genus *Leuciscus* are very similar to native minnows; consult text.

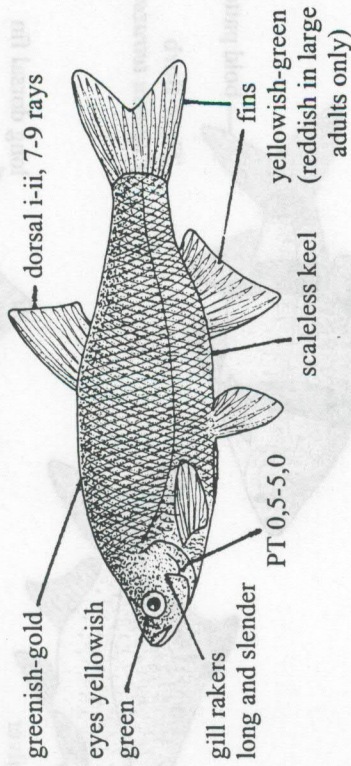
OLD WORLD MINNOWS RUDD AND ROACH

Prohibited



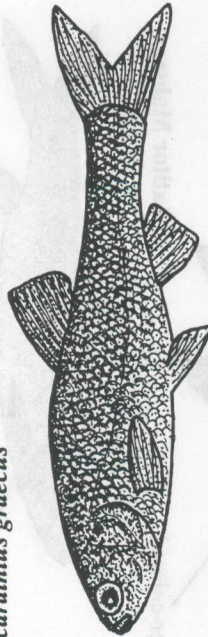
Rudd *Scardinius erythrophthalmus*

Golden Shiner *Notemigonus crysoleucas*

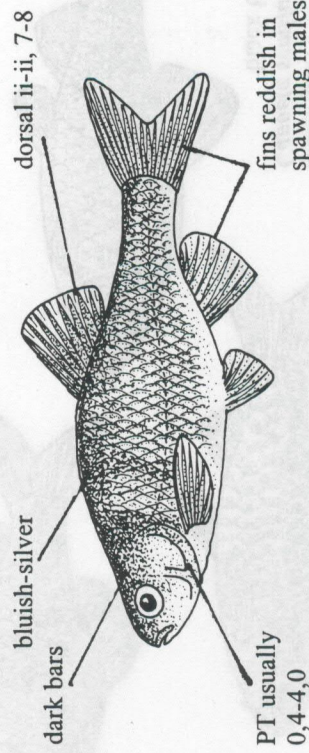


Unprohibited

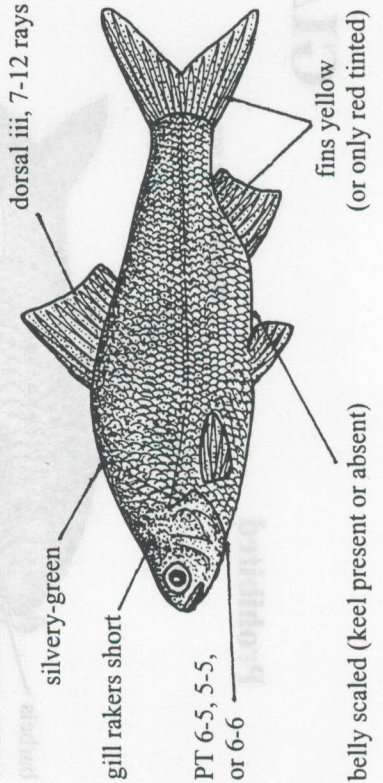
Calamithra *Scardinius graecus*



Red Shiner *Cyprinella lutrensis*



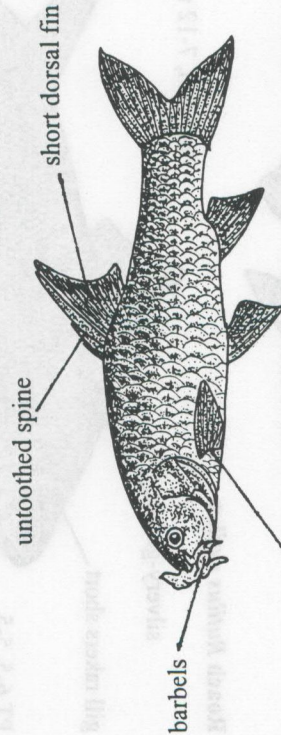
Roach *Rutilus rutilus*



GIANT BARBS

Prohibited

Mahseer *Tor tor*

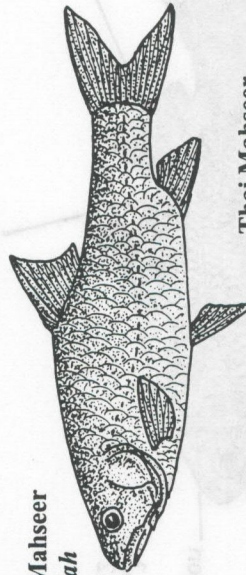


Putitor Mahseer
Tor putitor

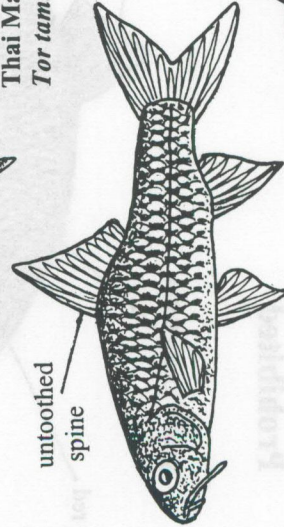


large scales

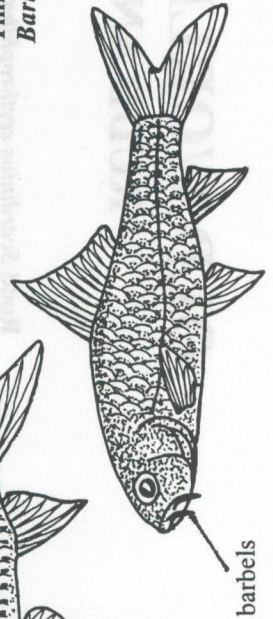
Mussallah Mahseer
Tor mussallah



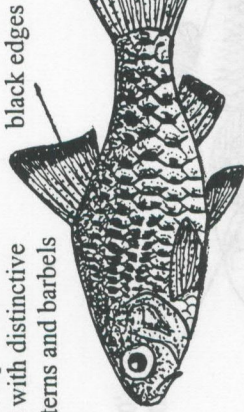
Thai Mahseer
Tor tambroides



Soro Mahseer
Tor soro



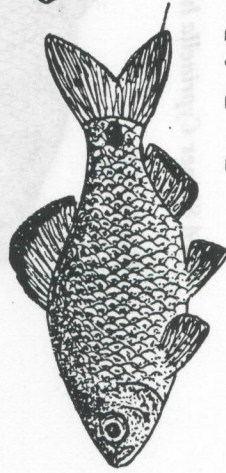
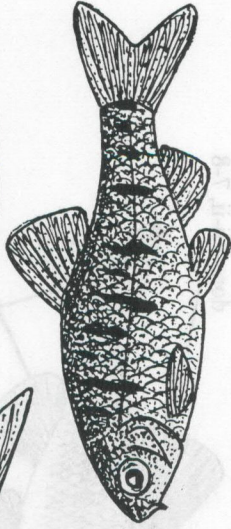
Note: Most pet-trade barbs are small with distinctive color patterns and barbels 0, 2, or 4



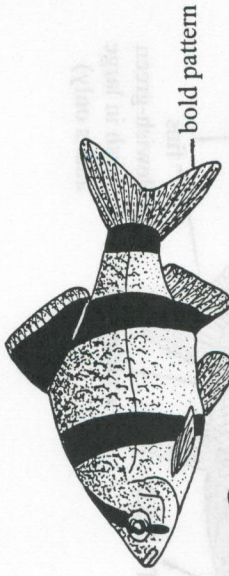
Unprohibited

Checkered Barb
Capoeta oligolepis

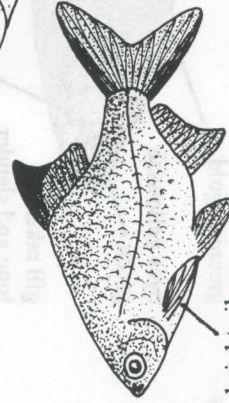
Halfbanded Barb
Capoeta semifasciolatus
black bars



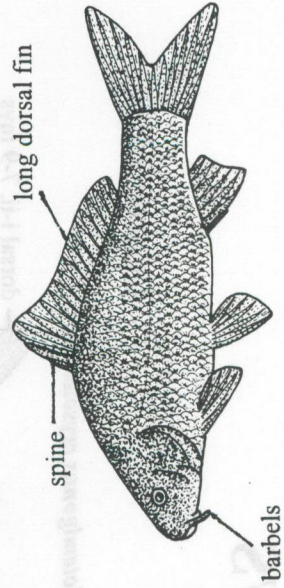
Rosy Barb *Puntius conchonius*



Tiger Barb
Capoeta tetrazona



Tinfoil Barb
Barbodes schwanefeldi



Common Carp *Cyprinus carpio*

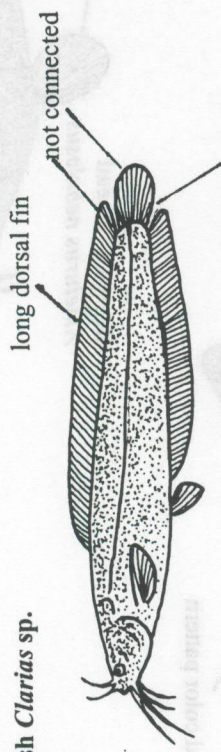
CATFISHES

WALKING CATFISHES AND AIRSAC CATFISHES

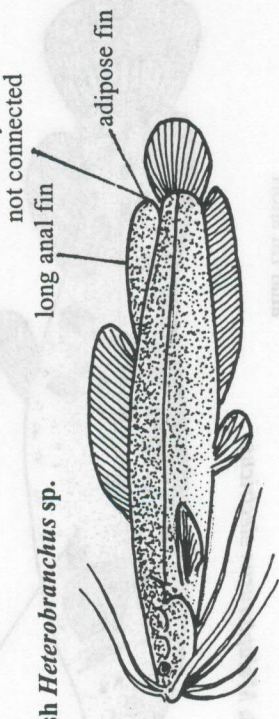
Unprohibited

Prohibited

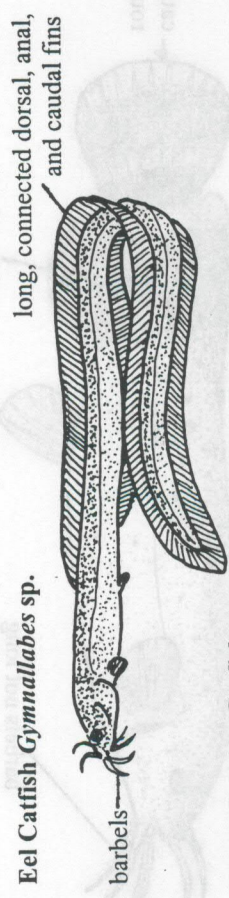
Walking Catfish *Clarias* sp.



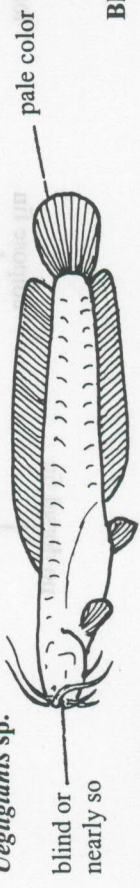
Walking Catfish *Heterobranchius* sp.



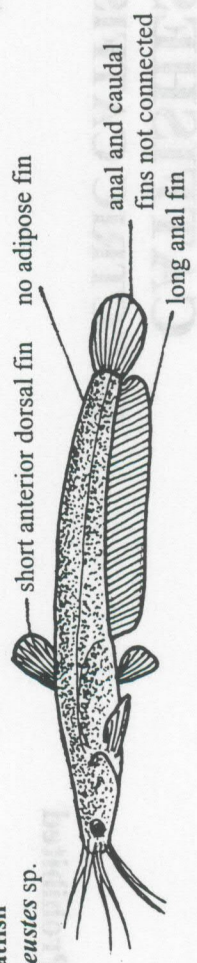
Eel Catfish *Gymnallabes* sp.



