

TAMIL MADU
AMARAVATI
Rearing Complex

58 F/3 & F/7

1976
1977
1978



70

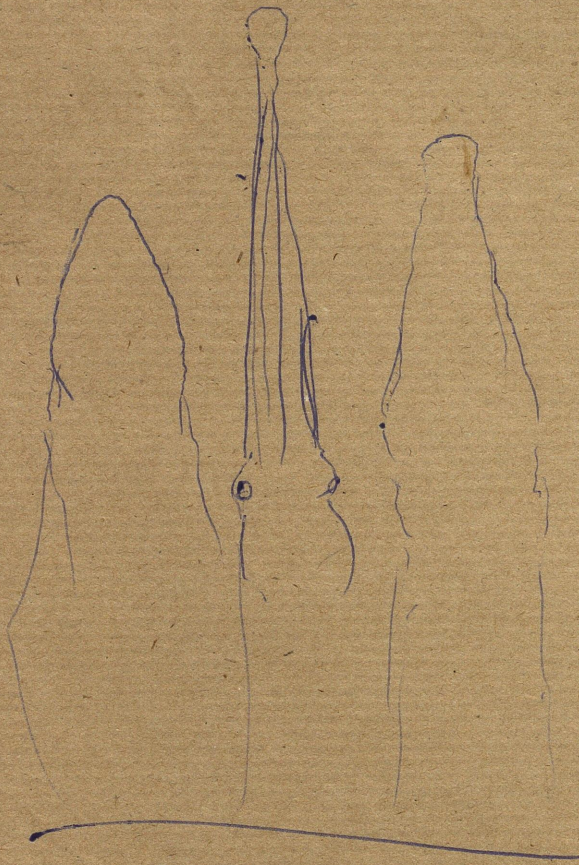


Binod

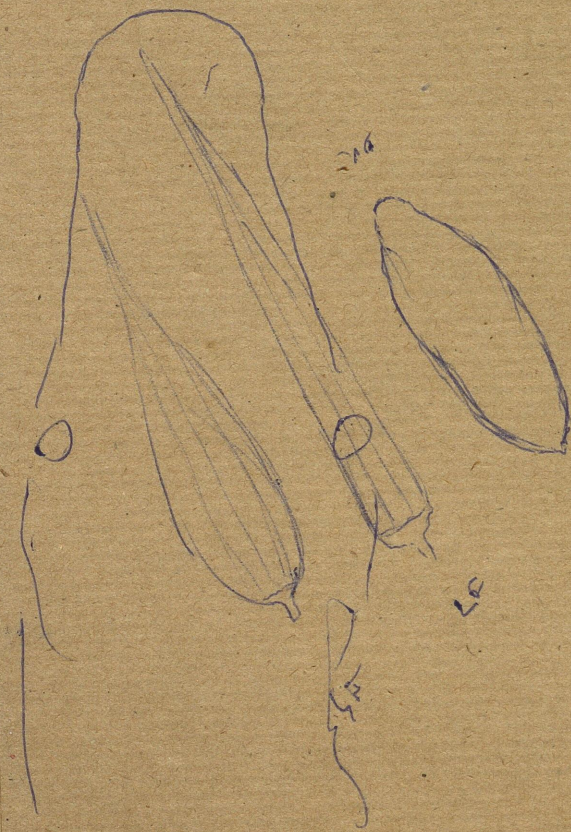
Mr. Binod Choudhury
c/o Director
Nehru Zoological Park
Hyderabad - 2

MADRAS SNAKE PARK.
GUINDY DEER PARK.
MADRAS-600022.

(1) Crocodile —
 (2) Alligator —
 (3) Gharial — 1
 To — 1



(3)



AMARAVATI DAM - A CROCODILE HEAVEN

by Binod C. Chandhury

Wildlife lovers visiting Tamil Nadu come out ^{satisfied} offer ~~an~~ ^{an} ~~exciting~~ ^{enriched} tour of Mudumalai ^{wildlife sanctuary} ~~Vedanthangal~~ and Point Calimere ^{sanctuary} and Vedanthangal water birds sanctuary. Anamalai Sanctuary - no less enchanting than the previous ones ^{just} ~~just~~ ^{mentioned} does not find a place in their ^{tourist} lists. What ^{more} of them miss by doing so is a wonderful time ^{they} ~~with~~ ^{would have had} with the last surviving Cousins of the dinosaurs - ~~MUGGER~~ CROCODILES and many other interesting wild life.

MUGGER CROCODILE (Croodylus palustris) is one of the three ~~Indian~~ species of ~~Indian~~ Indian Crocodiles, (The other two are salt water crocodile or Estuarine crocodile Croodylus porosus and Long snouted fish eating north Indian crocodile Gavialis gangeticus). All the three species which were once abundant all over India are now very rare to be seen. ~~Gavialis (also called as Gharial) Gavialis gangeticus, called as Gharial was almost on the verge of extinction only two years ago. Thanks to the effort of Govt of India & FAO/UNDP it is now almost safe. Estuarine crocodile once found all over the west coast from Cochin in the west coast to all around the east coast up to Sundarbans are now restricted only to the Bhitarkanika Mangroves (now a crocodile sanctuary) and Sundarbans. The last reported salt water crocodile in Tamil Nadu was in the 1930's.~~

MUGGER CROCODILE is perhaps not so ~~rare~~ rare like
also had the same fate as its
Indian relatives ~~but~~ ^{because it has} with its wide distribution managed
to have its existence felt ^{being in small number almost all over India} ~~at least all over India~~
~~but~~ in very isolated groups - just capable of reviving
with a little bit of protection & effort

Amaravati Reservoir in the foothills of Anamalai
hill ranges (80 km from Coimbatore) holds one such
group. It can by no means be ignored for there
exists perhaps nowhere in India such a beautiful
crocodile habitat. The dam on the Amaravati river
~~reservoir~~ forms the Amaravati Reservoir, ~~whose~~ ^{the} water forced
down ~~the reservoir~~ In summer ^{the water forced} the dam to shut
so as to bring ^{down} all the crocodile population into this small
spread of water. From December to July one can find
at any time of the day a dozen crocodiles basking
on the half submerged rocks ^{in the reservoir} and ~~leaves~~ ^{leaves}
minding the activities of the Fisheries dept people
by ~~their~~ side by.

Last year ¹⁹⁷⁶ ~~year~~ during the months of March & April
Carrying out an ^{crocodile} egg collection programme with the
Tamil Nadu Forest Dept at least twenty five crocodiles
were counted by this author. However the Forest & Fisheries
Dept claim the number to be more than ~~forty~~ fifty.

Amaravati reservoir is not only important
^{perhaps} ~~the~~ having ^{perhaps} the single largest ^{mugger} crocodile population
of the country but also being ^{one of the} communal nesting
ground of these crocodiles. Last year (1976) eleven

clutches of eggs (each clutch had about 30 eggs) were collected within a radius of 1 kilometer for artificial incubation and hatching. This year (1977) it is learnt that the Forest Dept of Tamil Nadu have collected a few more clutches of ~~the~~ eggs for the same purpose.

