

A.S.D GOVT. DEGREE COLLEGE FOR WOMEN (A),
(Re- Accredited by NAAC with B Grade)
Jagannaickpur, Kakinada-533002, East Godavari, AP.

DEPARTMENT OF ZOOLOGY & AQUACULTURE
TECHNOLOGY

2019-2020



Field Trip

On

Identification of Fishes

ASD Govt. Degree College for Women (A)

Jagannaickpur, Kakinada

Activity register 2019

Date	16.12.19
Conducted through (DRC/JKC/NCC/NSS/Department)	zoology
Nature of Activity (Seminar/Workshop/Ext. Lecturer etc.)	FIELD TRIP
Title of the Activity	Identification of fishes
Name of the Department/Committee	zoology
Details of Resource Persons (Name. Designation etc.)	U. Satyanarayana B. Sonia N. Veera chanti
No. of Students Participated	25
Brief Report on the Activity	Students certainly benefit by themselves when they are participated in .They can know how to gather information relevant to the topic
Name of the Lecturers who Planned & Conducted the Activity	U. Satyanarayana B. Sonia N.Veera chanti
Signature of the in Charge	DR.K. ARUNA mam lecturer in microbiology
Signature of the Principal	M. Svarchala
Remarks	

Methodology

IDENTIFICATION OF FISHES

II IDENTIFICATION OF FISHES

Scientific identification of fishes is based mainly on external characters such as body shape, length, depth, mouth and nature of fish spines, scales, etc. The best way to collect fish for a scientific or taxonomic study is to catch them alive through a fishing net, trap or any other device locally adopted except poisoning with toxic chemicals.

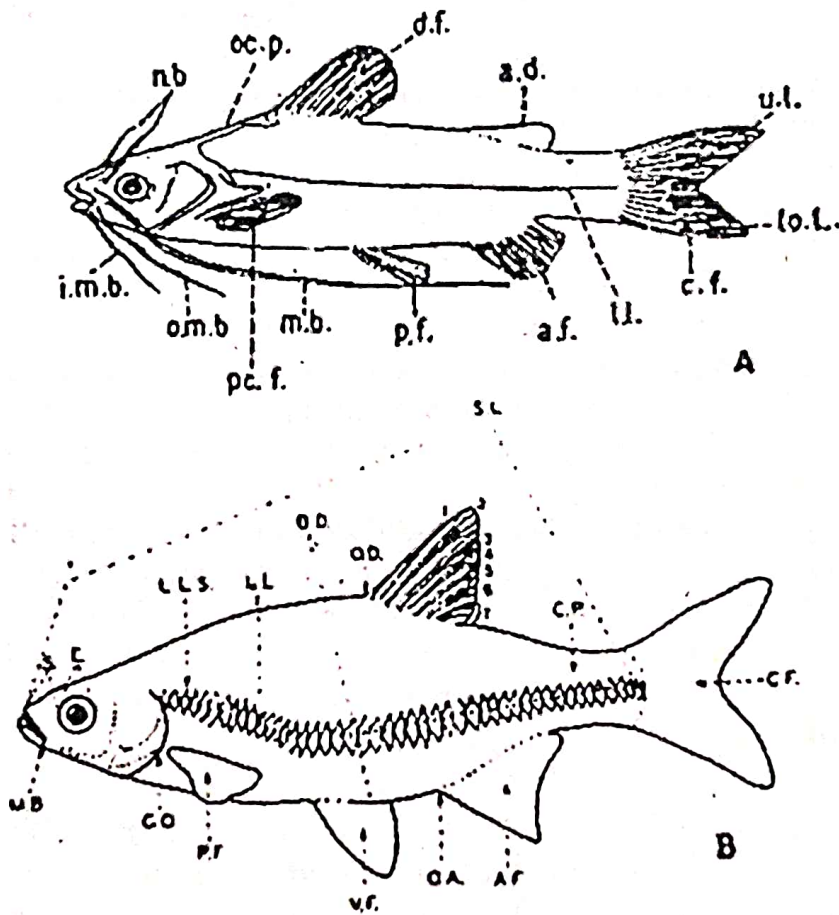


Fig 1: Outline lateral view diagrams of A) a non-scaled catfish and B) a scaled fish showing body parts