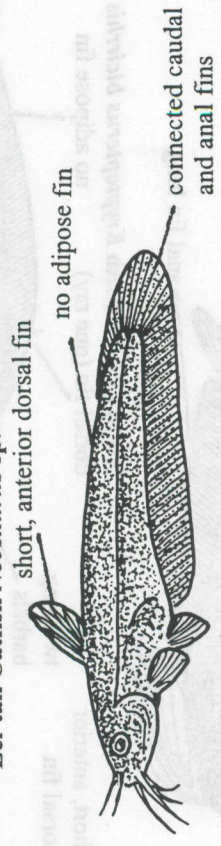
Blind Walking Catfish *Uegitlanis* sp.



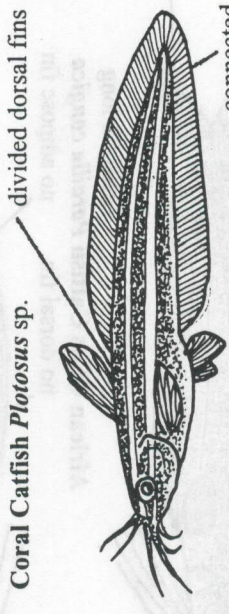
Airsac Catfish *Heteropneustes* sp.



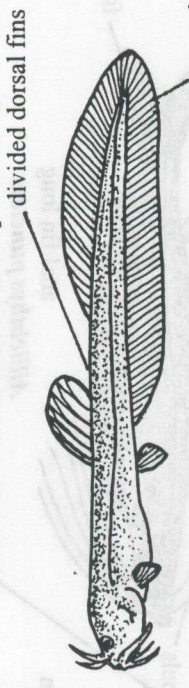
Eel-tail Catfish *Neostilurus* sp.



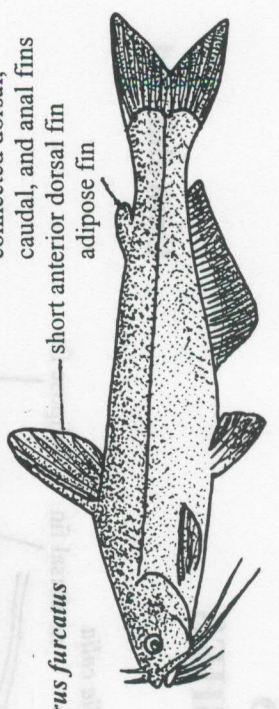
Coral Catfish *Plotosus* sp.



Pimelodid Catfish *Phreatobius* sp.



Blue Catfish *Ictalurus furcatus*

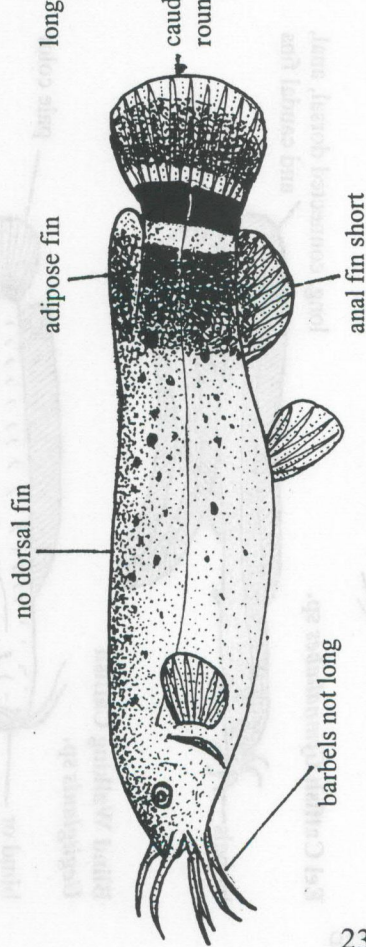


CATFISHES

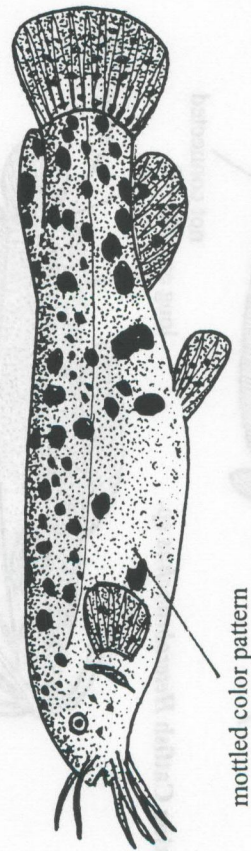
ELECTRIC CATFISHES

Prohibited

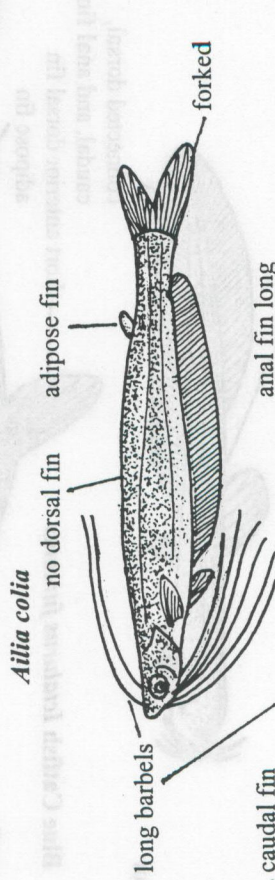
Unprohibited



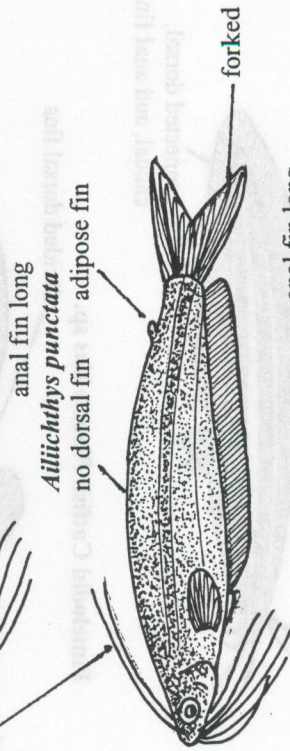
Electric Catfish *Malapterurus electricus*



Brown Bullhead
Ameiurus nebulosus

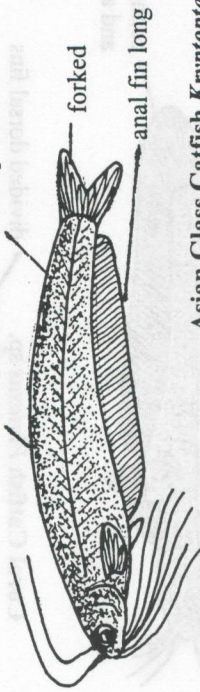


Atilia colia

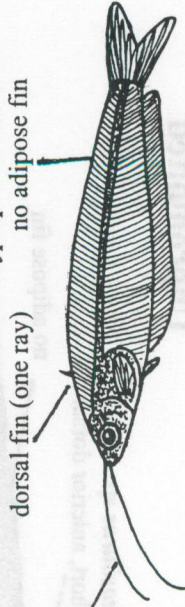


Atilichthys punctata

African Glass Catfish
Parailia congica

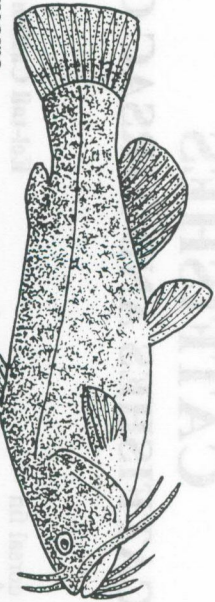


Asian Glass Catfish
Kryptopterus bicirrhus



two long barbels

short, anterior dorsal fin



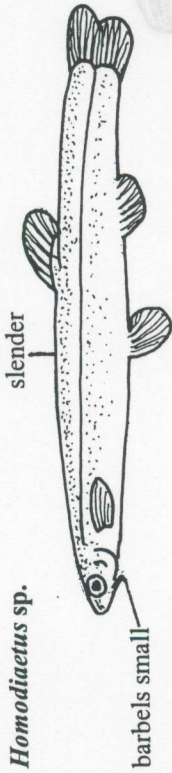
CATFISHES

PARASITIC AND WHALE CATFISHES

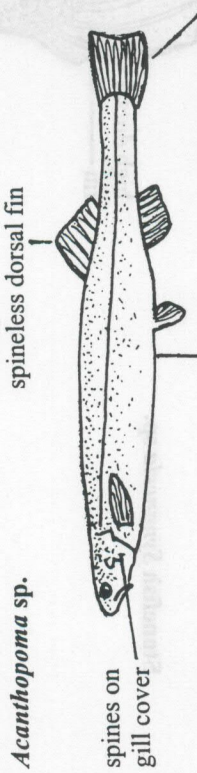
Prohibited

Parasitic Trichomycterid Catfishes

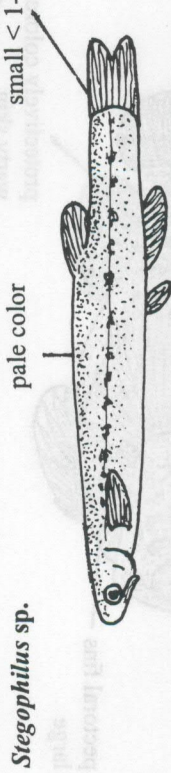
Homodiaetus sp.



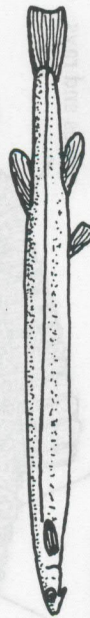
Acanthopoma sp.



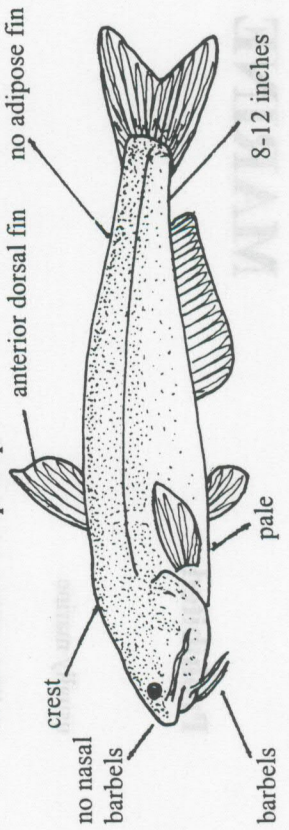
Stegophilus sp.



Vandellia sp.



Whale Catfish *Cetopsis* sp.

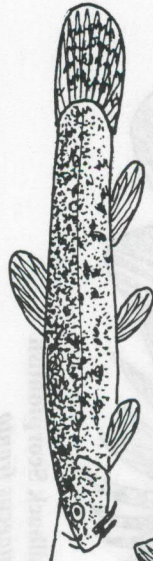


Unprohibited

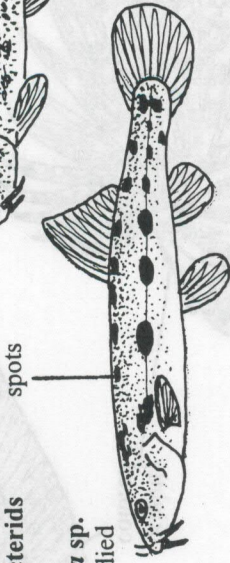
Coolie Loach
Acanthopthalmus myersi



Nematogenys sp.



Coolie Catfishes
Non-parasitic
Trichomycterids



Scleronema sp.
heavier-bodied



Burrowing
Trichomycterids
(Non-parasitic)

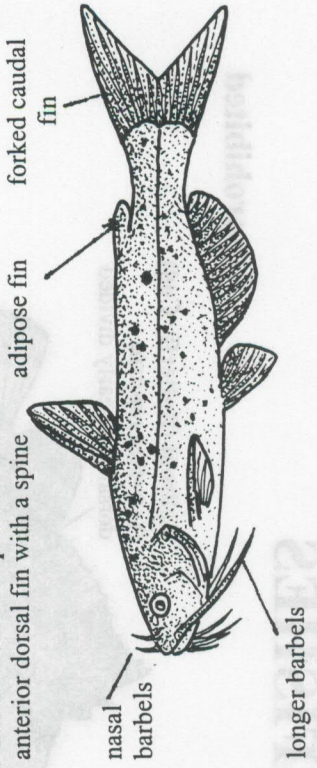


Pygidianops sp.