Amaravati Reservoir ^{is} ~~holds~~ one of the most-

promising areas of the state to develop the crocodile resources and also to develop this as a ^{major wild life} tourist spot with ^{crocodile} hatchery and a few sets of rearing pens

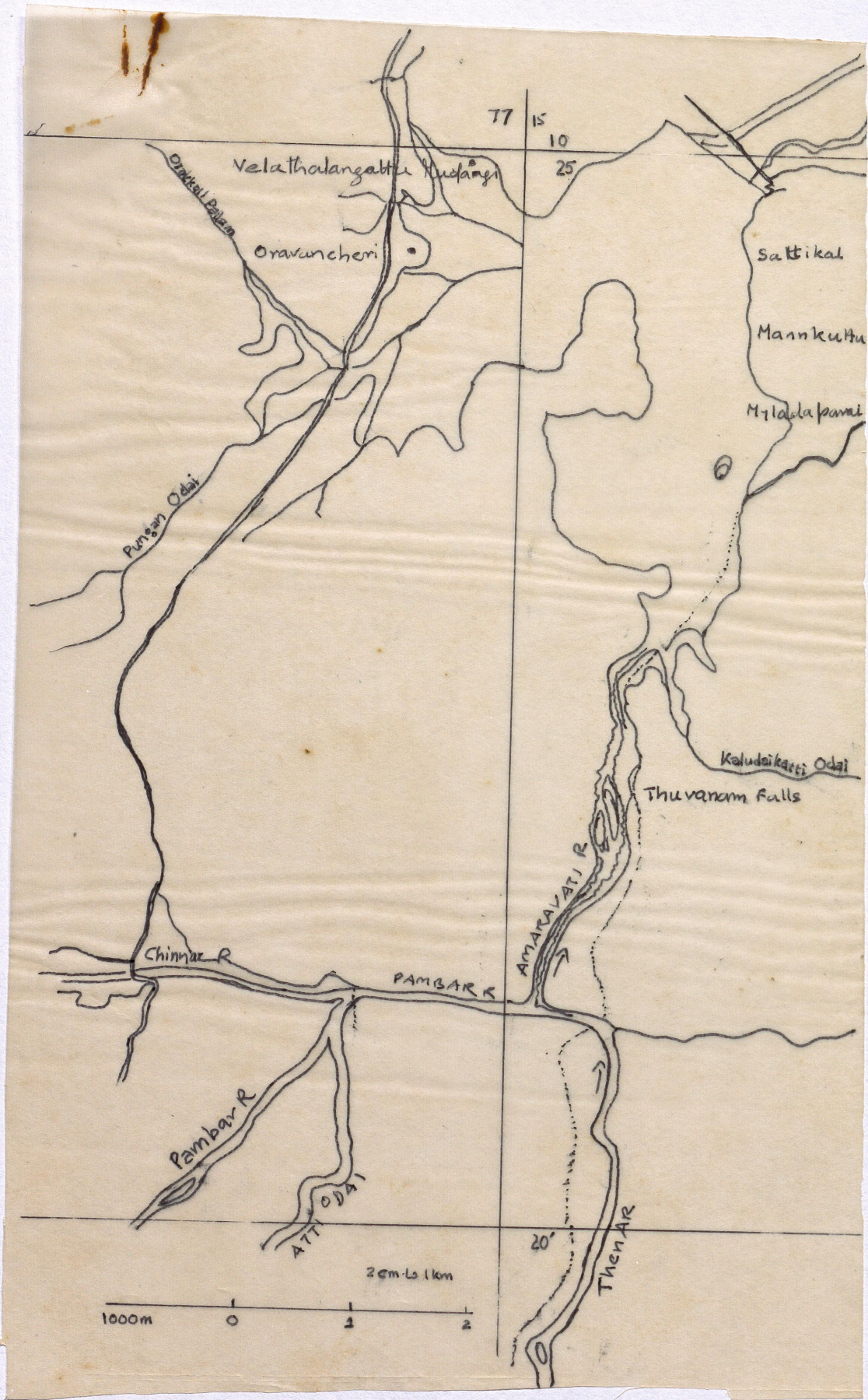
at Amaravati reservoir ~~can~~ ^{can} ~~rear~~ ^{rear} every year more than ~~300~~

three hundred crocodiles can be reared. ^{T.M.F.D.} it is ^{reported} have ^{already} taken a lead in this line.

A beautiful waterfall ^{called} Thiruvannam Water falls (60 ft) ^{only 3 km} from the dam site ^{and with its} wild life such as elephants,

Gaur, wild boar, wild dog, Panther, deer, Jackal, Common langur & Nilgai langur ² ^{of the} ^{558.30 sq km area} Anemalai sanctuary

~~can~~ ^{can} ~~will~~ ^{will} develop very fast to be ^a ^{major spot} ^{tourist} map of Tamil Nadu. ~~is a very~~