A. Non-scaled catfish

B. Scaled fish

a.d. = adipose dorsal fin

a.f. = anal fin

c.f. = caudal fin

d.f. = dorsal fin

i.m.b. = inner mandibular barbell

l.l. = lateral line

lo. l. = lower lobe of caudal fin

m.b. = maxillary barbell

n.b. = nasal barbell

oc.p. = occipital process

o.m.b. = outer mandibular barbell

p.f. = pelvic fin

pc.f. = pectoral fin

u.l. = upper lobe of caudal fin

A.F. = anal fin

B.D. = body depth

C.F. = caudal fin

C.P. = caudal peduncle

E. = length of eye

G.O. = gill opening

L.L. = lateral line

L.L.S. = lateral line scales

M.B. = maxillary barbell (in terminal position)

O.A. = origin of anal fin

O.D. = origin of dorsal fin

P.F. = pectoral fin

S. = length of snout

S.L. = standard length

V.F. = pelvic fin

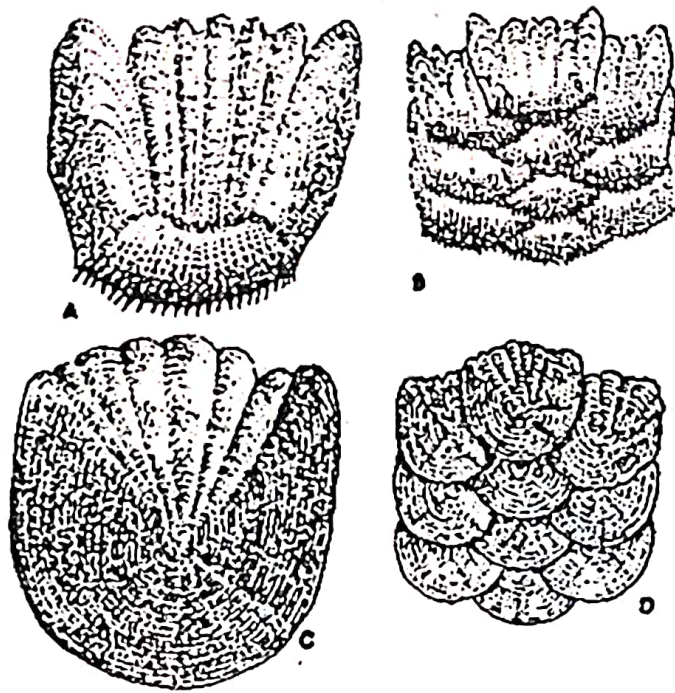
1 to 7, dorsal fin rays (note that two very small rays at the front end of this fin are not counted and that the last fin ray is divided to its base)

Fish have different ecological preferences and inhabit waters best suited to them.

Environmental factors influence the predominance of certain species of fish. For instance, river fishes prefer riffle or quiet areas; a hill stream with fast flowing water over rocky bed may not have large sized carps, while dimly lit, shallow swampy pools may have cat fishes, mussels, eels and may not have fishes like rohu, mrigal etc.

The fishes caught are segregated mainly based on the presence or absence of scales on the body. When scales are present, they are further separated based on body shape, number and length of fins. In the case of fishes without fins, they are separated according to the total number of barbels. After the segregation, they are identified according to the keys.

Classification of fishes for scientific study is done through taxonomy or systematics. Under this, each fish is given a name of two words; the first one is generic name and the second specific name, followed by the name of the author who described it first. There may be many fishes under the first word, which is called *Genus*. This indicates the affinity of the fish grouped under the same genus due to common features. Similarly, a number of *Genera* (plural of genus) are grouped under the term *Family*, while a number of families are put under an *Order*. Many orders come under a *Class*. The characters differentiating orders and families are distinct, but down the hierarchy, they become insignificant. For identification, the fishes are first grouped under orders, then families, genera and species. Identification keys are available for all orders, families and genera.



