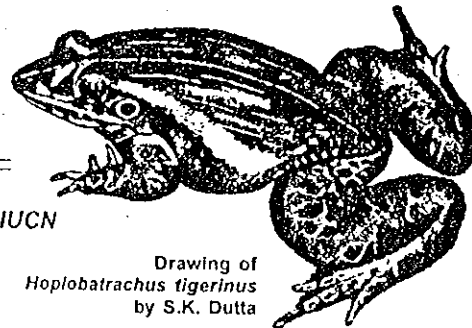


FROG LEG

Newsletter of the Declining Amphibian Populations Task Force, South Asia
Regional Satellite of the Declining Amphibian Populations Task Force, SSC, IUCN

Volume I, Number I, May 1996,



Drawing of
Hoplobatrachus tigerinus
by S.K. Dutta

Survey of Amphibian Fauna of Maharashtra



H.V. Ghate
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The amphibians from different parts of Maharashtra State will be collected with the help of students and teachers of various colleges situated in different districts. This will enable students and teachers to get involved in this survey and to learn about their surroundings.

The persons involved will be informed about methods of collection and preservation of the specimens for taxonomy. Instructions will also be given regarding the number of specimens to be collected, to avoid any damage to local populations.

The specimens from different localities will be then collected and brought to the Department of Zoology, Modern College, Pune. Specific determination will be made on the basis of available information/keys, as well as with the help of the experts from ZSI and IUCN group. Western Regional Station of ZSI is located at Pune and it will be possible to seek their help.

Photographs of preserved and live specimens, will be taken to prepare a book-let giving brief information about each species. In addition, there will be a note on biological importance of frogs/toads and need for their conservation.

The state check list published in 1974 has not been updated. That checklist, as per the Maharashtra State Gazetteers (Fauna, 1974), includes 22 amphibians. There are 2 caecilians, 3 bufonids, 4 microhylids, 10 ranids and 3, rhacophorids. It is especially necessary to study localities of caecilians and of frogs like *Ramanella* and *Philautus*. This is so because there is a wide spread habitat destruction going on all around

us. Added to this is the pollution of breeding grounds of many amphibians. The possibility of acid rains in highly industrialised and Urbanized areas is a further threat.

This survey is likely to reveal the present pattern of distribution of various amphibians in this state. As is well known, we have poor distributional record of many amphibians. This will also provide baseline data on the basis of which further work can be planned.

This will also enable me to train some of the college students and to create an interest in herpetology among them. This is essential since some parts of our region are as yet unexplored and the faunistic survey is not complete. Besides, it is also necessary to create awareness of environment among college students who can spread the message of conservation.

Biosystematics of Amphibians of Orissa



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Application

- (i) To identify rare species.
- (ii) To establish the inter-relationship between various taxa and
- (iii) To suggest measures for conservation and natural propagation of rare species.

Detailed research plan

- (i) Field collection: All the districts of Orissa including major hill ranges.
- (ii) Systematic study: Laboratory investigations dealing with myology, osteology (dry skeleton and alizarine and alcian blue preparation), external morphological studies and morphometrics.
- (iii) Breeding and developmental studies: Laboratory breeding (by induced

ovulation and artificial fertilization) staging of larvae (from egg laying through metamorphosis) of different species.

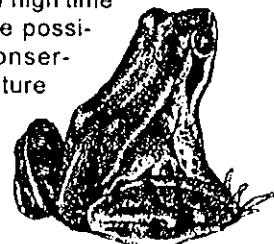
Scientific and technological significance

The research proposal aims at solving crucial problems dealing with the systematics of some Indian amphibians as very little biosystematic data are so far available and no studies have so far been attempted strengthening our concept regarding intra and inter-relationships between various taxa. Moreover, the richness of amphibian fauna has so far never been exploited from systematic point of view. It will be expected that these findings will enlighten us regarding the measures to be undertaken for future conservation of rare species as well as culture of economically important ones. It is known that all the three edible species of frogs of India are found in Orissa. I earnestly feel that the findings will ultimately help in conserving these species.

Justification/ Importance of the proposed investigation

Our knowledge on the ecology, natural history and breeding of amphibians are not adequate. Furthermore, from systematic point of view, some species within a genus form a species complex and some species are polytypic. Thus a detailed biosystematic will be a basic frame work for future studies on these lines.

In addition, many amphibians are quite rare and due to rapid industrialization, the natural habitat of such species are being depleted day by day. It is now high time to explore the possibilities of conservation and future proliferation of such species.