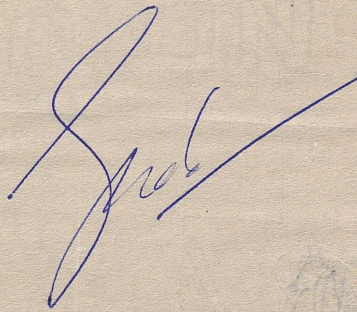
SHEKAR DATTATRI

11/5/85

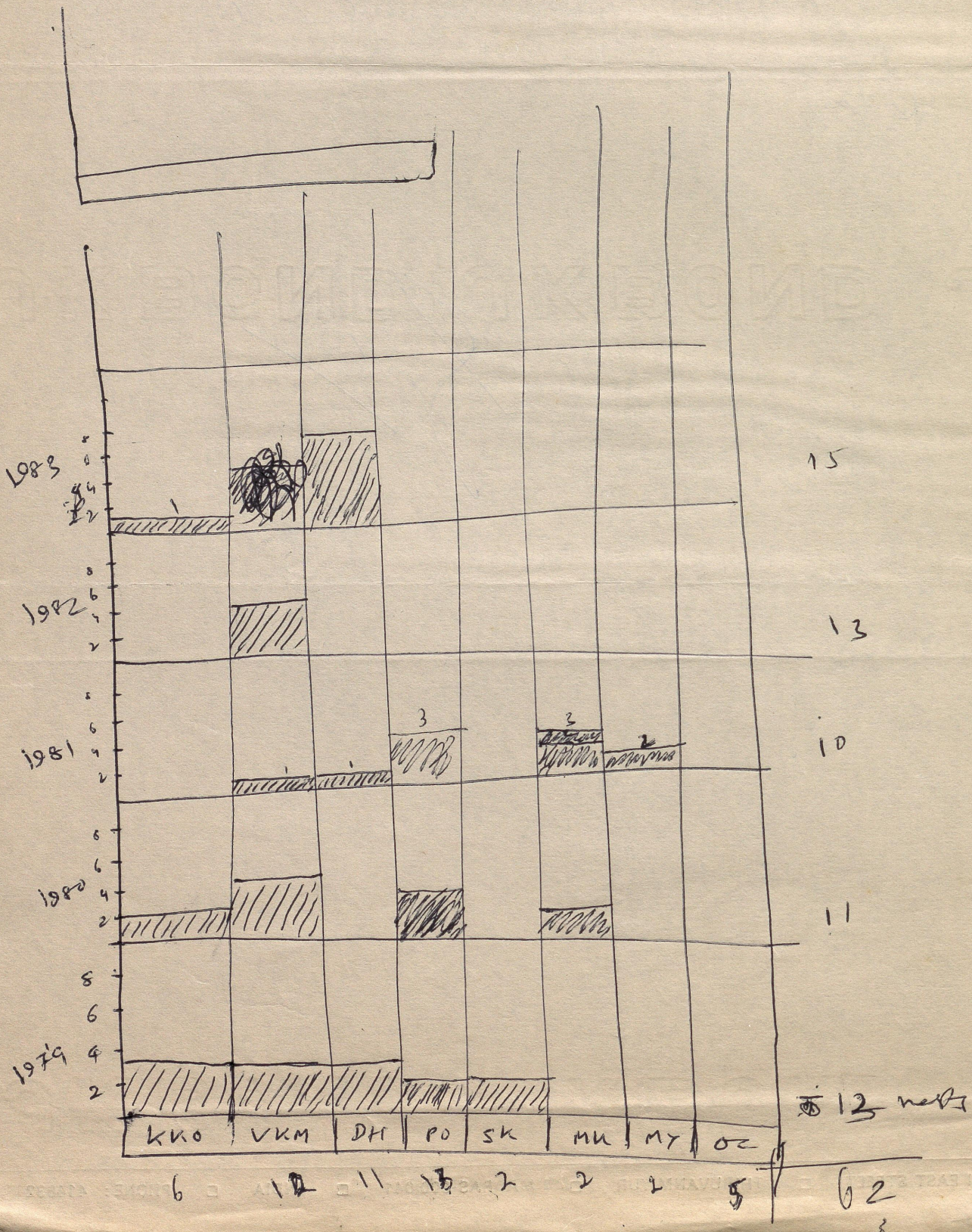
Dear Binod,

Forgive this inordinate

delay.



Bell SD
 1976 } 1984
 1979
 1980
 1983
 1985 }



THE STATUS AND CONSERVATION OF THE MARSH CROCODILE (CROCODYLUS PALMISTIS)
IN AMARAVATHI RESERVOIR, TAMILNADU

ABSTRACT:

This dossier on the crocodiles in Amaravathi reservoir, Western Tamilnadu, South India resulted from a visit by the compiler in January 1984 (3rd-6th). During this 4 day period the entire reservoir was surveyed on foot (5 crocodiles - all adults- were seen at different parts of the reservoir) and Forest Department records of egg collection and hatching perused. This data was subsequently processed and analysed. A summary of the detailed information contained in the following pages is given below. Complete data was available only for the five years from 1979-1983 and unless otherwise stated, all the information presented and extrapolations made in this report are from the data contained in the Forest Department records for this five year period.

The present day strength of the wild mugger population in the reservoir is not known accurately. A Madras Snake Park team led by Row Whitaker spent several weeks in 1975 censusing crocodiles and providing technical assistance to the State Forest Department in their first egg collection program. Whitaker's estimate, based on day and night censuses was 20 adults - the largest wild mugger population in the country. No juveniles or sub adults were seen during their visit and it was conjectured that the absence of young was apparently due to the lack of shelter or habitat alternate to that occupied by the adults and the annual collection of eggs - formerly for consumption (by local tribals) and later for the State Government rearing project (Whitaker, et al, 1983, in press). Since that time there have been 9 mortalities in the wild-7 of these supposedly adult females- presumably due to natural causes including old age (Kadirvel, pers.com.). This leaves one to assume - and justifiably - that the present day population of wild mugger in the reservoir is approximately half of what it was 8 years ago. Yet, an analysis of the egg collection data shows that there has not been a drop in the number of clutches produced every year. Indeed, the 1983 figures indicate the contrary - if we are to assume that each nest represents one breeding female. However, since captive observations show that mugger may nest twice in a season the number of females may be less than indicated. In any case there is the very real fear that the Amaravathi mugger population may be in more danger of extinction now than ever before. As far as is known there has been little or no recruitment into the population for the last several decades. It is imperative therefore that the Forest Department release some of their farm raised sub adults to make up for the mortalities in the wild and ensure good egg production in the years to come.

Ref ??
not adequate
have an
no eggs taken
was done at
1975

[Faint handwritten notes at the bottom of the page]

Average number of wild clutches/year	: 11.5; Range: 9-15 (N 7 years)
Average clutch size	: 33.5; Range: 10-41(N 5 years)
Average hatching success (at croc farm)	: 37 %; Range: 28-50 %
Number of nesting localities	: 8
Most favoured locality	: Punganodai (13 nests in 5 years)
Least favoured locality	: Sattikkal (2 nests in 5 years)
Earliest nest	: 5 February (1983)
Last nest	: 20 April (1982)

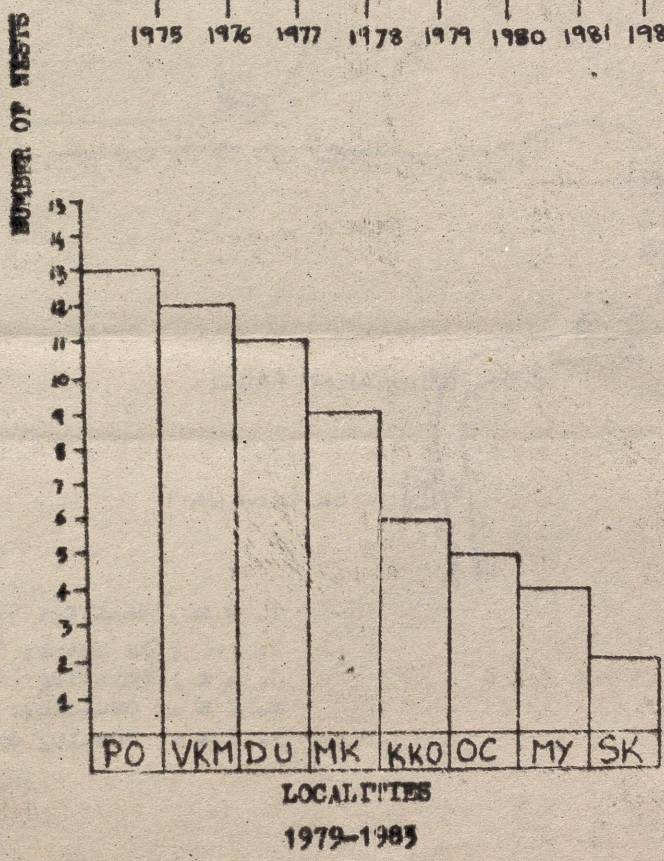
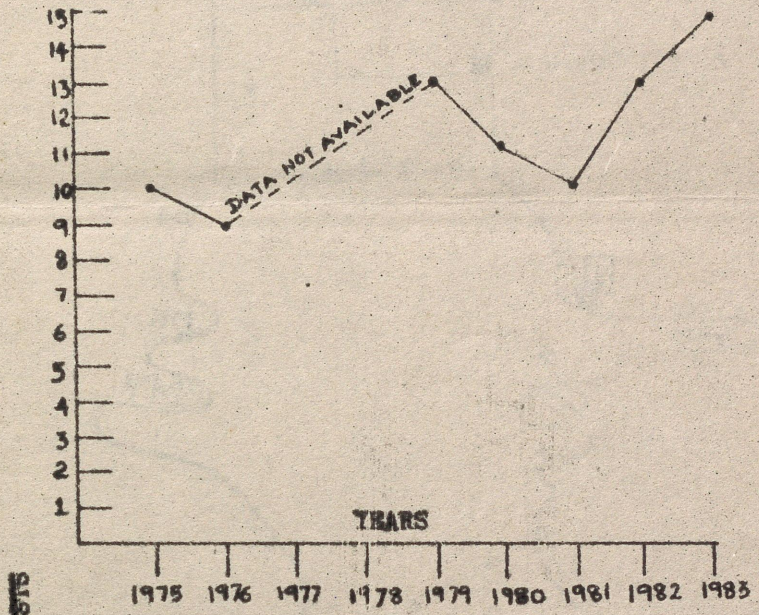
AMARAVATHI CROCODILE FARM:

Total stock	: 777
Number of nests	: 8 (1981: 1; 1982: 1; 1983: 6)
Average clutch size	: 18 (N 8)
Average hatching success	: 79 %
Number of mortalities	: 61 ; 1983; 1-2 year olds. Malady not diagnosed;

ACKNOWLEDGEMENTS

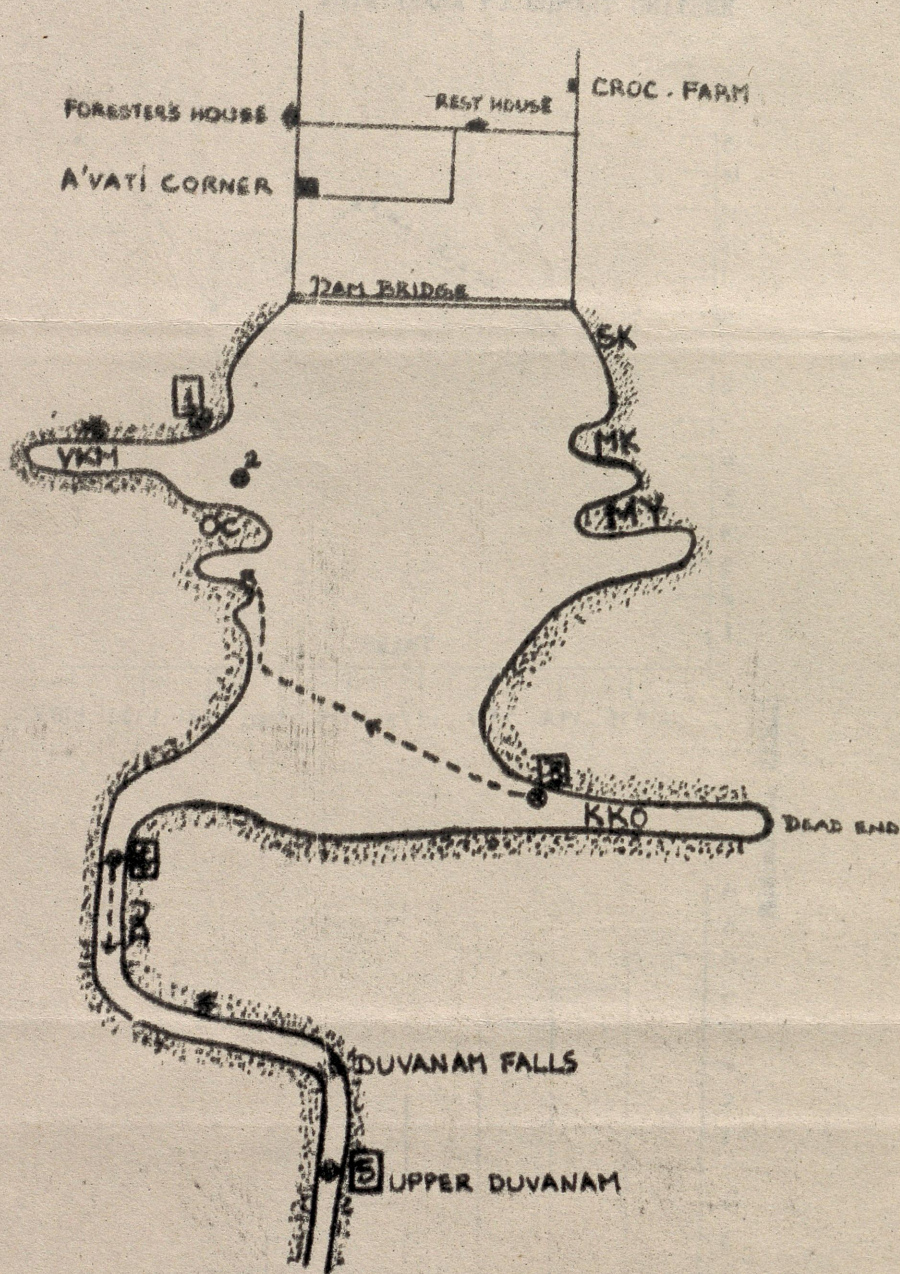
The compiler is grateful to all branches of the Tamilnadu Forest Department for permission to conduct the study and for help rendered. The Madras Snake Park Trust provided facilities and the Madras Crocodile Bank Trust, funding. I am grateful to these two organisations.

NESTING TRENDS IN AMARAVATHI



7

SKETCH MAP OF A'VARAVATI RESERVOIR (NOT TO SCALE)



1 & 2: 15.1.84
3, 4 & 5: 16.1.84

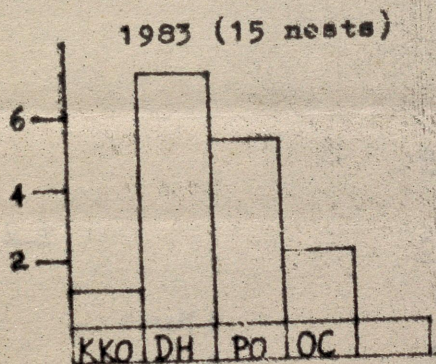
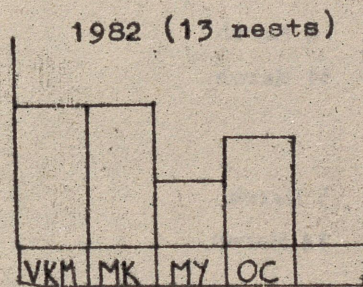
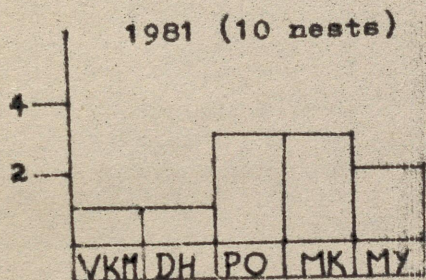
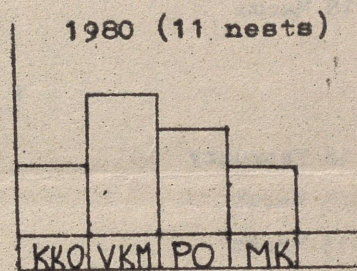
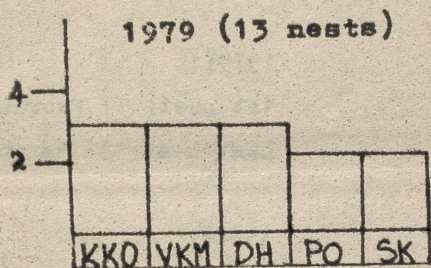
- 1. 3 m+; Basking; 9.40 Hrs.
- 2. - ; in water; 11.00 Hrs.
- 3. 4 m ; Foraging (?) 16.20 Hrs.
- 4. 2 m +; Cruising; 16.20 Hrs.
- 5. 2 m +; Basking on rock midstream; 15.45 Hrs.