Typhlobelus sp.

Channel Catfish *Ictalurus punctatus*



MARINE STONEFISHES

Prohibited

Unprohibited

usually marine

large, vertical mouth

eyes set high

short dorsal spines and rays

pectoral fins large

protectively colored warty skin

Stonefish *Synanceia* sp.

Bullrout (Butterfly Cod)
Notesthes robusta
dorsal fins nearly divided

eyes on sides of head

mouth not vertical



Lionfish
Pterois sp.

marine

long fin spines

brightly colored



Sailback Scorpionfish
Pataecus fronto

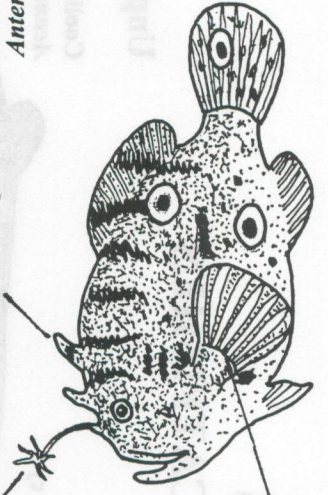
small pectoral fins

lure

three dorsal spines

Ocellated Frogfish
Antennarius ocellatus

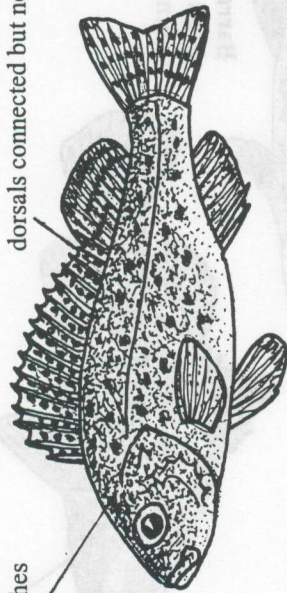
leg-like fins



PERCH-LIKE FISHES RUFFES AND SCHRAETZERS

Prohibited

brown with
darker blotches

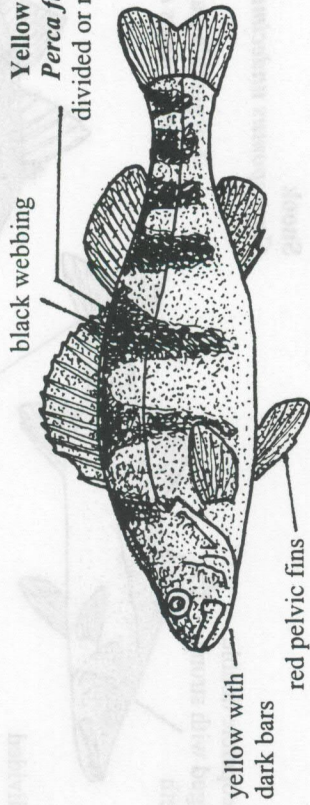


Ruffe *Gymnocephalus cernuus*

dorsals connected but notched

Unprohibited

Yellow Perch
Perca flavescens
divided or nearly so



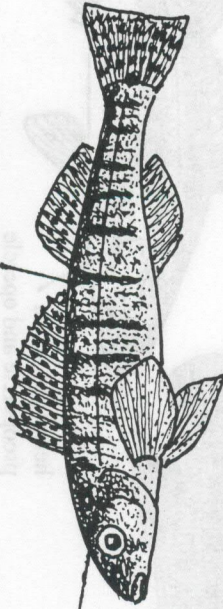
yellow with
dark bars

red pelvic fins

black webbing

divided or nearly so

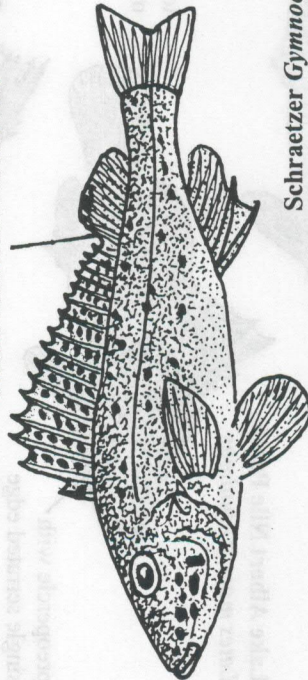
Logperch
Percina sp.



bars

Don Ruffe *Gymnocephalus acerinus*

dorsals connected but notched



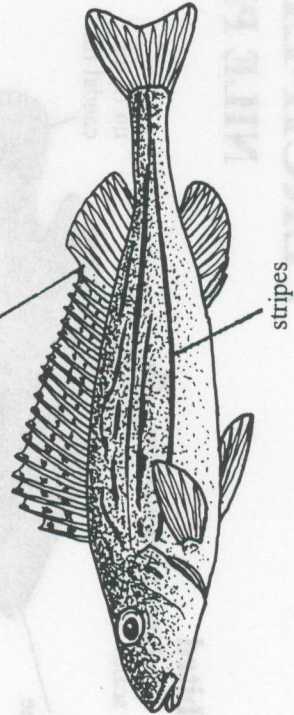
Walleye
Stizostedion vitreum
divided dorsal fins

black webbing

divided dorsal fins

Schraetzer *Gymnocephalus schraetser*

dorsals connected but notched



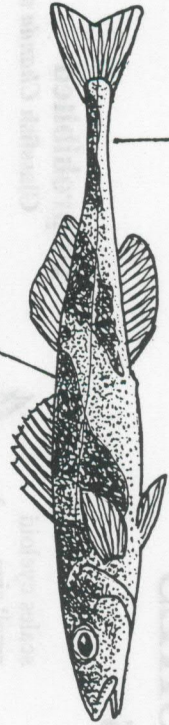
stripes

Streber
Zingle streber

widely divided

white tip

very slender

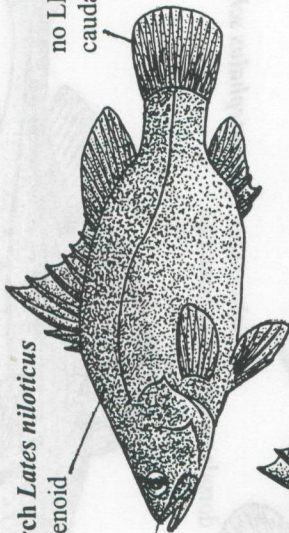


PERCH-LIKE FISHES

NILE PERCHES

Prohibited

Nile Perch *Lates niloticus*
scales ctenoid

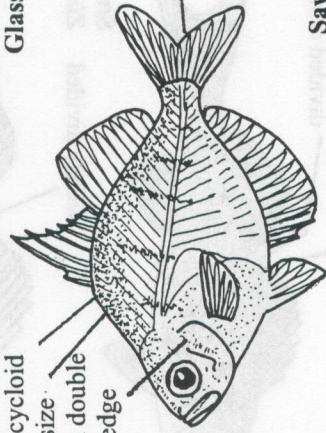


no teeth on tongue

no LL in caudal fin

Unprohibited

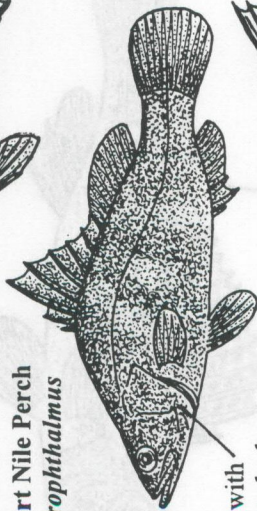
Glassfish *Chanda* sp.



scales cycloid
small size
preopercle with double
finely serrated edge

nearly transparent

Lake Albert Nile Perch
Lates macrophthalmus



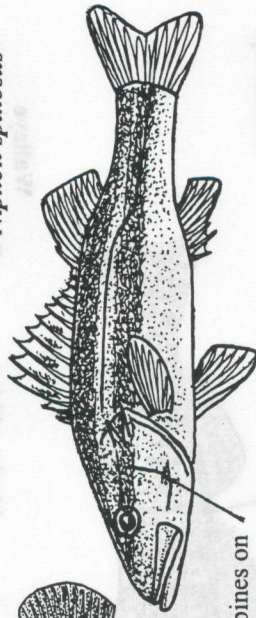
preopercle with single serrated edge

Sand Perch *Psammoperca* sp.
preopercle smooth edged



tooth patch on tongue

Sawedged Perch
Nippon spinosus

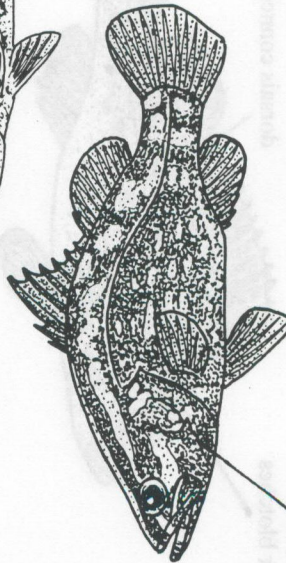


heavy spines on preopercle and opercle

Bigeye Nile Perch
Lates mariae
juvenile



Barramundi
Lates calcarifer
juvenile



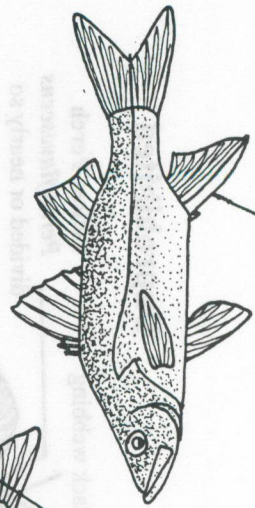
no heavy spines on preopercle or opercle

preopercle double edged with strong teeth



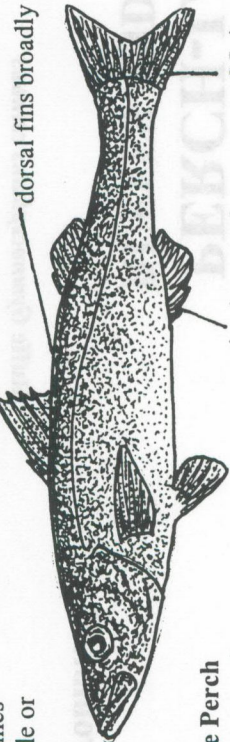
Snook
Centropomus undecimalis

Largescale Fat Snook
Centropomus mexicanus



LL in caudal fin

2nd-3rd spines very long



Slender Nile Perch
Lucioides stappersi

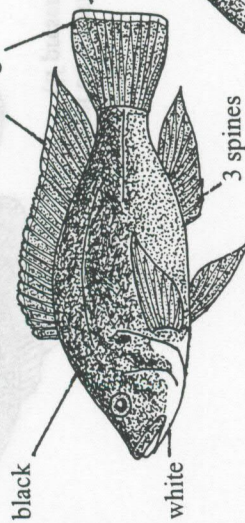
anal spines not long

no LL in caudal fin

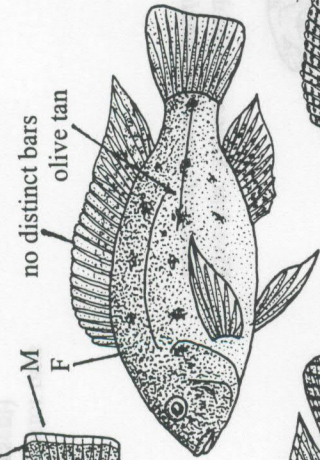
PERCH-LIKE FISHES

TILAPIA

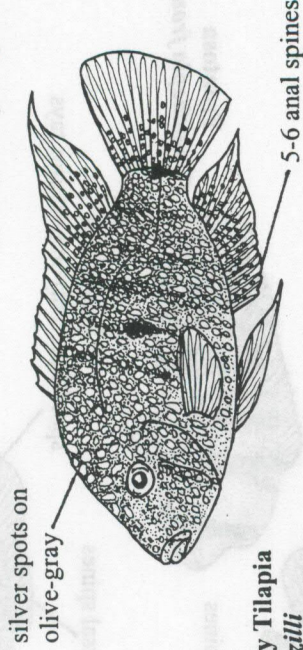
Prohibited
LL broken



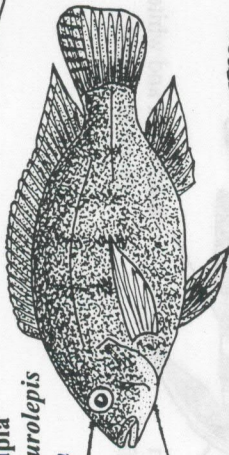
Mozambique Tilapia
Tilapia (O.) mossambica