Research activities of some members of DAPTF-SA



Dr. R.S. Pillai (Emeritus Scientist, Zoological Survey of India, Madras and Trustee and Research Officer of the Madras Snake Park Trust).

- i. Continuation and identification of amphibians collected over a period of four years from Nilgiri Biosphere Reserve.
- ii. Preparation of a Treatise on the Gymnophiona of India.
- iii. Engaged in supervising the research activities of the Madras Snake Park Trust and the projects of the Research scholars attached to it.

T.S.N. Murthy (Zoological Survey of India, Madras).

- i. Engaged with faunistic survey of amphibians and reptiles of southern India.
- ii. The most important and latest publication (A Pocket Book of the Amphibians and Reptiles of the Chilka Lagoon Orissa) contains both B/W and colour plates of amphibians and reptiles of the Lagoon and the "Occasional Paper" has been published by the Director, Zoological Survey of India, Calcutta in Records of the Zoological Survey of India.

Dr. M.S. Ravichandran (Zool. Surv. India, Madras) : Engaged in an assigned project via. Amphibian faunal Inventory of Nilgiri Biosphere Reserve and district wise mapping survey of Tamil Nadu.

Dr. S.K. Chanda (ZSI, Calcutta) : Faunistic survey of amphibians of Sikkim is being done since 1991. In addition, Dr. Chanda has written a comprehensive account of amphibian fauna of N.E. India and a "Hand book of Indian Amphibians".

A.G. Sekar (Bombay Natural History Society): As one of the young amphibian worker from Western India, Mr. Sekar is working on food habits, ecology and morphometry of tadpoles. The most significant publication by J. C. Daniel and A. G. Sekar is the "Amphibians of Western India, Part 4," which is a follow up of previous three publica-

tions by J. C. Daniel.

Prof M.S. Khan (Herp Lab., 15/6 Darul Saddar North, Rabwah, Pakistan): Prof. Khan is the only known amphibian biologist from Pakistan and he has made extensive studies on breeding and life history of several anurans. Prof. Khan is an authority on distribution pattern and biogeography of amphibians of Pakistan.

Dr. Y. M. Naik (Dept. of Zoology, M. S. University, Baroda, Gujarat) : As an amphibian specialist, Dr. Naik has been surveying the amphibian fauna of Gujarat and several of his research students are engaged in herpetofaunal conservational studies of the state.

Dr. Ritwik Dasgupta (Govt. College, Darjeeling) : Mr. Dasgupta is a young scholar but expert on *Tylototriton verrucosus* conservational studies. During 1992, he finished working on "Project Salamander" and the finding was that the species is threatened with extinction in India. Hence to increase the natural population of the species, it is necessary to start a captive breeding project at Himalayan Zoological Park, Darjeeling. Mr. Dasgupta is also associated with "Nature Club" under the banner of the "Centre for Nature Care" which is meant for monitoring fentic-habitats.

"Nature Club" : Persons interested in this, should contact Mr. Projywal Lama, C/o: Mr. T. B. Chettri, Kumar Pustak Pasa, Sukhiapokhri, Darjeeling, West Bengal.

Dr. H.V. Ghate (Modern College, Pune): A young and energetic amphibian worker, studying breeding, development and effect of chemicals on frog population.

Kaushik Deuti (39 A Gobinda Auddy Road, Flat :A/3/1, Calcutta - 27) : A young natur lover, who is associated with several organizations engaged in conservational studies. The most noteworthy contribution is the book on Amphibians of West Bengal Plains (See notes on amphibian book).

Dr. T. K. Shrestha (Post Box 6133, Kathmandu, Nepal): Dr. Shrestha is pursuing research on biogeography and distribution pattern of amphibians and reptiles of Nepal. We know that, Dr. A. Dubois of Paris Museum, France, made extensive studies on amphibian fauna of Nepal and after him, Dr. Shrestha is the authority on

Nepal herpetiles. He is also associated with conservation studies of *Tylototriton verrucosus* in Nepal

Dr. H.H. Schleich of Institute of Palaeontology and Geology, University of Munich, Germany and **Dr. T. M. Maskey** of National Parks and Wildlife Service, Kathmandu, Nepal, reported the herpetofaunal composition of Chitwan National Park, Nepal in "Nature and Museum", August 1992. To our surprise, they have reported a species of Tomopterna, which might either be *T. dobsonii* or a new species? The authentic report will be available very soon.