Different kinds of scales

A,B, Ctenoid C,D, Cycloid.

Glossary of terms for identification of fish:

Adipose fin: A short fleshy fin, without rays behind the dorsal fin mainly on the back of catfishes.

Antorse: Pointing forward or towards anterior direction especially in pectoral spine.

Axilla: Space behind base of a fin.

Axillary: Pertaining to the axilla.

Barbel/s: Slender, tactile whisker-like projection extending from the head of some fishes; functioning primarily as a sensory organ for locating food and locations.

Base: The part where a fin joins body, as in length of dorsal/anal fin base.

Branchial: As referred to gills.

Branchiostegal rays: Numerous tiny thin bones arranged fanwise from the lower edge of the opercle to the ventral surface of the head and covered by the branchiostegal membrane.

Breast: Ventral part of the body situated between head and pectoral fins.

Caudal peduncle: The narrow posterior part of the fish's body between anal and caudal fin.

Ctenoid scale: Scales with rough, comb-like or toothed margin.

Cycloid scale: Scales that are smooth-edged, more or less circular with concentric striations.

Depth of body: The greatest vertical height of fish.

Dorsal: The back or upper part of the body.

Fin rays:

All paired and median fins in teleosts have long, mobile filament like prolongations called rays. The movements of the fins are due to the action of muscles, the movements possible due to the articulations and often flexibility of these rays. The term "ray" also applies to spines, whether they are included within the membrane of a fin or not.

The chief types of fin rays encountered are:

- Hard rays: a number of soft rays united solidly to form hard rays, which are rigid and sharply pointed. These are formed of cartilage. The outermost caudal fin ray called the principal ray is also a hard ray.
- Spinous rays: are made of bone tissues and are harder and stronger than rays. These are usually not flexible and they are commonly found in catfishes.
- Simple ray: It is either soft or hard but without any branching at its tip or elsewhere.
- Branched ray: It is branched either from the base or middle or tip of the ray.