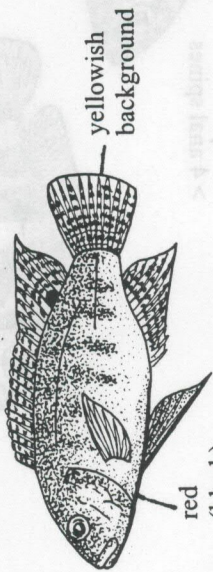
Unprohibited
Rio Grande Cichlid
Cichlasoma cyanoguttatum



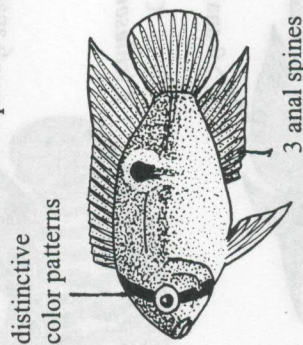
Wami Tilapia
Tilapia (O.) urolepis honorum
olive-brown
gray



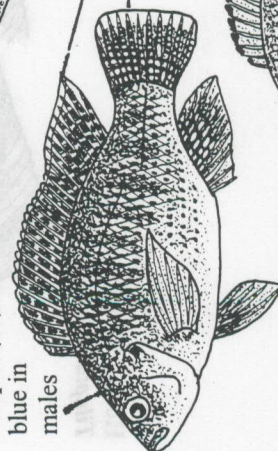
Redbelly Tilapia
Tilapia zilli



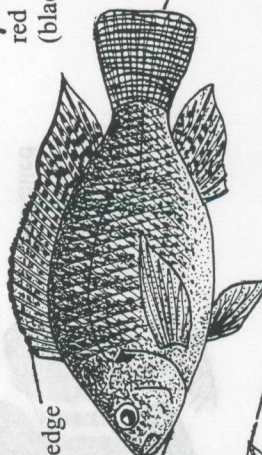
Keyhole Cichlid
Aequidens maroni



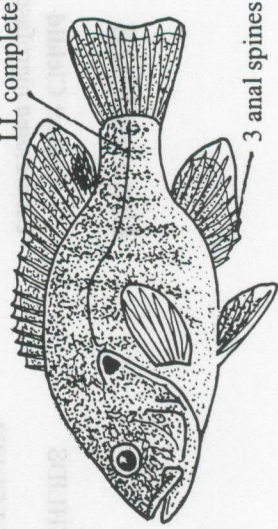
Blue Tilapia
Tilapia (O.) aurea
blue in males



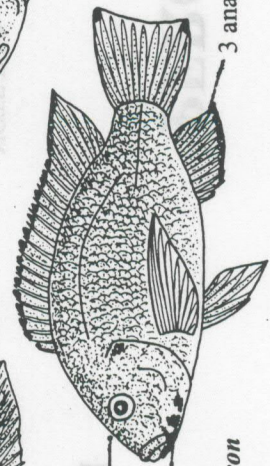
Nile Tilapia
Tilapia (O.) nilotica
fine lines



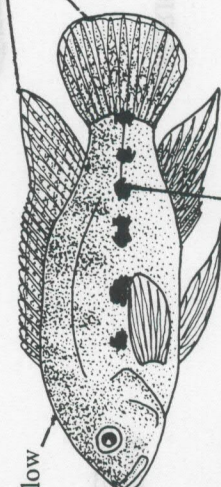
Green Sunfish
Lepomis cyanellus
LL complete



Blackchin Tilapia
Tilapia (S.) melanotheron
grayish-tan
black
3 anal spines



Spotted Tilapia
Tilapia mariae
LL broken

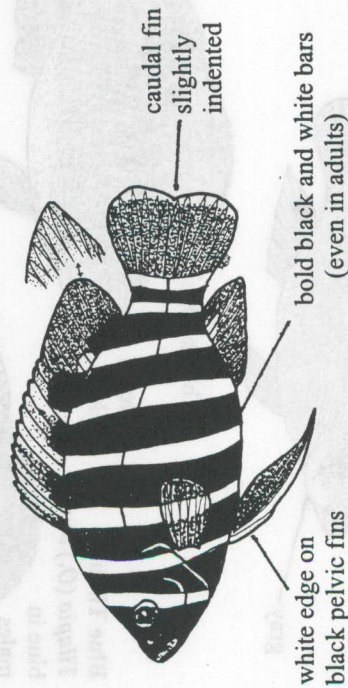


PERCH-LIKE FISHES

TILAPIA

Prohibited

Hornet Tilapia
Tilapia buttikoferi



NOTE BAR PATTERNS

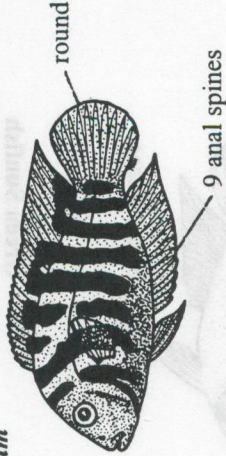
Unprohibited

AMERICAN CICHLIDS

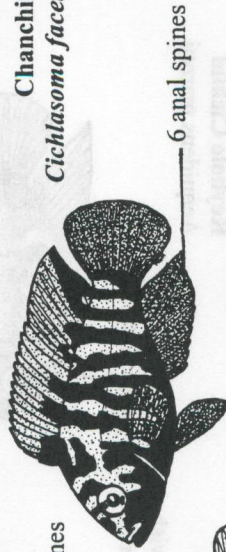
Blue-eyed Cichlid
Cichlasoma spitarum



Convict Cichlid
Cichlasoma nigrofasciatum



Chanchito
Cichlasoma facetum



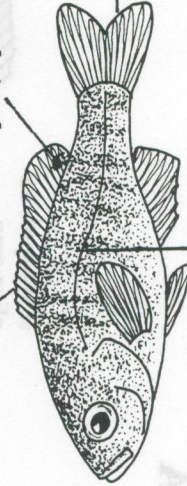
Five-bar African Cichlid
Lamprologus tetrocephalus

AFRICAN CICHLIDS

Frontosa
Cyphotilapia frontosa



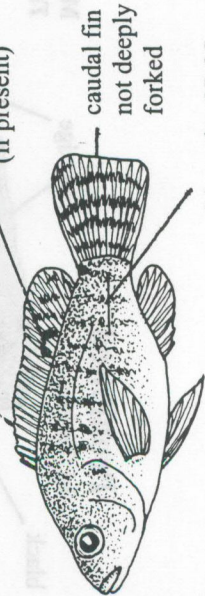
9-11 dorsal spines



LL scales often > 40
LL complete

JUVENILE
SUNFISH *Lepomis*

12 or more dorsal spines
spot on anterior rays
(if present)



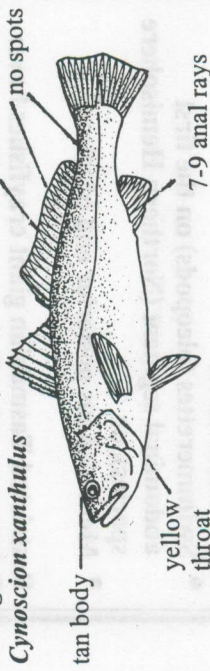
LL scales 27-35
LL broken

JUVENILE
TILAPIA

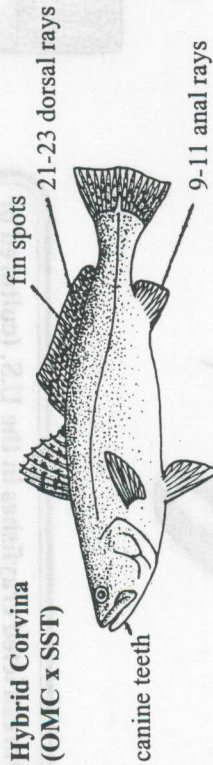
SEATROUTS AND CORVINAS

Prohibited

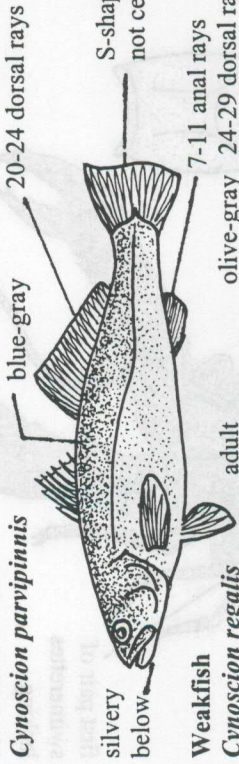
Orangemouth Corvina (OMC)
Cynoscion xanthulus



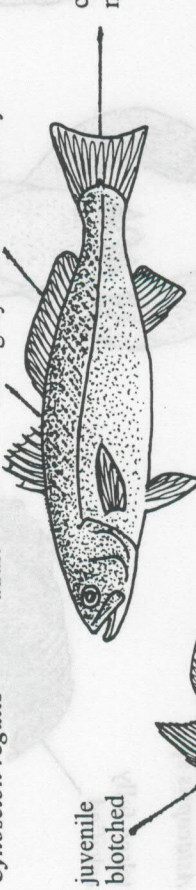
Hybrid Corvina (OMC x SST)



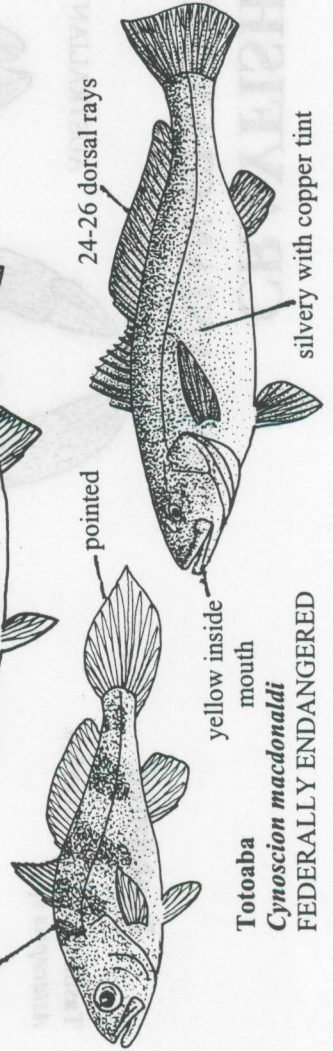
Shortfin Corvina
Cynoscion parvipinnis



Weakfish
Cynoscion regalis



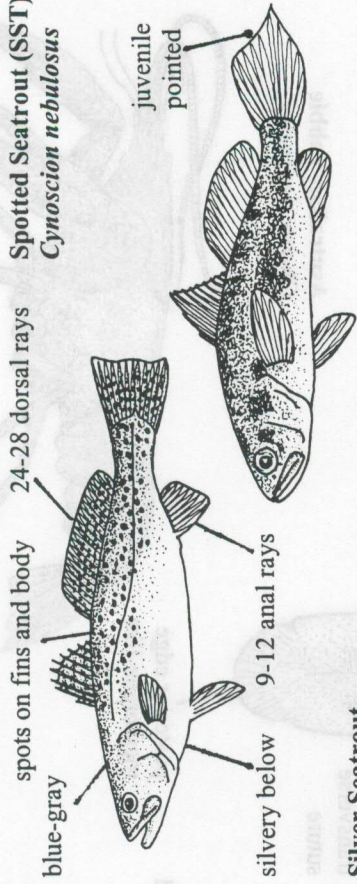
Totoaba
Cynoscion macdonaldi



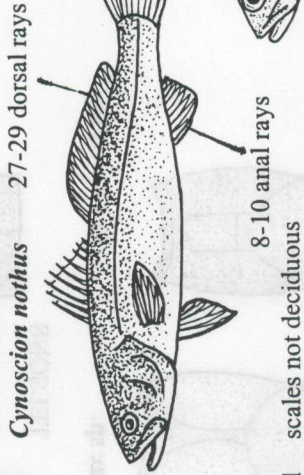
FEDERALLY ENDANGERED

Unprohibited

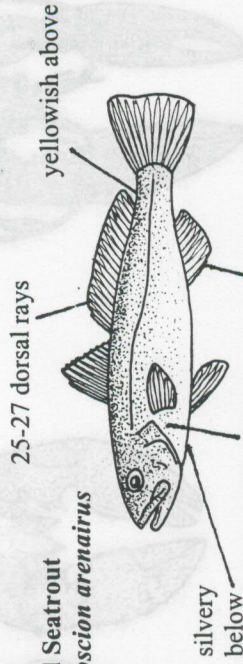
Spotted Seatrout (SST)
Cynoscion nebulosus