Dr. A. De Silva (Faculty of Medicine, University of Peradeniya, Sri Lanka) : Presently, several names are associated with herpetofaunal studies of Sri Lanka and the most common name is "Anslem" who is the founder President of ARRÖS (The Amphibia and Reptile Research Organisation of Sri Lanka).

B. C. Choudhury (Wildlife Institute of India, Dehradun): Mr. Choudhury is a well known Wildlife Biologist, who is specialised on Crocodile and Turtle conservational studies. He along with **S. Bhupathy** have surveyed the amphibian species in Wildlife Institute Campus and most of the species have been documented through color illustrations.

K. Manamendra - Arachchi (Wildlife Heritage Trust of Sri Lanka, Colombo) : Kelum is a rising herpetologist who is the co-author of the book "The Amphibian Fauna of Sri Lanka".

Dr. R.J. Ranjit Daniels (Swaminathan Res. Foundation, Tamil Nadu): Interested in the community ecology and biogeography of amphibians in Western Ghats.

Sanjay Molur is currently networking amphibian researchers and their projects in southern Asia. He has been picked up as the Co-Chairman of DAPTF-SA and Associate Editor of FROG LEG Sanjay Molur, who is the Coordinator of Amphibian Special Interest Group of CBSG, India and he is also Programme Officer of Zoo Outreach Organisation and CBSG, India. ZOO/ CBSG, India serves as the Administrative Office of the DAPTF-SA working group.



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Networking of Amphibian Field Researchers in South Asia

Sanjay Molur

The amphibian networking initiative by CBSG, India Amphibian Special Interest Group, DAPTF-SA and Friends of Rare Amphibians of the Western Ghats has produced an interesting data which hitherto was not available at a single source. The first questionnaire helped to identify active amphibian field researchers from all over India and the neighbouring countries, though we still believe there are many more who are yet to respond or are still unknown. The questionnaire was general in its coverage asking about the involvement of either self or department in amphibian research, species/ group focus, field of interest, geographical area under study and on specimen collection, importance of amphibian conservation, knowledge of DAPTF, researchers in South Asia, interest in pursuing amphibian conservation studies in future and opinion about joining an amphibian network in India.

The first questionnaire was followed up by another set which was targeted to the 46 field researchers identified and to some known amphibian researchers who have yet to answer the first questionnaire. The information required here was more focussed to project details, duration of the study and research assistants/ associates, list of scientific articles and papers on amphibians, if guiding a PhD student on amphibians, if self a PhD on amphibians, whether maintaining a captive population, interest in working with other researchers to assess status of amphibians in South Asia, interest in receiving and contributing information and in becoming a member of DAPTF-SA.

The objectives of this networking initiative are

- (1) to network all amphibian researchers in South Asia
- (2) collate information on research projects - taxa, geographic area - both in the past and present
- (3) strengthen and support the DAPTF-SA network for free exchange of ideas and results
- (4) bring out a directory of amphibian researchers in South Asia and research conducted. As a first step to prepare a handbook on amphibians in India species- and region-wise
- (5) conduct preliminary population assessment studies region-wise using CBSG's Conservation Assessment and Management Plan (CAMP) format through taxon data sheets. This exercise will indicate areas of studies required and will also form a basis for a formal CAMP workshop.

The exercise is envisioned to understand the concerns about amphibian declines, the effects and the causes for such declines and initiate future surveys and intensive studies.

The planning into a Conservation and Assessment and Management Plan for amphibians of the Western Ghats is already in action. The next step is to distribute literature regarding the process and follow it up with Taxon Data Sheet to all researchers of the region. The actual CAMP workshop is tentatively scheduled for February '97.

For any of the conservation initiatives to be ever successful and meaningful, a good teamwork is essential and we are dependent on all of you to work together and share your knowledge. It may be the first step to an effective management plan.



Information needed on Amphibian Studies



1. M. Sc., M.Phil., and Ph. D. Thesis abstracts
2. Books, Monographs, Occasional Papers, reprints of research publications, News paper reports on any aspect of studies on South Asia amphibians.
3. Research projects completed/on-going.

Note : The above informations will be published in future issue of "DAPTF-SA Newsletter" and this is subjected to Editorial modifications and changes. The informations should be sent Either to the Editor (SKD) or Co-Editor (SM).