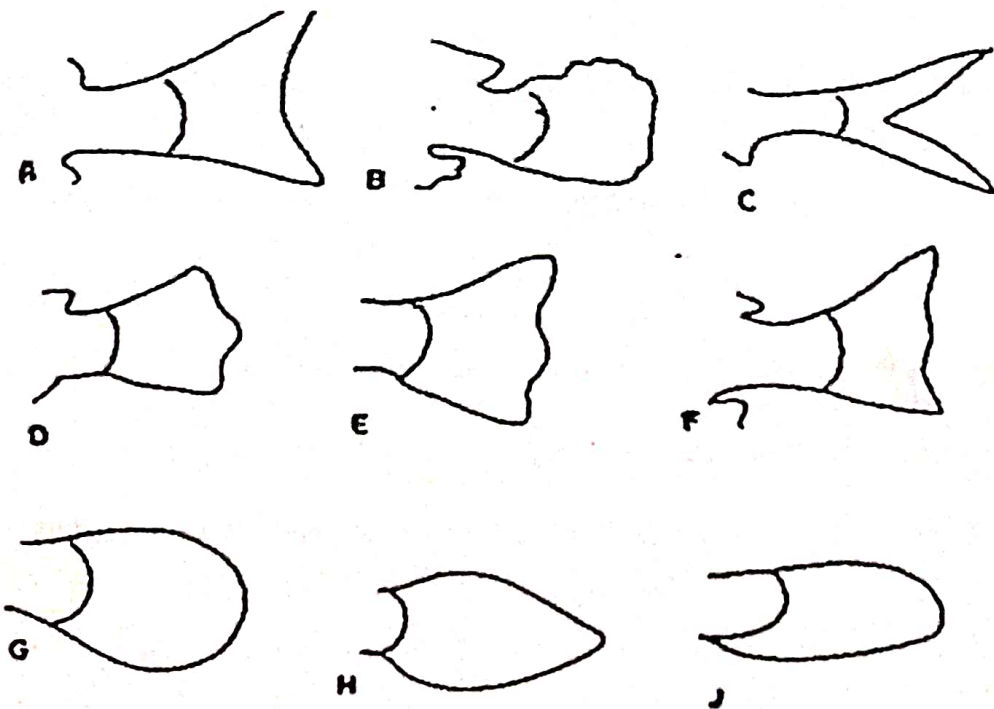


Fig 3: Different caudal fin shapes

(A-slightly emarginated or furcate, B-rounded with wavy margins, C-forked, D-wedge or paddle shaped, E-notched, F-truncate or cut square, G-rounded, H-lanceolate and J-ovate)

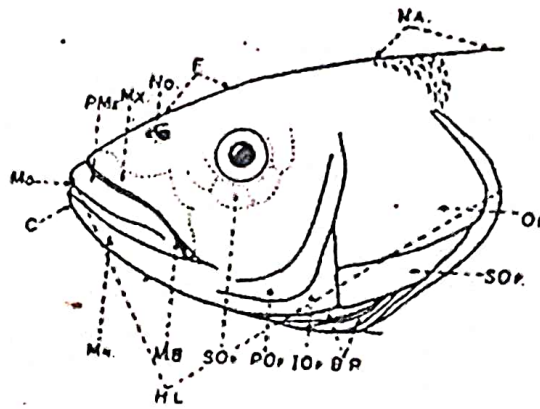


Fig 4: BR-branchiostegial ray, C-chin, F-forehead, HL-head length, OP-interopercule, MB-maxillary barbell, MN-mandible, MO-mouth, MX-maxillary, NA-nape, NO-nostrils, OP-opercule, PMX-premaxillary, POP-preopercule, SOP-subopercule and SOR-suborbital

Gills: The respiratory apparatus of fishes, found within the gill openings.

Gill archers: The bony supports to which the gill rakers are attached.

Gill opening: The opening situated generally on either side of the head; the water used for breathing enters by the mouth and is expelled through gill-openings.

Gill rakers: These are thin needle like prolongations on the gill arches.

Gill slit: Each of the narrow spaces between the gill arches.

Gular plate: A hard plate covering the under part of the throat, often present in some fishes.

Isthmus: The fleshy interspace below the head and between the gill openings.

Nare, Naris, Nostril: On the snout of fishes the opening of the olfactory or organ of smell; in fishes these are usually a pair of nostrils on either side of head.

Opercule or operculum: The gill cover.

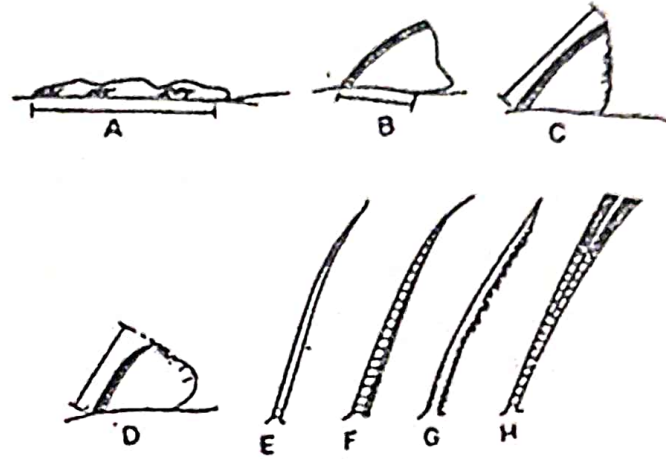
Opercular flap: A fleshy extension of the rear edge of opercule.

Origin of fin: The point where the first ray is inserted into the body of the fish.

Pectoral fins: The paired fins attached to the shoulder girdle.

Pelvic fins: The paired fins placed behind or below the pectoral fins.

Scale: One of the thin, bony or horny plates covering the whole or part of the body of most fishes. Scales can be macroscopic as on eel, small as on Chela and large as on Tor. A fish may have no scales as the catfishes.