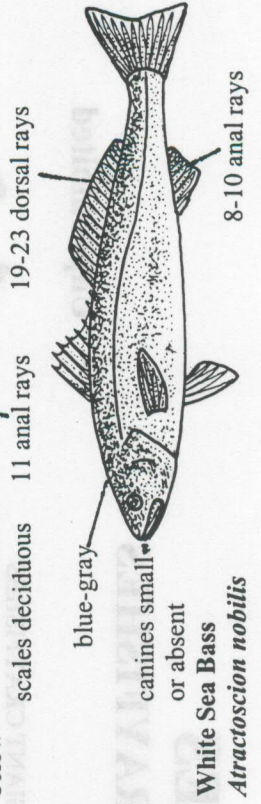
Silver Seatrout
Cynoscion nothus



Sand Seatrout
Cynoscion arenarius



White Sea Bass
Atractoscion nobilis

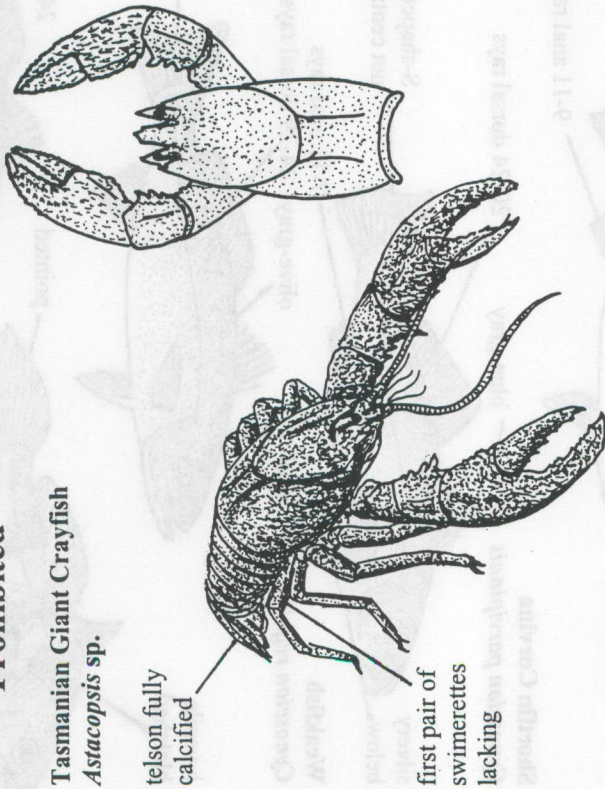


CRAYFISHES

TASMANIAN GIANT CRAYFISHES

Prohibited

Tasmanian Giant Crayfish
Astacopsis sp.

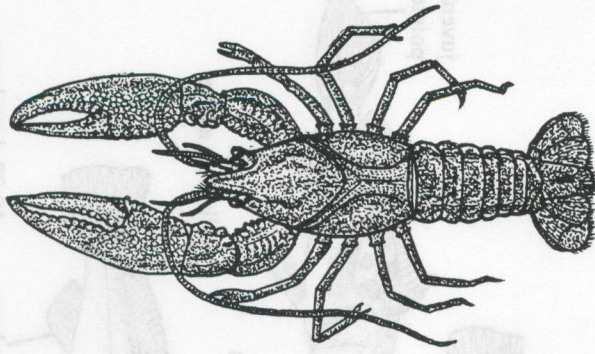


telson fully calcified

first pair of swimmerettes lacking

Unprohibited

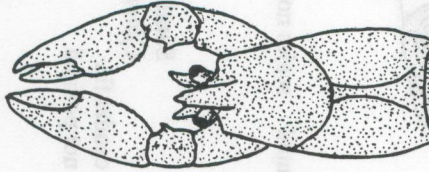
AUSTRALIAN GIANT CRAYFISHES



Euastacus sp.



Cherax sp.

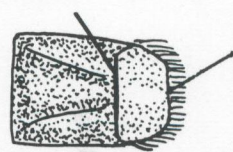


Euastacus sp.

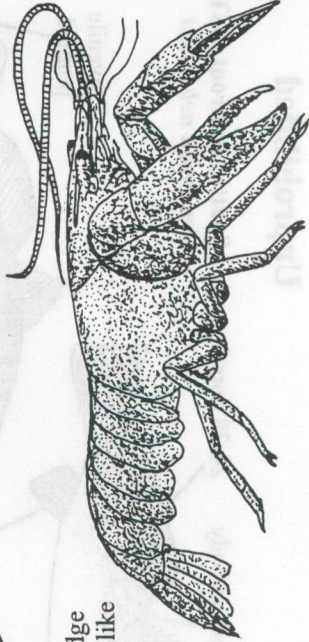


TELSONS

transverse suture



calcified



Australian Yabbie
Cherax destructor

posterior edge membrane-like

Unrestricted crayfishes in the U.S. (cultured or wild) should have:

- Swimmerettes (pleopods) on the first abdominal segment (Northern Hemisphere species), or
- Membranous posterior end of telson.

Restricted Tasmanian giant crayfishes have:

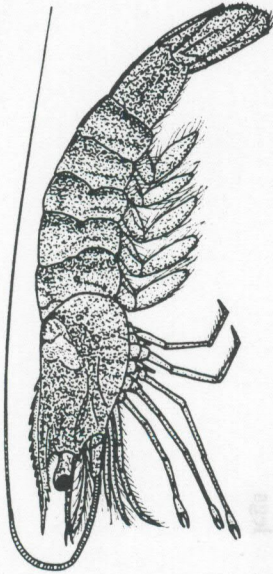
- First pair of swimmerettes lacking, and
- Telson calcified its entire length.

SHRIMPS

PENAEID SHRIMPS

Prohibited

Mexican White Shrimp
Penaeus vannamei



rostrum



White Shrimp
Penaeus setiferus
rostrum



rostrum
Brown Shrimp
Penaeus aztecus

NOTE

Penaeid shrimps can be very difficult to identify. Consult more detailed descriptions in the text and seek expert advice.

- Be cautious of penaeid shrimps
- with a spiny thelycum
 - without exopodites on 5th legs
 - with a high, triangular rostral crest larger than 8 inches in length
 - with a bold black banding pattern
 - with movable telson spines
 - with fixed telson spines (in adults)
 - with coxae of chelapeds armed (spined)
 - with only a single ventral rostral tooth
 - with dorsal carapace grooves crossing to form an "X" pattern

TELSONS



without spines

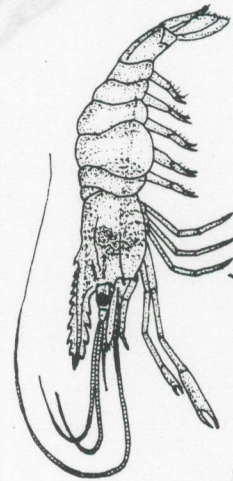
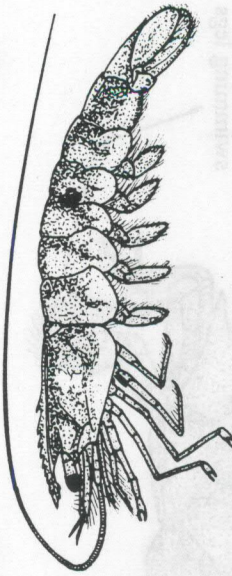
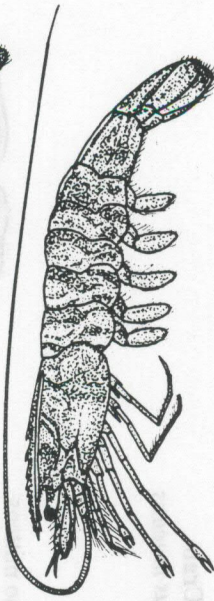
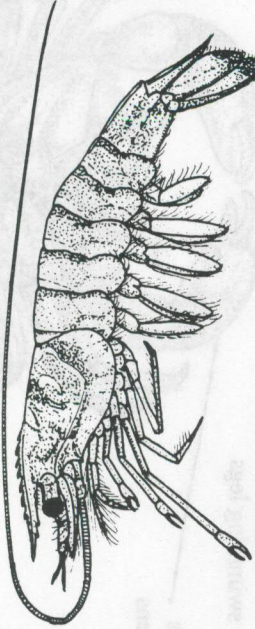


with fixed spines



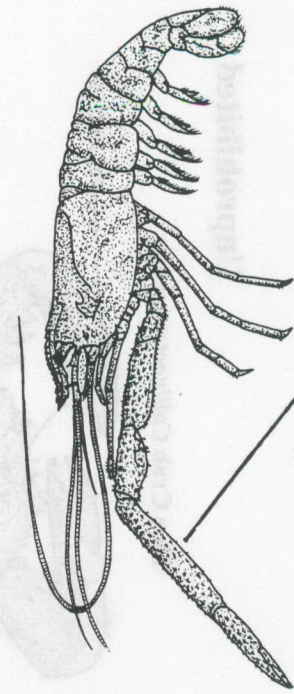
with movable spines

Unprohibited



small transparent

Grass Shrimp
Paleamonetes vulgaris



long arms and chela

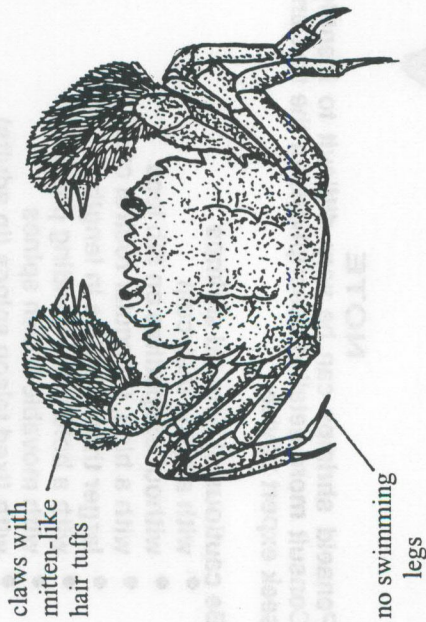
Cinnamon River Shrimp *Macrobrachium acanthurus*

CRABS

MITTEN CRAB

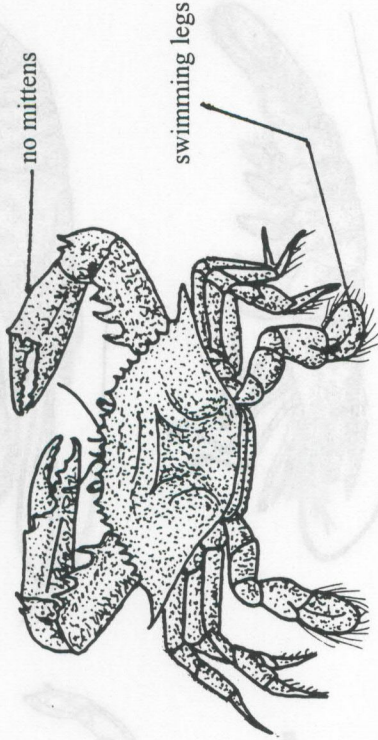
Prohibited

Mitten Crab *Eriochelir* sp.



Unprohibited

Blue Crab *Callinectes sapidus*



Green Crab *Carcinus maenas*

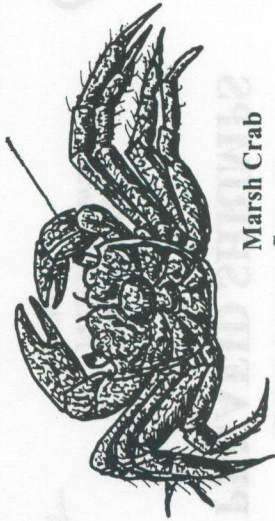


a few hairs but no mittens



White-fingered Mud Crab *Rithropanopeus harrisi*

Marsh Crab *Sesarma* sp.