⊗ ACTUAL SIGHTINGS

* TRACKS

YEAR - WISE NESTING LOCALITIES

NUMBER OF NESTS



KKO : KALUDAIKATTI ODAI
 VKM : VELATHALANGAATTU MUDANGI
 DH : DHUVANAM
 PO : PUNGANOLAI
 SK : SATTIKKAL
 MK : MANKUTTU
 MY : MYLALAMPARAI
 OC : ORAVANCHERI

YEAR - WISE NESTING DATA, 1979-1983

KKO

1979

DATE

CLUTCH SIZE

21 DAYS — (17 February 26
28 February 39
18 March 29)

V K M

23 DAYS — (18 February 28
5 March 32
13 March 33)

D U

38 DAYS — (24 February 31
4 March 34
31 March 29)

P O

5 March 28
14 March 27

S K

27 February 29
9 March 28

1979:

1st nest: 17 February

Last nest: 31 March

1980:

1st nest: 25 February

Last nest: 2 April

1980

KKO

P O

34 DAYS — 25 February
1 April

37

3 March

33

39

9 March

36

M K

12 March

20

36

EX nest — 28 February
2 April

26

V K M

16 DAYS — (4 March 32
5 March 33
20 March 32
21 March 33)

16 DAYS

1981

DATE V K M
CLUTCH SIZE

14 March 30

D U

7 March 30

P O

27 February 18

5 March 23

13 March 38

M K

5 March 36

2 March 41

8 March 37

M Y

22 days (18 February
12 March

33

28

1981:
1st nest: 18 February
Last nest: 13 March

1982:
1st nest: 12 February
Last nest: 20 April

1983:
1st nest: 5 February
Last nest: 24 March

10

1982

V K M

27 days (16 February
20 February
3 March
15 March

25

27

34

32

M K

22 days (12 February
17 February
23 February
6 March

29

36

35

29

M Y

22 February 32

2 March 37

O C

1 March 36

5 March 32

20 April 33

13

1983

K K O

12 March 35

D U

5 February 28

12 February 32

16 February 35

19 February 32

7 March 26

20 March 21

24 March 18

P O

5 March 34

5 March 10

11 March 31

11 March 29

12 March 37

O C

21 February 33

25 February 38

30
36 days
36 days

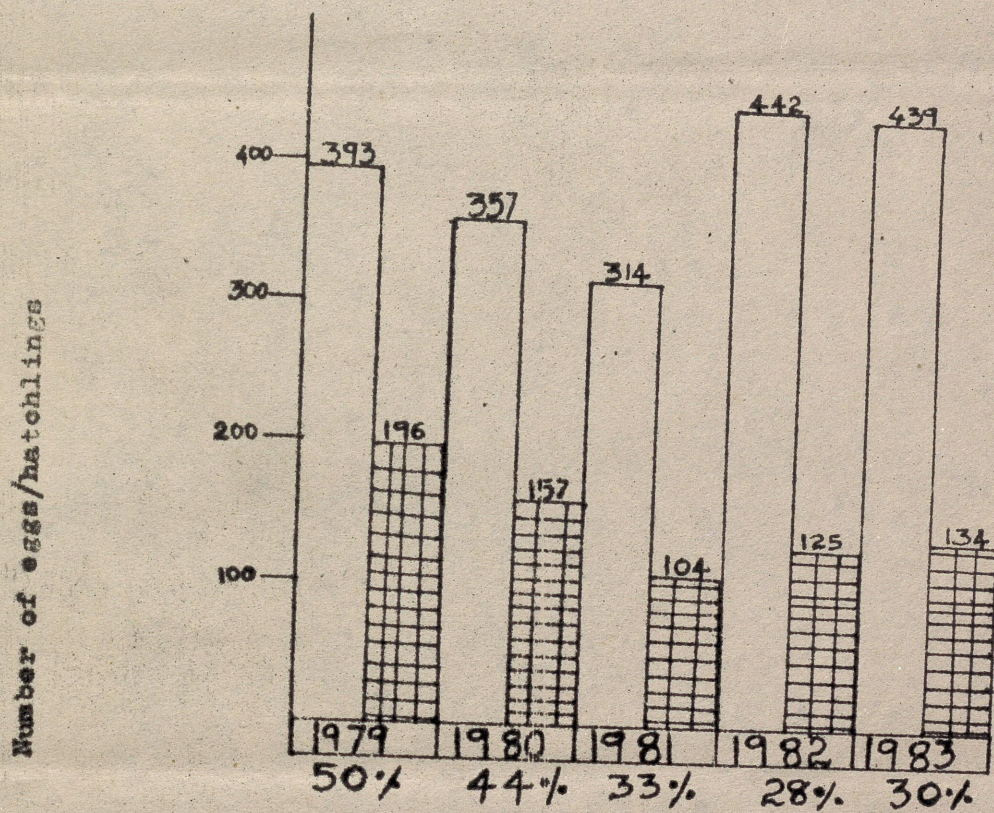
NESTING LOCALITY UTILISATION

LOCALITY	YEAR/No. of nests					Total
	1979	1980	1981	1982	1983	
1. KKO	3	2	-	-	1	6
2. VKM	3	4	1	4	-	12
3. DU	3	-	1	-	7	11
4. PO	2	3	3	-	5	13
5. MK	-	2	3	4	-	9
6. NY	-	-	2	2	-	4
7. OC	-	-	-	3	2	5
8. SK	2	-	-	-	-	2

CLUTCH SIZE

<u>YEAR</u>	<u>RANGE</u>	<u>AVERAGE</u>	<u>N</u>
1979	26-39	30.2	13
1980	20-39	32.4	11
1981	18-41	31.4	10
1982	25-37	34.0	13
1983	10-38	33.7	15

HATCHING SUCCESS



Average hatching success in five years: 37 %
Range: 28-50 %

Plain column: number of eggs laid
Chequered col: number of hatchlings.

Madras Crocodile Bank Trust

Vadanemmel Village, Perur Post,
Mahabalipuram Road, Chingleput Dist. Tamil Nadu, South India.

D-1/9-82

Thiru P. Kanagasabapathy
Forest Range Officer
Amaravathi Range
UDAMPALPET

17 Sept. 1982

Dear Mr. Kanagasabapathy,

Enclosed is the crocodile literature you requested. If you are in Madras you may see our large collection of reprints at the Snake Park, any week day. Ask our Secretary, Miss Brenda. Kindly also write to Mr. Binod Choudhury for further literature on crocodiles. With regards,

Sincerely,

For Bhaskar

Romulus Whitaker
Director
MCBT

Encl: As Above.

Correspondence Address :

MADRAS SNAKE PARK TRUST; GUINDY DEER PARK, MADRAS-600 022

Bina C. Choudhury
research officer.

...25 September 1982

To
Mr P. Kanagasabapathy.
Forest Range Officer.
Amaravati Range.
UDAMALPET.

Dear Mr Kanagasabapathy,

Mr Romulus Whitaker, Director of the Madras Crocodile Bank at Madras passed on the information to me that you want some literature on crocodile and their rearing. Since most of my publications are of academic nature I am enclosing a brief field guide on Crocodile Management etc. issued by the Central Crocodile Breeding and Management Training Institute here at Hyderabad. As you will find from this it is meant for field personnels like you who need it more than anyone else. Hope you will find it useful.

Should you require any further specific information please do not hesitate to write.

Kindly let me know how many crocodiles of each year class you have with you and whether any have started breeding in captivity. I am sure the stocks which your rearing station had of 1976-77 must have bred. I was at your rearing station in 1976 and had seen it again in 1979.

Hope to hear from you once in awhile.

With best wishes.

Yours sincerely

Encl: As above.

B.C. Choudhury

From,
B.C.Choudhury,
Research Scholar,
Andhra Pradesh Crocodile Conservation
Project,

Nehru Zoological Park,
Hyderabad- 500 264.