Publications of Interest



1. Endangered Animals of India and their conservation by S.M. Nair (1992), published by the Director, National Book Trust, New Delhi. Well Written as a popular science book.
2. Zoogeography of Indian Amphibians by S.K. Tiwari (1991), published by Today and Tomorrow Printers and Publishers, New Delhi. The book is written by a Geography Professor whose expertise on amphibian Zoogeography is not at all evidenced from research publications. I do not recommend the book for use by researchers.
3. Homeotic transformation in Anurans by S.K. Dutta (1994), Acharya Associates. 741 Jaydev Vihar. ISRAG publications, Bhubaneswar. Copies available from; Bhubaneswar-13, Orissa, price; Rs.100/-. The book is invaluable for developmental biology researchers, working on regeneration studies.

Recent Amphibian Publications

1. Reproductive Strategy in Amphibia, by S. Kasinathan and V. Sriramuly, published by Annamalai Univ. (1989) (The only Indian amphibian book containing

information on frog culture, frog leg export and rearing procedures).

2. Report on All India Co-ordinated MPEDA Project on Survey of Frog Populations; published by Marine Products Export Development Authority, Cochin, 1989. The report is the synthesis of survey of frog populations in eight coastal states of India (Andhra Pradesh, Gujarat, Karnataka, Kerala, Maharashtra, Orissa, Tamil Nadu and West Bengal)

3. A Field Guide to the Amphibians of West Bengal Plains, by Kaushik Deuti and B. C. Bharati - Goswami, 1995. Published by the World Wide Fund for Nature India (Eastern Region), 43 Choringhee Road, Calcutta 700 071. Price ; Rs. 100/-

4. Anuran (Amphibia) Fauna of Northeast India by S. K. Chanda, 1994. In : Memoirs of the Zoological Survey of India, Vol. 18(2). Published by the Director, Zoological Survey of India, Calcutta, Price : Rs. 185/-.

Asian Herpetological and other Related Journals & Newsletters

1. Journal of South Asian Natural History. ISSN 1022-0828: Edited by Rohan Pethiyagoda and published by Wildlife Heritage Trust of Sri Lanka, 95 Cotta Road, Colombo-8, Sri Lanka. The Journal has rapidly become the premier venue of publication of natural history results from the region in general and Sri Lanka in particular, is now in its third issue. Although aimed especially at the international community of scientists, the Journal is also of interest to serious amateurs who wish to keep abreast of the latest developments in natural history of Sri Lanka and South Asia.
2. Hamadryad: Published by Madras Crocodile Bank Trust, Mamallapuram, Tamil Nadu.
3. Cobra: A quarterly Newsletter of the Madras Snake Pank Trust, Guindy, Madras, Tamil Nadu.
4. ZOOS' PRINT: News of Zoos and Captive Breeding centres in India and elsewhere in the east, published by Zoo Outreach Organisation, publishes herpetological papers.

5. Herpeton: Occasional Journal of Indian Herpetological Society, "Usant", Pune Satara Road, Poona - 411 009.

6. Tiger Paper: Published by: FAO Regional office for Asia and the Pacific, Maliwan Mansion, Phra Atit Road,

Bangkok - 10200, Thailand. Publishes articles on amphibians and reptiles.

7. The Snake: Published by Japan Snake Institute, Yabuzuka-honmachi, Niita-gun, Gunma Prefecture 379-23, Japan.

8. Asiatic Herpetological Research: the Journal publishes articles concerning but not limited to Asian herpetology. the Editors encourage publications from all countries in an attempt to create an open forum for the discussion of Asian herpetological research.

9. Lyriocephalus: Published by ARROS (The Amphibia and Reptile Research Organisation of Sri Lanka). Address for correspondence: A. de Silva, Faculty of medicine, Univ. of Peradeniya, Sri Lanka

FROG LEG



Newsletter of the Declining Amphibian Populations Task Force-South Asia, the regional satellite of the Declining Amphibian Populations Task Force, SSC, IUCN.

Sushil Dutta, Co-Chair and Editor, Sanjay Molur, Co-Chair and Associate Editor Declining Amphibian Populations Task Force - South Asia and FROG LEG.

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FROG LEG is published by Zoo Outreach Organisation and Conservation Breeding Specialist Group, India as a section of ZOOS' PRINT as a service to the amphibian conservation community as well as conservation actioners and enthusiasts at large. For offprints write to the ZOO/CBSG, India office, Box 1683, Peelamedu, Coimbatore 4, India.

ZOO/CBSG, India is the administrative "home" of DAPTF-SA and its publications. Any communication addressed to either Sushil Dutta or Sanjay Molur will find its way to the other.

This first issue of the FROG LEG as well as the issue of ZOOS' PRINT in which it appears is truly a collaborative effort of the DAPTF-SA Co-chairs working with ZOO/CBSG, India Amphibian Special Interest Group. FROG LEG will appear bi-annually.