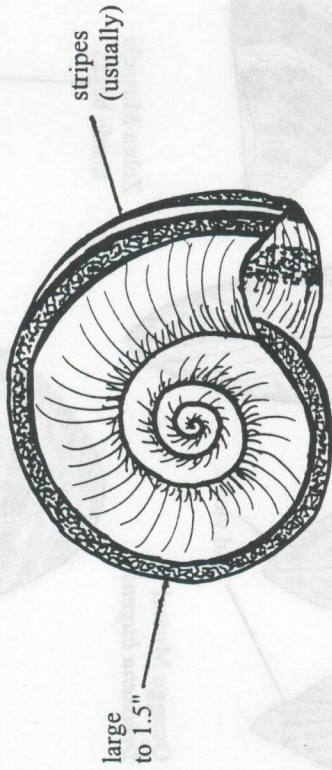


SNAILS

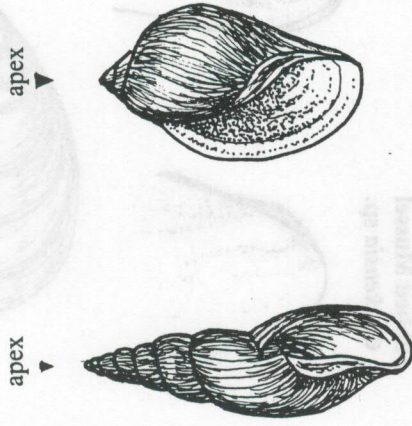
GIANT RAMSHORN SNAIL

Prohibited

Giant Ramshorn Snail
Marisa sp.



Unprohibited

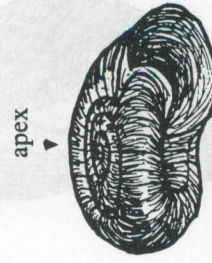


Pond Snail *Stagnicola* sp. Right-handed (dextral)

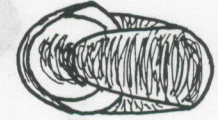
Pond Snail *Physella* sp. Left-handed (sinistral)



NATIVE RAMSHORN SNAILS



smaller < 0.5"



Operculum

Planorbella sp. Left-handed (sinistral)

Planorbula ap. Right-handed (dextral)

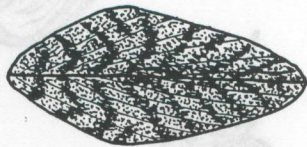
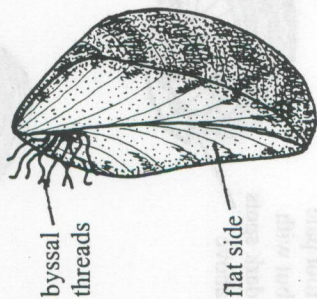
Right-handed (dextral)

BIVALVE MOLLUSKS

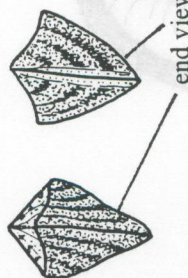
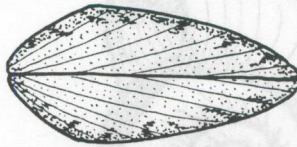
ZEBRA MUSSELS

Prohibited

Zebra Mussel *Dreissena polymorpha*



color variation

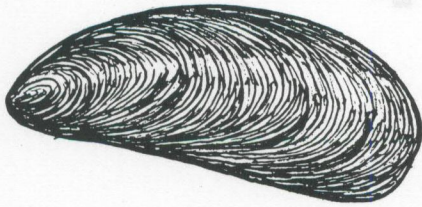


Quagga Mussel *Dreissena bugensis*

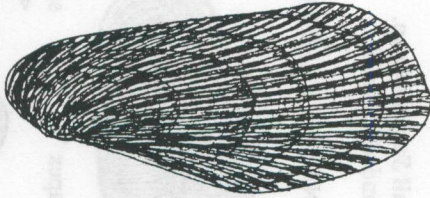


Unprohibited

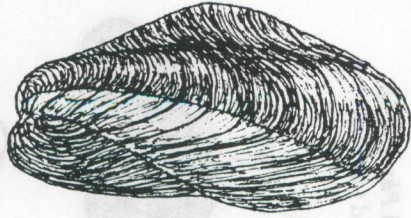
MYTILID MUSSELS



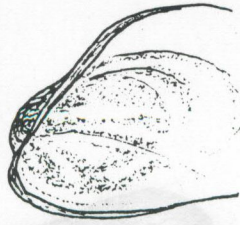
Blue Mussel *Mytilus edulis*
(also *Perna*)



Ribbed Mussel *Geukensia* sp.

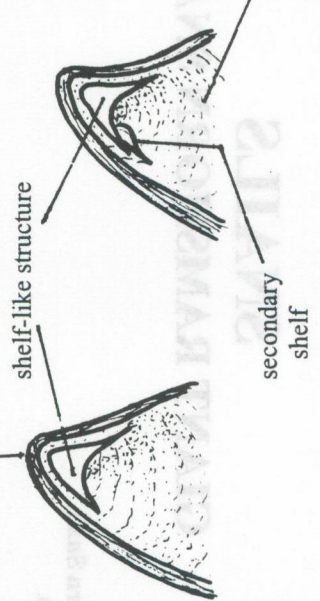


Tulip Mussel *Modiolus* sp.

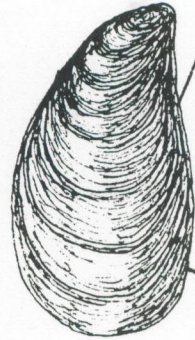


Zebra Mussels
inside beaks

shelf-like structure



usually unmarked brown



Dark Falsemussel *Mytilopsis leucophaeata*

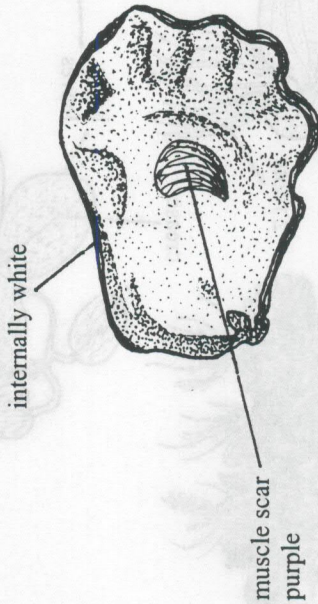
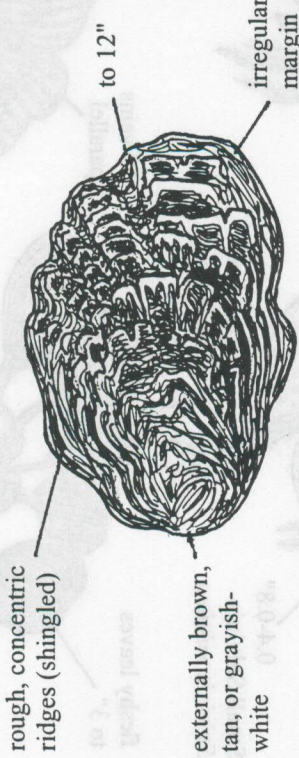
no flat side

BIVALVE MOLLUSKS

PACIFIC OYSTER

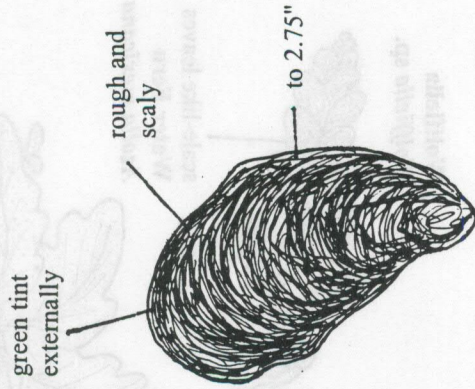
Prohibited

Pacific Oyster *Crassostrea gigas*

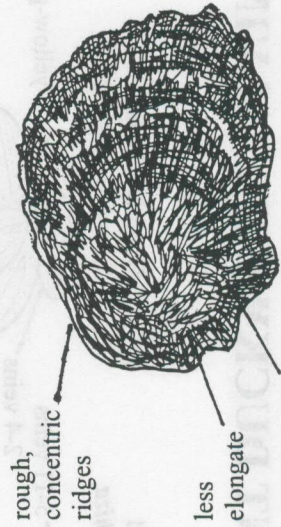
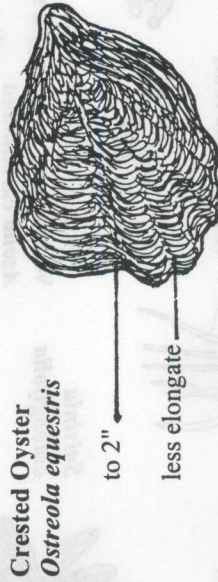
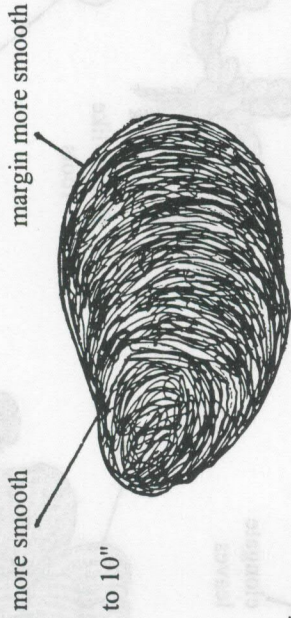


Unprohibited

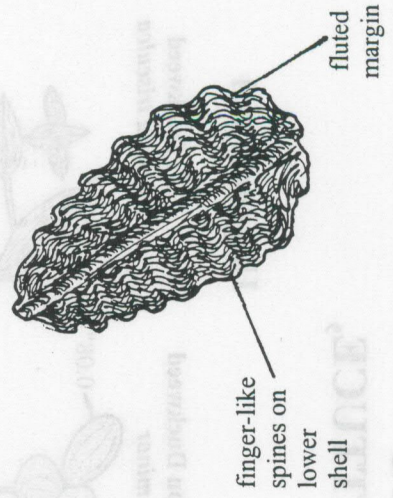
Native Pacific Oyster *Ostrea lurida*



Eastern Oyster *Crassostrea virginica*



Edible European Oyster
Ostrea edulis

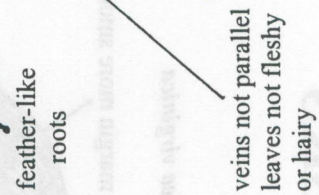
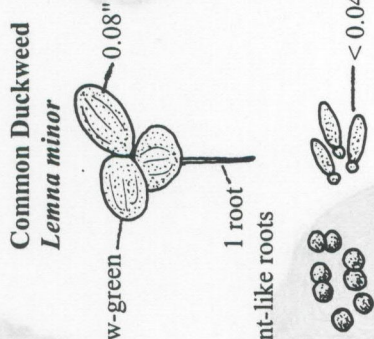
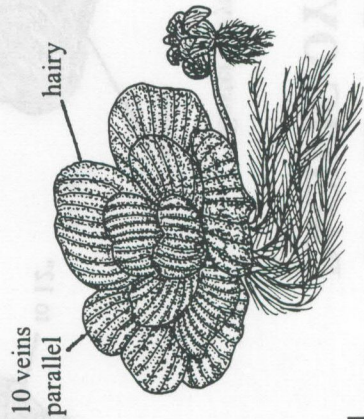
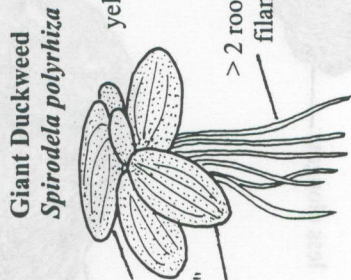
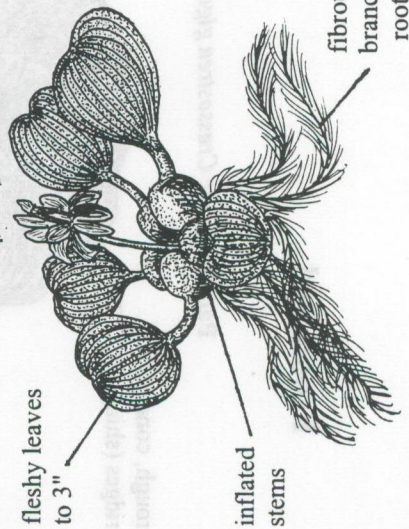
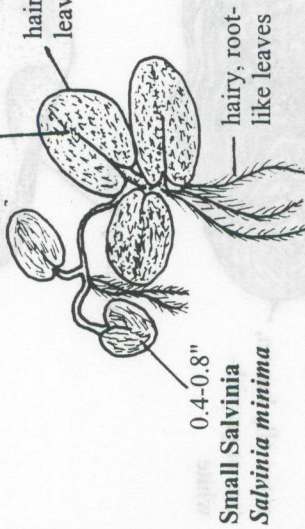
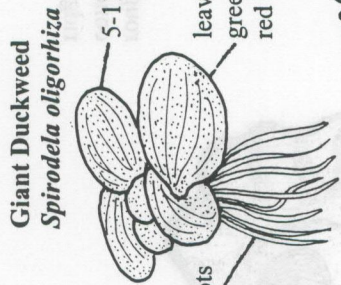
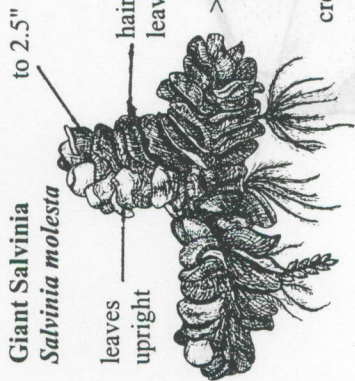