To,
Mr. S.Sukdev. I.F.S;
Wild Life Warden.
Pollachi Wild Life Division.
Pollachi , Tamil Nadu.

Dated 18th October 1980.

Dear Mr Sukdev,

Perhaps you will recall the few days we spent together in Amaravati during March/April 1976, myself on my crocodile work and you on your forestry work. During my recent visit to Tamil Nadu Mr. Wilson P. Durairaj. I.F.S Wild Life Warden, Madras told me about your posting to Pollachi Wild Life Division and was glad to know of this. I spent about 10 days in Tamil Nadu visiting Madras, Sathanur and Hogenakal. During this time I was involved in releasing of 47 crocodiles in to Cauvery river. I had a keen desire to go over to the Amaravati crocodile complex but could not do so as I was short of time, and some logistic difficulties.

Not that I have not been to Amaravati after my initial visit(In fact I had been to Amaravati with the Crocodile Institute Trainees during February/ March 1979. During that period we carried out egg collection exercises etc. We collected two nests but I never knew about the hatching results.

May I seek your kind assistance in collecting some information on your crocodile complex at Amaravati. For convenience I am giving you this proforma.

Year	No. of nest Collected	Total no. of eggs	Total hatched	Survival as on Nov 1980	Remarks (Any Release to wild/ Sale exchange etc.)
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1976

1977

1978

1979

1980

I might come to Tamil Nadu some time during December 1980 and will try to visit Amaravati. Mr. P.S.Reddy your batch mate in the D.A.W.M course in Dehradun is now here in this zoo as the A.C.F . He joins me in sending you his best wishes.

Hope to hear from you at your earliest convenience . With sincere regards,

Yours sincerely,

(Binod C. Choudhury)

Amerivanti nest 43

Day made, - 18 cm, 20 cm
egg collected - 37, Egg size - 8 x 4.5 cm

		EP	hatched	hatched eggs
1978 -	B nest	- 420 eggs	210	- 161

1977 -

1976 - ♀ ovaliter super

5 ♂ 2 3 ♀

5.27 - 1.05, 1.10, 1.20, 1.16, 1.08, ♀ .92, .89

CROCODILE NESTING BIOLOGY PROFORMA

SPECIES : *Croodylus palustris*
COMMON ENGLISH NAME: Marsh crocodile, Indian mugger.
VERNACULAR NAME: Mudalai
NAME AND LOCATION OF THE HABITAT: Thuvanam Language. Tamil
DETAILS OF HABITAT : ~~RIVER/TANK/RESERVOIR/CREEK/ETC.~~
Amravathy river

NEST :

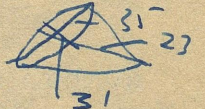
Nest number (Serial number if more than One nest is located in the habitat)

3rd nest

Date of Locating the nest: 24.2.1979

Name and Address of locator:

Trial nests (If any) & Details like depth, shape etc. 35cm x 31cm x 23cm



Date of Laying of the Actual nest: 22nd night - located on 23rd as reported by him.

Condition of Nest (Like disturbance by predators/ human/ natural) causes like flooring etc.

No disturbance except that made by locator

Position of Nesting in rotation to water level:

- a) Distance from permanent water. 6mts
- b) Height of nest from water. 27.5cm
- c) Profile of nesting site. gravel sand & green leaves

VEGETATIONS USED IN NEST PREPARATION: some green leaves

Wallows if any around the nest: nil
Area cleared for nest laying. already cleared area
Shape & depth of Wallow. _____

SURFACE TEMPERATURE OF NEST:
FIRST LAYER OF EGGS AT DEPTH:
NEST TEMPERATURE (at different depth)

Surface.	38°C at 0.5 hrs	25Cms.	28cm	35.5°C (10 hrs)
50 Cms.		Bottom (45 Cms).		31°C at 10.15 hrs

NEST DIMENSIONS:
depth : 45cm
breadth: 35 x 32cm (middle) 35 x 31cm (bottom)
Length: _____

Shape : (diagramatic):

E G G S:

Total Egg Layers : Three (3)

Size and Weight of Eggs (Average & range): 8 X 4.5 cm wt ?

Total number of Eggs in the nest (clutch size): 31

Number of Cracked Eggs (of which layer) nil

Number of rotten Eggs: nil

Number of Eggs damaged otherwise. nil

Abnormal Eggs (if any) & description of which layer etc.). nil

Bands on the Eggs. nil

Total number of Eggs collected: 31

Date & time of Collection: 24.2.75 between 9.30 to 9.45 AM

Collection method: In to collection box (wooden)

Date and Mode of Transfer. 24.2.1975 (11 AM) by boat

Name and address of hatchery to where the Eggs were transferred:

Collected and Supervised by: By the C.L.B.M.T.I Trainees and D.C. Chandhy Research Scholar, IWCAP, Mode of Incubation:

REMARKS: The water spread of Amersvalky is more than the usual years making the water level difficult.

Signature: Chandhy
Dated: 24/2/75

Page No. 20 cont.

CROCODILE NESTING BIOLOGY PROFORMA

Water Temp: 21°C
Ambient Temp - 31°C at 2.00 PM

SPECIES :

COMMON ENGLISH NAME: ~~Faridat~~ crocodile (Keggs)

VERNACULAR NAME: Kadali

Thubanam

NAME AND LOCATION OF THE HABITAT: ~~Faridat~~ Language. Tamil

DETAILS OF HABITAT : RIVER / TANK / RESERVOIR / CREEK / ETC.

N E S T :

Nest number (Serial number if more than One nest is located in the habitat)

Date of Locating the nest: 23.2.79

Name and Address of locator: crocodile watcher (S. Kadivel)

Trial nests (If any) & Details like depth, shape etc. 35 cm x 31 cm x 23 cm

Elliptical (12 ft from sea Nest)

Date of Laying of the Actual nest: 22.2.79

Condition of Nest (Like disturbance by predators/ human/ natural) causes like flooring etc.

No disturbance

Position of Nesting in rotation to water level:

- a) Distance from permanent water. 6 m
- b) Height of nest from water. 238 cm
- c) Profile of nesting site.

Temp at ground } 38.5°C

VEGETATIONS USED IN NEST PREPARATION:

Wallows if any around the nest:

Area cleared for nest laying.

Shape & depth of Wallow.

SURFACE TEMPERATURE OF NEST: 38°C

FIRST LAYER OF EGGS AT DEPTH: 28 cm - 30.5°C

NEST TEMPERATURE (at different depth)

Surface. 38°C. 50 cm; 52 cm 25 Cms. 30 cm

50 Cms. 35 cm Bottom (45 Cms). 30.1°C - 31 cm. under

NEST DIMENSIONS:

depth : 45 cm

breadth: 50 cm

Length: 52 cm

Shape : (diagramatic):

E G G S:

Total Egg Layers:

Size and Weight of Eggs (Average & range):

Total number of Eggs in the nest (clutch size): 31

Number of Cracked Eggs (of which layer)

Number of rotten Eggs:

Number of Eggs damaged otherwise.

Abnormal Eggs (if any) & description of which layer etc.).

Bands on the Eggs.

Total number of Eggs collected: 31

Date & time of Collection: 24.2.79 - 10.00p.

Collection method:

Date and Mode of Transfer.