Different types of fins and rays

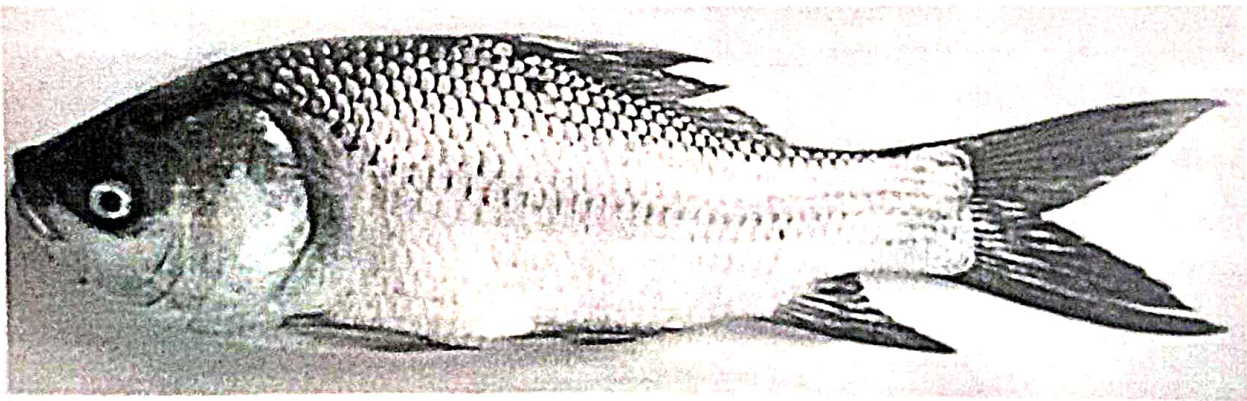


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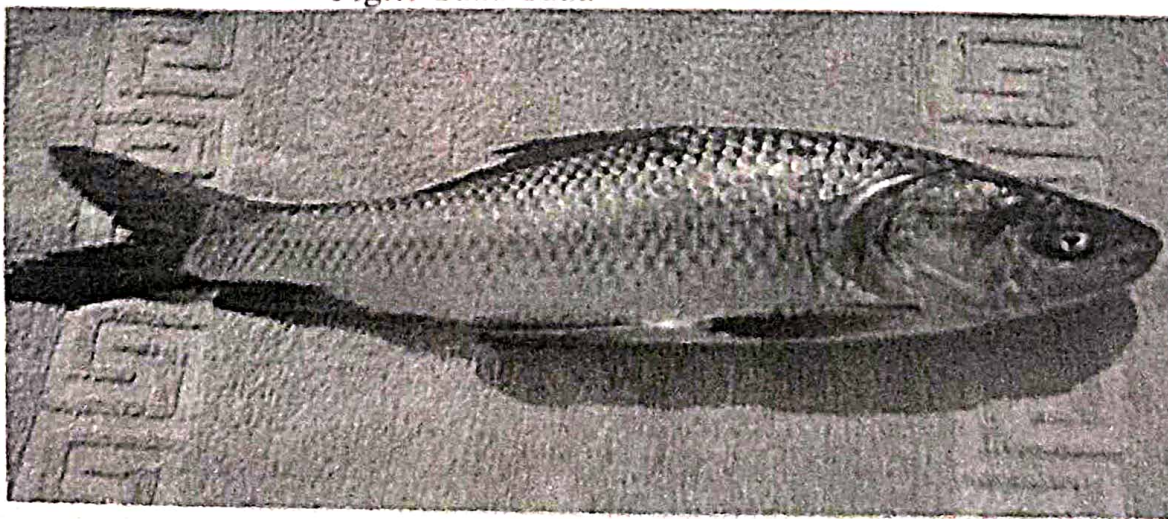