Coon Oyster
Dendostrea frons

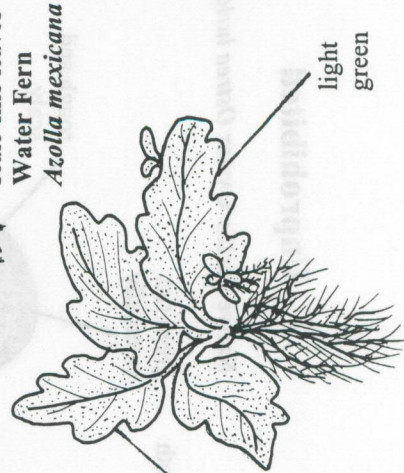
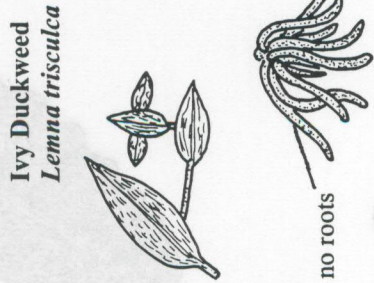
FLOATING AQUATIC PLANTS

FLOATING WATER HYACINTH, WATER LETTUCE, GIANT DUCKWEED, SALVINIAS

Prohibited



Unprohibited



Water Lettuce *Pistia stratiotes*

Floating Water Hyacinth *Eichhornia crassipes*

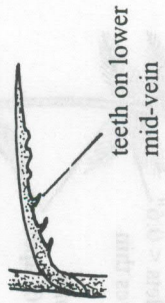
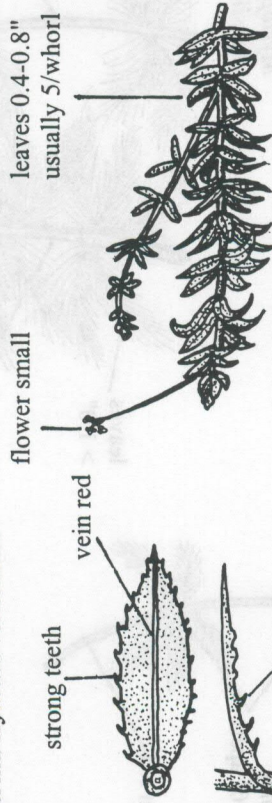
Water Sprite *Ceratopteris* sp.

SUBMERGED AQUATIC PLANTS WITH UNBRANCHED LEAVES

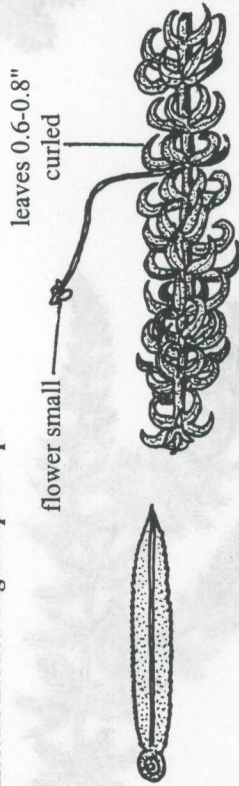
HYDRILLA, AFRICAN ELODEA, ROOTED WATER HYACINTH

Prohibited

Hydrilla *Hydrilla verticillata*

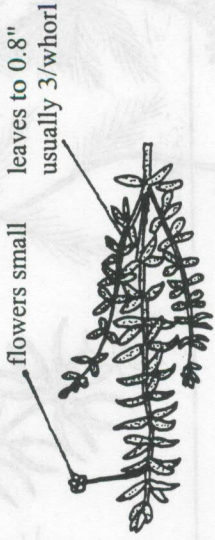


African Elodea *Lagarosiphon* sp.



Unprohibited

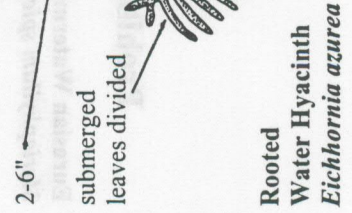
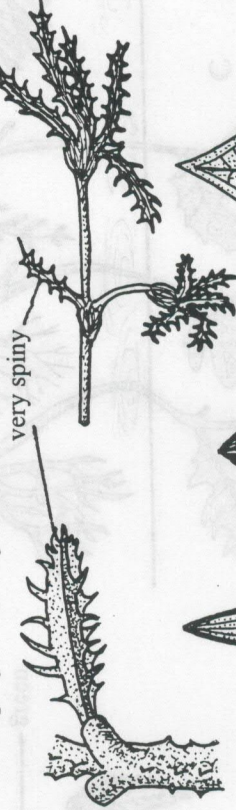
Waterweed *Elodea* sp.



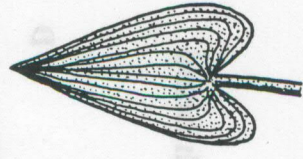
Egeria *Egeria densa*



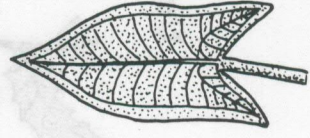
Spiny Naiad *Najas marina*



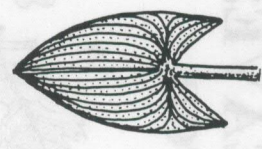
Rooted Water Hyacinth *Eichhornia azurea*



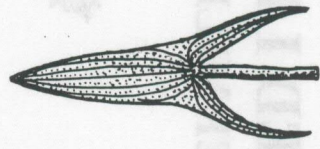
Pickerelweed *Pontederia* sp.



Arrow-arum *Peltandra* sp.



Arrowhead *Sagittaria* sp.



SUBMERGED AQUATIC PLANTS WITH BRANCHED LEAVES EURASIAN WATERMILFOIL

Prohibited

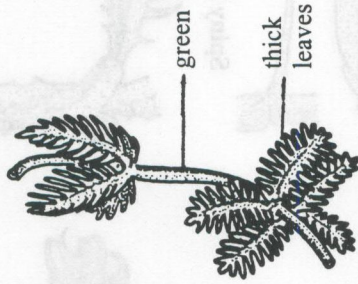
Eurasian Watermilfoil
Myriophyllum spicatum



leaves < 1.0"
leaflets < 0.6"
leaves thin

whorls
< 0.6" apart

stem red

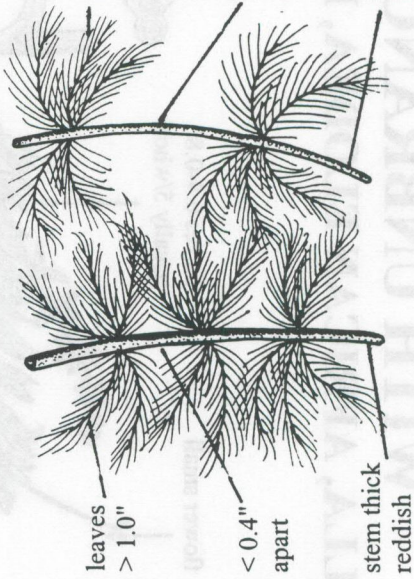


Parrot Feather
Myriophyllum brasiliensis

leaves > 1.0"

> 0.4"
apart

stem not
thick



leaves
> 1.0"