Name and address of hatchery to where the Eggs were transferred:

Collected and Supervised by: Dr. Bird choudhry

Mode of Incubation:

R E M A R K S:

*Strychnis
Baccifuly*

2/21 - 24
2/21 79 - 25
2/21 79 - 31

Signature:

Dated:

nest no	Date of laying	Date of collection	AMARAVATI 1976		Total hatchlings	Remarks
			clutch size	Date of hatching		
1	29.2.76	1.3.76	30	-		
2	24.2.76	1.3.76	30	-		
3	1.3.76	2.3.76	29	31.5.76	22	Collected
4	Mid Feb	2.3.76	30	-		by R. White & A.C.
5	M. Feb	2.3.76	34	23.5.76	11	
6	3.3.76	4.3.76	35	31.5.76	17	
7	3.3.76	4.3.76	33	31.5.76	20	
8	3.3.76	4.3.76	33	-		
9	3.3.76	5.3.76	31	4.6.76	8	
10	5.3.76	7.3.76	29	-		

3/4 AMARAVATI - 1977

500 eggs collected - 7 hatched & all died ^{collected by R. White}

Amaravati 1978

collected by T.N.F.D.

Nests collected 13 - 420 eggs - 210 hatched

161 surviving at the end of Jan '79

Amaravati 1979

1978

note

1979/Feb (161 alinea)

13 notes

210

423 eggs

1978

1	17/2/75	26 eggs
2	18/2/75	28 eggs
3	24/2/75	31 eggs

Emp by
mrs. [unclear]
[unclear]

6	am	18C
7	—	20C
8	—	24C
9	—	26C
10	—	28C
11	—	28C
12	—	30C
1	am	32C
2	—	30C
3	—	30C
4	—	28C
5	—	25C
6	—	20C

23.3.76 Temp of
 Nesting sites at—
Amaravati
 Shankar

24.3.76

25.3.76

1, 2, 3, 4, 5 April 76

Amaravati Dam
Chikmagalur
Coimbatore Dist
T.N.

Amaravati River
Flow - nil
width - 200 mts
depth -
drain area - 8 sq kms

Weather conditions

- sunny 24th & 25th

cloudy & rains 1, 2, 3, 4, 5 (evening)

Air Temp -

30°C

Water Temp - 27°C

Salinity

PH

Vegetation

Forest (moderate)

Soil type -

Insects

Millipedes, Birds, Fish (cultures)
snakes, frogs etc.

15.10

Crocodile population -

More than 40

Nesting sites

All within 1000 yds around the reservoir
which provides excellent nesting sites
since den is empty due to sitting
and muddy.

3rd April 76

Amaravati Nagar
Guvur

BIRDS IN THE DAM

DARTERS

WHITE NECKED STORKS

EGERTS

PLOVERS =

CORMORANTS

HERONS

WATER CRANES

Crow on the
rocks all

feeding the

young / wind

marks with
stick

4th April

morning, 7.00 AM - A few only
in the water floating
8.00 AM - only 3 crows on the rocks

9.00 AM - About 12 crows on rocks

10.20 AM - only 6 crows

12.00 PM - about 6 on the rocks
a few of them sitting on
rocks also in association.

Salehen IFS,
Asst. Conservator of Forests,
Nilgiris South Divn.,
Ootacamund.

AMARAVATHY RESERVOIR

KALLAPURAM VILLAGE

10° 35' N

77° 15' E

5000' above sea level.

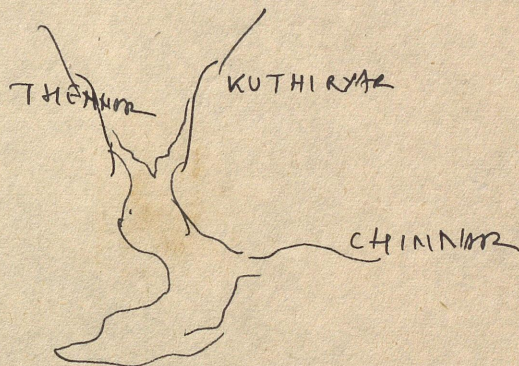


Amaravati Dam Dam area $2 \frac{1}{2}$ sq miles

Amaravati Res is within the Anamalai Sanctuary. Present approximate depth is 15 ft.

Streams leading to Amaravati -

THENNIAR
KUTHIRAYAR
CHINNAR



Fisheries Dept estimate is 50 crores

1975 river catch was 22 crores

Most lifts are mostly Poliyar toils from Chinnar on Munnar Rd and at Thalangi (10 miles from Chinnar), and also by cowherds, wood collectors
1975 - Some eggs were sold to hotels

IS THERE A POSSIBILITY OF CROC OF THE SAME HABITATS HAVING DIFFERENT MATING SEASONS.

Fish catch is sometime 250 kg per day.

AMARAVATHY RESERVOIR

This reservoir is formed by impounding some hill streams at Kallapuram village - $10^{\circ}35'N$ and $77^{\circ}15'E$. The main stream, Amravathy rises near Munnar in western Ghats at an elevation of 5000 ft (1575 m) above sea-level. It runs through thick forests and is joined by three main tributary ~~streams~~ ^{streams} - Chinnar, Pambar and Tenar and enters the plain about 3 miles above the dam site, where a steep fall of about 60' (20 m) occurs - Duvanam Falls. The rivers drain about 324 sq miles of uninhabited mountainous, forest areas. The impounded water irrigates totally 47,000 acres of crops down stream. The area of the reservoir is 2300 acres (931 ha) or 91.56 million sq ft and the volume 4047.41 million c.ft. at full pool level. The maximum depth is 112' (35 m) and the mean depth 44' (13.7 m). The 'volume development' is 1.1 and the 'shore development' 2.3. Unlike in Stanley Reservoir, there are not many bays or creeks. The bed level of the river is at +1065 ft. The river sluice (intake) is at +1085' which leaves a 'dead storage' of 2.2 million c.ft. or 5.17 million square feet of water. The spillway overflow is at +1150' and by the use of shutter gates, the full pool

level could be kept at +1175'.

EDAPHIC AND HYDROLOGICAL FEATURES

The basic rock type of the substratum is biotitegranite gneiss and schistose gneiss. Small pegmatites cut across the rocks. These are hard coarse crystalline metamorphic rocks, highly resistant to the agencies of weathering.

AMARAVATHY RESERVOIR

spectacular population changes occurred in this reservoir. The indigenous P. dubius, ranked first till 1964-65 with 55% of weight of landed fish and as in Meltur Dam dwindled to less than 2%. From 1968-69 Unlike in Bhavanisagar reservoir (there are no suitable spawning grounds in the top waters of the Amravathy reservoir below the waterfalls. But the surprising feature is the occurrence of planted Tilapia as a monospecies fishery. After being stocked in 1957-58 Tilapia made significant contribution of 13.5% in 1965-66 and since then rose progressively to a peak of 50% in 1973-74 - virtually a monospecies fishery. A similar predominance of Tilapia fishery occurred in Vaigai reservoir also but only for two years and the population changed over to a Catla fishery etc. then subsequently (Sreenivasan unpublished). The introduced L. fimbriatus is sustained at about 1% level. In lake Keriba in Africa Tilapia mosambica contributed to 35% of the landings (Harding 1966). The newly stocked Common Carp (Cyprinus Carpio) is registering a good recapture - 4% by weight of landings.