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IDENTIFICATION OF FISHES



S. D. Govt Degree college for women [A]

II BSC Students [2019-2020] Attendance

Sl. NO	Name of the Student	Group	Signature
1.	K.L.S. Lalitha	CZA9t	K.L. Sai Lalitha
2	A. Santhi Rupa	CZA9t	A. Santhi
3	M. Suguna	CZA9t	M. Suguna
4	M. Bharathi	CZA9t	M. Bharathi
5	M. Chandhini	CZA9t	m. Chandini
6	L. Durga Bhavani	CZA9t	L. durga bhavani
7	G.H.V.L. Phanee	CZA9t	G.H.V.L. Phanendra
8	M. Lakshmi	CZA9t	M. Lakshmi
9	B.N.D. Lakshmi	CZA9t	B.N.D. Lakshmi
10	ch. Harshitha	CZA9t	Ch. Harshitha
11	V. Keerthana	CZA9t	V. Keerthana
12	B. P. K. CH. Kumari	CZA9t	B.P. K. CH. Kumari
13	P. Pushpa Latha	CZA9t	P. Pushpa Latha
14	D. Sri Vani	CZA9t	D. Srivani
15	G. Sudha	CZA9t	G. Sudha
16	P. Suguna Kumari	CZA9t	P. Suguna Kumari
17	N. Usha Rani	CZA9t	N. Usha Rani
18	B. Vennisha Rani	CZA9t	B. Vennisha Rani
19	SK. Basheer	CBZ	SK. Basheer
20	SK. Karishma	CBZ	SK. Karishma
21	A. Devi	CBZ	A. Devi
22	D. Eswari Kumari	CBZ	D. Eswari Kumari
23	M. Malleswari	CBZ	M. Malleswari
24	P. Malleswari	CBZ	P. Malleswari
25	S. Naga satya	CBZ	S. Naga Satya
26	P. Jayashila	CBZ	P.J. Shila
27	B. P. B. Therissa	CBZ	B. P. B. Therissa

28	L. Priyanka	CBZ	L. Priyanka
29	M. Sobhi	CBZ	M. Sobhi ^o
30	M. Vijaya Lakshmi	CBZ	M. Vijaya Lakshmi
31	G. Anjali Devi	CBZ	G. Anjali Devi
32	M. Akhila	CBZ	M. Akhila
33	G. Ankhitha	CBZ	G. Ankhitha
34	P. Bhanu Sri Jyothi	CBZ	P. Bhanu Sri Jyothi
35	M. Bhanu Rekha	CBZ	M. Bhanu Rekha
36	P. Bhava Devi	CBZ	P. Bhava Devi
37	ch. Devi	CBZ	ch. Devi
38	S. Devi	CBZ	S. Devi
39	R. Devika	CBZ	R. Devika
40	M. Durga Shirisha	CBZ	M. Durga Shirisha
41	D. Jesatya	CBZ	D. Jesatya
42	T. Jessi	CBZ	T. Jessi
43	ch. Kumari	CBZ	Ch. Kumari
44	S. Lalitha	CBZ	S. Lalitha
45	T. Lova Kumari	CBZ	T. Lova Kumari
46	K. Lova Kumari	CBZ	K. Lova Kumari
47	D. Maha Lakshmi	CBZ	D. Mahalakshmi
48	ch. Manasa	CBZ	ch. Manasa
49	V. Meghana	CBZ	V. Meghana
50	M. Pravallika	CBZ	M. Pravallika
51	G. Prema Jyothi	CBZ	G. P. Jyothi
52	K. Rajeswari	CBZ	K. Rajeswari
53	N. Ramya	CBZ	N. Ramya
54	R. Rani	CBZ	R. Rani
55	R. Manatha	CBZ	R. Manatha
56	ch. Sai Lakshmi	CBZ	ch. Sai Lakshmi
57	S. Shirisha	CBZ	S. Shirisha

58	D. sivamma	C.B.Z	D. Sivamma
59	D. Sravanthi	C.B.Z	D. Sravanthi!
60	P. Sravanthi	C.B.Z	P. Sravanthi
61	V. Sri laxmi	C.B.Z	V. Sri laxmi
62	P. Suneeetha	C.B.Z	P. Seentha
63	S. Umadevi	C.B.Z	S. Uma devi!