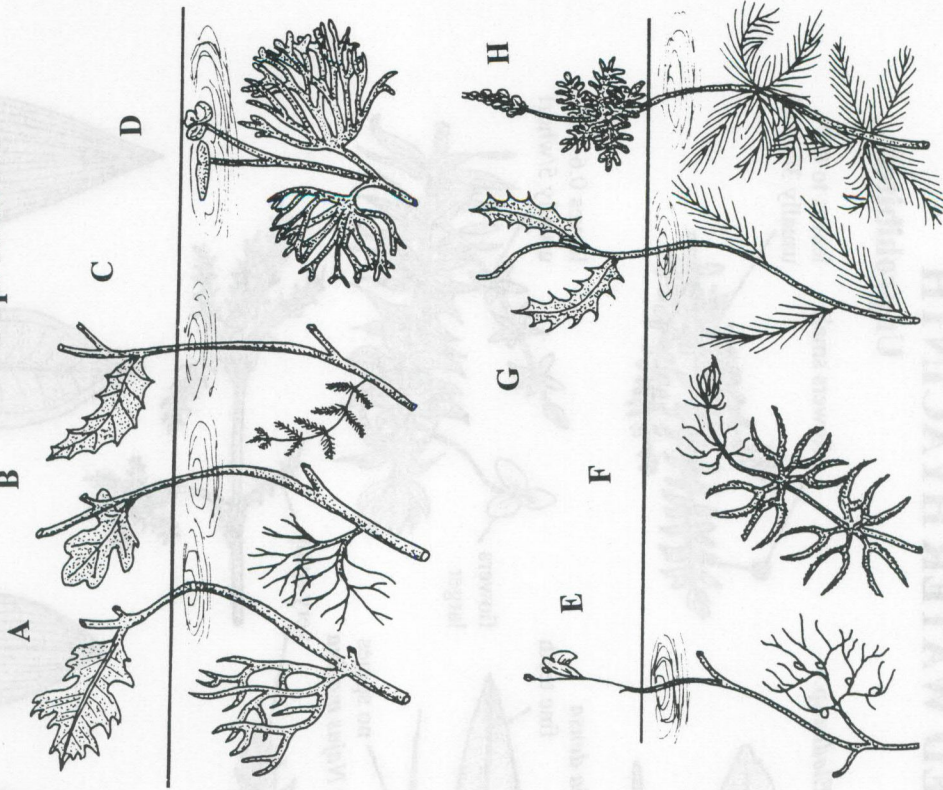
< 0.4"
apart

stem thick
reddish

Myriophyllum verticillatum

Myriophyllum exalbescens

Unprohibited



A. Water Marigold *Megalodonta*

B. Water Buttercup *Ranunculus*

C. Lake Cress *Neobeckia* sp.

D. Fanwort *Cabomba*

E. Bladderwort *Utricularia*

F. Hornwort *Ceratophyllum*

G. Mermaid Weed *Proserpinaca*

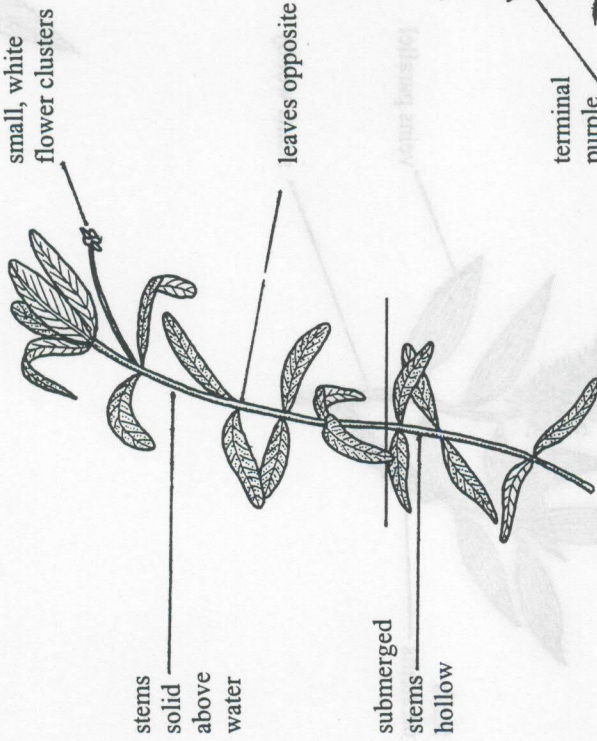
H. Watermilfoil *Myriophyllum*

EMERGENT PLANTS

ALLIGATORWEED

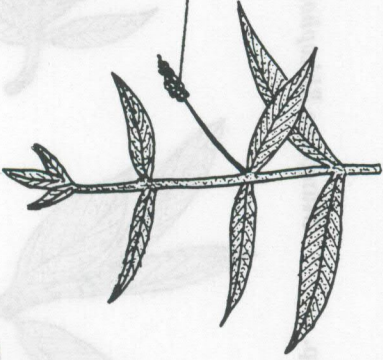
Prohibited

Alligatorweed *Alternanthera philoxeroides*



Unprohibited

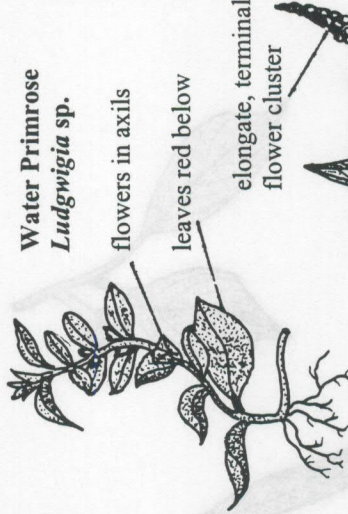
Waterwillow *Dianthera sp./Justicia sp.*



Yellow Loosestrife *Lysaimahia sp.*



Water Primrose *Ludwigia sp.*



elongate, terminal flower cluster



Knotweed *Polygonum sp.*

Purple Loosestrife *Lythrum salicaria*



SHOREZONE TREES AND SHRUBS PAPERBARK (MELALEUCA)

Prohibited

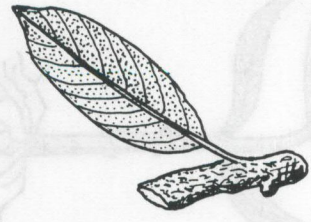
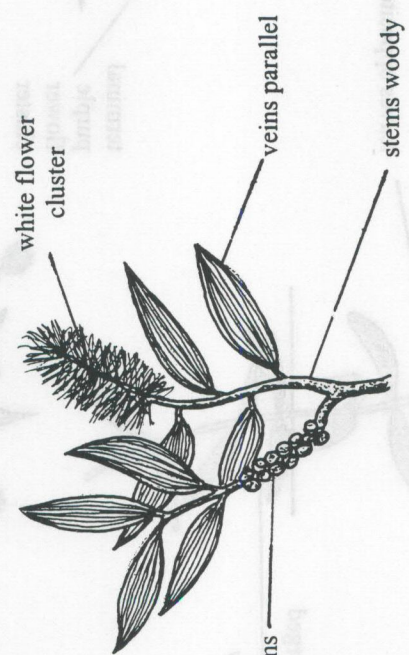
Unprohibited

Paperbark *Melaleuca* sp.

Willow *Salix* sp.
toothed leaf edge

Tupelo *Nyssa* sp.

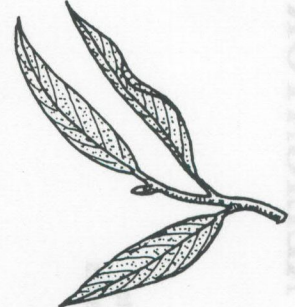
**Magnolia
Magnolia sp.**



NONE HAVE PARALLEL LEAF VEINS

Willow Oak *Quercus* sp.

Mangrove *Rhizophora* sp.



red
flowers
mid-stem



Bottlebrush *Callistemon* sp.

AQUATIC GRASSES

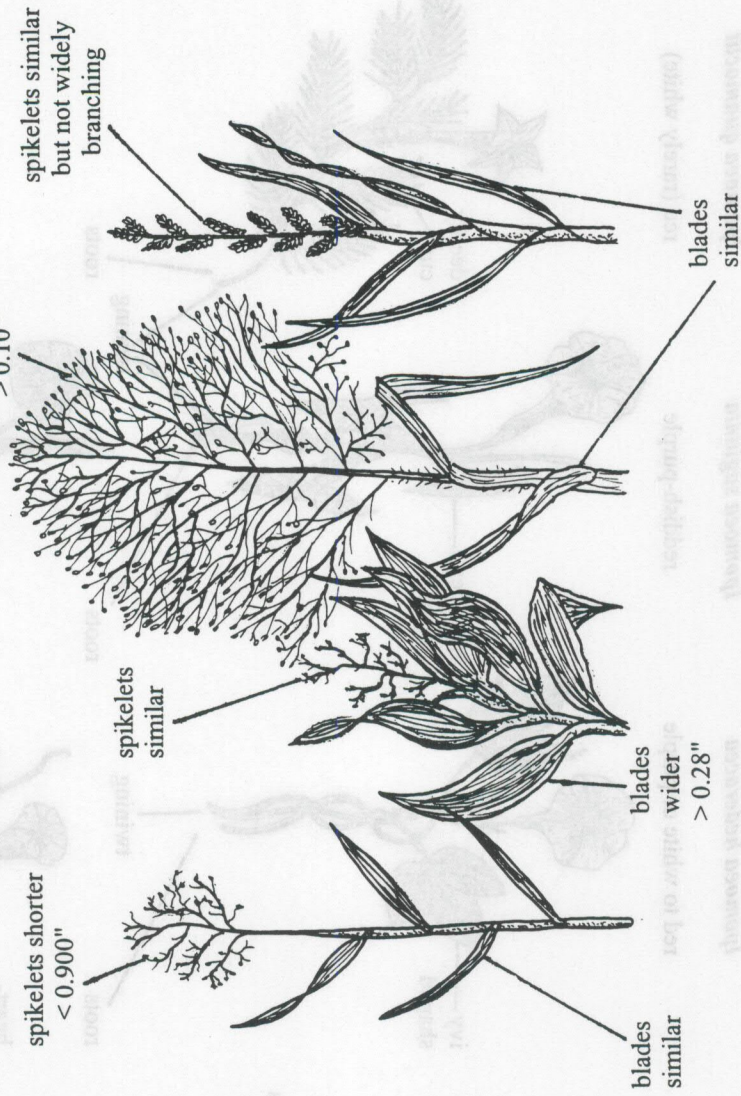
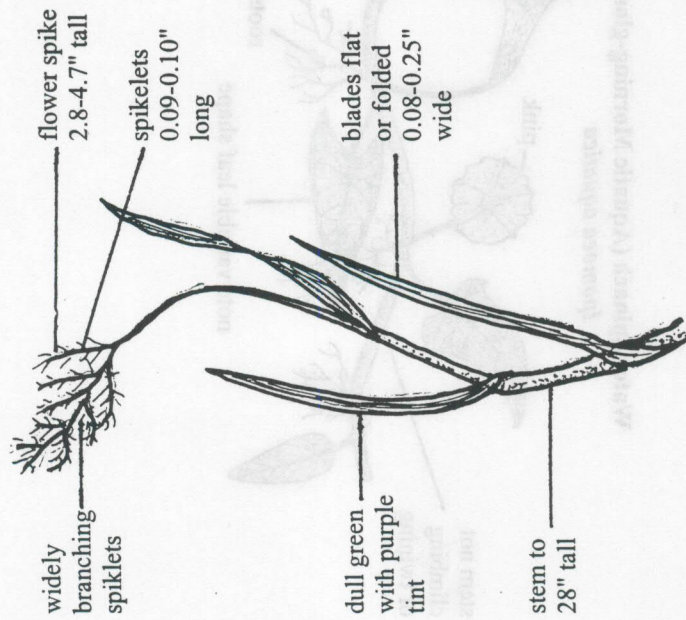
TORPEDOGRASS

Prohibited

Unprohibited

OTHER PANIC GRASSES

Torpedograss *Panicum repens*



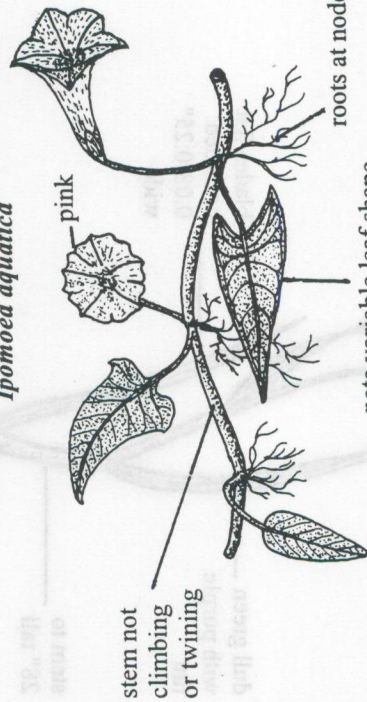
Panicum dichotomum *Panicum commutatum* *Panicum capillare* *Panicum geminatum*

AQUATIC VINES WATER SPINACH

Prohibited

Water Spinach (Aquatic Morning-glory)

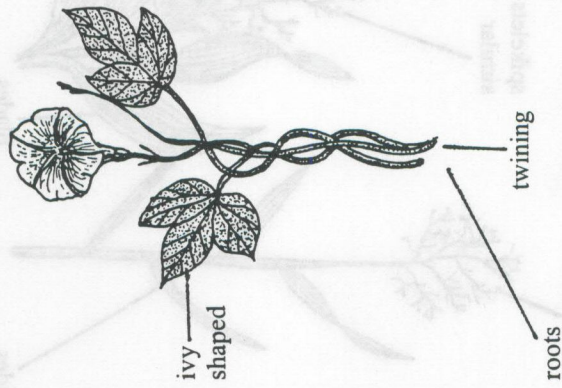
Ipomoea aquatica



Unprohibited

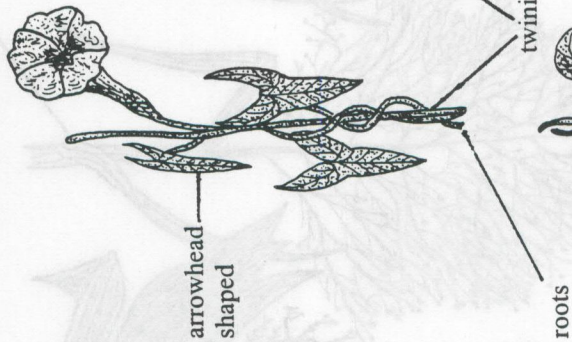
Ivy-leaf Morning-glory
Ipomoea hederacea

red to white or purple



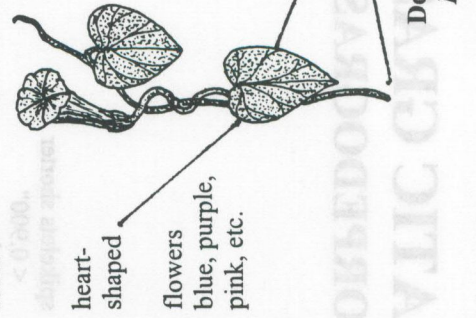
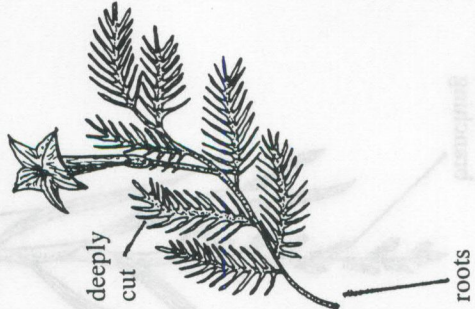
Saltmarsh Morning-glory
Ipomoea sagittata

reddish-purple



Cypress Vine
Ipomoea quamoclit

red (rarely white)



Domestic Morning-glory
Ipomoea purpurea