1976 C. Palustris Eggs collection Data (Madras Snake Park)

Geographical position

REMARKS

1. Locality *Amaravati Nagar*

2. Nest No. *4*

3. Number of Eggs *30*

4. Laying date *Mid Feb (Exact date not known)*

5. Date of Collection *2 March 76*

6. Mode of storage *In wooden box - 2' x 1 1/2' x 1 1/2' in the layers with nest soil.*

7. Nest location & Description *on wetland bank*

8. Discovered by

9. Collected by

10. Date of Transfer & Mode

11. Temperature Datas

Air

Water

Nest

12. Temperature to maintain

TEMPERATURE DATA IN THE HATCHERY

DATE	Morning	Noon	Evening	Remark	DATE	Morning	Noon	Evening	Remark
					26.4.76				
					27.4.76				
					28.4.76	29	33	34	
					29.4.76	30	33	28	water sprinkled
					30.4.76	30	N.R	31	water
					1.5.76	30	N.R	32	
					2.5.76	30	32	31	water
					3.5.76	30	30		
					4.5.76	30	31		No water
					5.5.76	30	31	32	
					6.5.76	30	N.R	32	water
					7.5.76	29	20	30	No water

1976 C. Palustris Eggs collection Data (Madras Snake Park)

Geographical position

REMARKS

1. Locality *Amaravati Nagar*
2. Nest No. *5*
3. Number of Eggs
4. Laying date
5. Date of Collection
6. Mode of storage
7. Nest location & Description

8. Discovered by
9. Collected by
10. Date of Transfer & Mode
11. Temperature Datae
12. Temperature to maintain

Air Water Nest

TEMPERATURE DATA IN THE HATCHERY

DATE	Morning	Noon	Evening	Remark	DATE	Morning	Noon	Evening	RT	Remark
					26.4.76					
					27.4.76					
					28.4.76	30	34	34		No water
					29.4.76	30	34	29	34	Water sprinkled
					30.4.76	30	N.R	32		Water
					1.5.76	30	N.R	32		Water
					2.5.76	30	32	32		Water
					3.5.76	30	30	N.R		
					4.5.76	30	32			No water
					5.5.76	30	31	32		
					6.5.76	30	N.R	32		Water
					7.5.76	29	30	30		No water

1976 C. Palustris Eggs Collection Data (Madras Snake Park)

Geographical Position

REMARKS

1. Locality *Amaravati Nagar*
2. Nest No. *6*
3. Number of Eggs
4. Laying date
5. Date of Collection
6. Mode of Storage
7. Nest Location & Description

8. Discovered by
9. Collected by
10. Date of Transfer & Mode

11. Temperature Data Air Water Nest
12. Temperature to maintain

TEMPERATURE DATA IN THE HATCHERY

DATE	Morning	Noon	Evening	R.T	Remark	DATE	Morning	Noon	Evening	Remark
Apr. I						May I	29	N.R	32	water
II						2	30	32	22	water
III						2	30	30		
4						4	31	31		No water
5						5	30	31	32	water
6						6	30	N.R	32	water
7						7	29	20	20	No water
8						8				
9						9				
10						10				
11						11				
12						12				
13						13				
14						14				
15						15				
16						16				
17						17				
18						18				
19						19				
20						20				
21						21				
22						22				
23						23				
24						24				
25						25				
26						26				
27						27				
28	29	35	34		No water	28				
29	29	32	28	34	water sprinkled	29				
30	30	N.R	32		water	30				

1976 C. Palustris Eggs collection Data (Madras Snake Park)

Geographical Position

REMARKS

1. Locality Amaravati Nagar
2. Nest No. 7
3. Number of Eggs
4. Laying date
5. Date of Collection
6. Mode of storage
7. Nest Location & Description
8. Discovered by
9. Collected by
10. Date of Transfer & Mode
11. Temperature Datas Air Water Nest
12. Temperature to maintain

TEMPERATURE DATA IN THE HATCHERY

DATE	Morning	Noon	Evening	Remark	DATE	Morning	Noon	Evening	Remark
					30-4-76	30	N.R	32	water
					1-5-76	30	N.R	32	
					2-5-76	30	32	32	water
					3/5	30	32		
					4/5	31	31		No water
					5/5	30	31	32	water
					6/5	31	N.R	31	water
					7/5	29	30	30	No water
					8/5				
					9/5				
					10/5				
					11/5				
					12/5				
					12/5				
April 26									
27									
28	30	34	32	³⁴ No water					
29	30	32	28	³⁴ water spraying					

1976 C. Palustris Eggs collection Data (Madras Snake Park)

Geographical Position

REMARKS

- Box 6*
1. Locality *Amaravati Nagar*
 2. Nest No. *9*
 3. Number of Eggs
 4. Laying date
 5. Date of Collection
 6. Mode of storage
 7. Nest Location & Description
 8. Discovered by
 9. Collected by
 10. Date of Transfer & Mode
 11. Temperature Datas Air Water Nest
 12. Temperature to maintain

TEMPERATURE DATA IN THE HATCHERY

DATE	Morning	Noon	Evening	Remark	DATE	Morning	Noon	Evening	Remark
<i>Apr.</i> 1					<i>Apr 29</i>	30	33	28	<i>Water sprinkled</i>
2					30	30	N.R	31	
3					<i>May 1</i>	30	N.R	32	
4					<i>May 2</i>	30	32	32	<i>Crate</i>
5					3	30	32		
6					4	30	31	30	<i>No water</i>
7					5	30	31	32	
8					6	30	N.R	32	<i>Water</i>
9					7	29	30	30	
10					8				
11					9				
12					10				
13					"				
14					12				
15					13				
16					14				
17					15				
18					16				
19					17				
20					18				
21					19				
22					20				
23					21				
24					22				
25					23				
<i>April</i> 26					24				
27					25				
28	30	31	34	<i>No water sprinkling</i>	26				
					27				

1976 C. Palustris Egg Collection Data (Madras Snake Park)

Geographical Position

REMARKS

- Box No 5
1. Locality Amaravati Nagar Dam on Amaravati River
 2. Nest No. 10 (Trial nests - nil, only foot prints)
 3. Number of Eggs 29 (egg size 70mm)
 4. Laying date 5.3.76 (night)
 5. Date of Collection 7.3.76 (8AM)
 6. Mode of Storage Collected eggs were stored in a wadded box (50x38x30cm) in two layers in the parent soil.
 7. Nest Location & Description Eastern bank of the watershed of dam. 5 feet height and 50' away from the water. (Nest was 24cm x 14 x 44) ϕ 1st layer of eggs 13 cm deeper
 8. Discovered by MUNIAN, Tribal crocodile nestwatcher of Forest Dept.
 9. Collected by N. Solomon, Asst. Madras Snake Park
 10. Date of Transfer & Mode 26.3.76 First by bus 90km and then by train (560km) by

11. Temperature Dates Air Water Nest

12. Temperature to maintain 28° to 30° 30° 26

TEMPERATURE DATA IN THE HATCHERY									
DATE	Morning	Noon	Evening	Remark	DATE	Morning	Noon	Evening	Remark
April 1					30	30	N.R	31	in water
2					May 1	29	N.R	32	
3					2	30	32	32	
4					3		32	N.R	
5					4	30	31		No water
6					5	29	30	31	
7					6	30	N.R	30	
8					7	29	30	30	No water
9					8				
10					9				
11					10				
12					11				
13					12				
14					13				
15					14				
16					15				
17					16				
18					17				
19					18				
20					19				
21					20				
22					21				
23					22				
24					23				
25					24				
26					25				
27					26				
28	30	32	32	No water	27				
29	29		29	water	28				