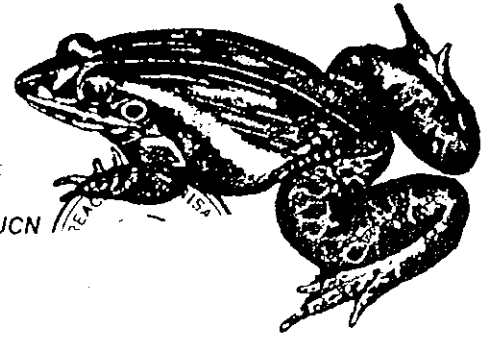


FROG LEG

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

Volume II, Number 1, July 1997



All Indian Amphibians assessed according to the New IUCN Categories

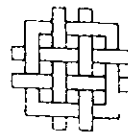
Sanjay Molur

The Indian amphibians, 207 species as of April 1997, have been assessed according to the New IUCN categories. This assessment was made at a Conservation Assessment and Management Plan (CAMP) Workshop that was conducted at Bhubaneswar from 22nd to 26th April 1997. The Workshop was hosted by Utkal University Zoology Department, Dr. Sushil K. Dutta being the local coordinator. The Workshop venue was at the Institute of Cooperative Management where the participants were also housed for the five days.

The Conservation Assessment and Management Plan is a group process, a methodology devised by the Conservation Breeding Specialist Group of the Species Survival Commission, IUCN. The purpose of this exercise is to bring together experts and policy makers on a common platform to assess the flora and fauna according to the New IUCN Red List Categories. The CAMP process has been conducted in over 40 countries. India is the first country to use the CAMP process to fulfill its commitment to the Biodiversity Convention to prioritise species. CBSG, India has adopted CAMP and till date 7 workshops have been conducted in India, 4 for medicinal plants, 1 for invertebrates, 1 for amphibians and 1 for reptiles.

In April 1996, World Wide Fund for Nature, India invited wildlifers, conservationists and policy makers in India to participate in a workshop that was to explain the Biodiversity Conservation Prioritisation Project and derive consensus on methodologies for assessing sites, species and strategies. In the endangered species subgroup of the project it was decided to use the conservation evaluation of the species according to the New IUCN Categories and follow the CAMP methodology in deriving the assessments in a participatory manner.

The WWF, India which has undertaken this mega project has identified three distinct areas of information gathering and prioritisation. One of them is Species prioritisation which is what CBSG, India is doing, and the other two are site prioritisation and strategies prioritisation. The sponsors of the BCPProject are USAID, The Nature Conservancy, and the World Resources Institute, a consortium of organisations



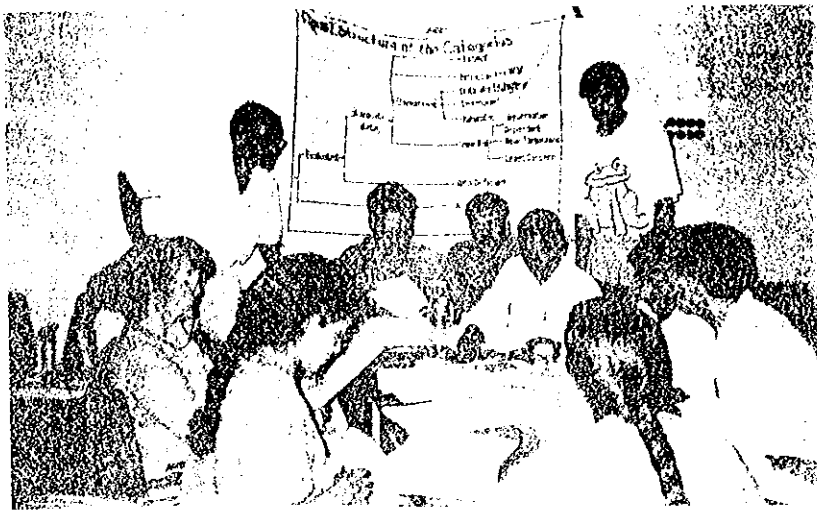
responsible for such projects initially in Brazil and now in India. The WWF, India has assigned Dr. Ajith Kumar of Salim Ali Centre for Ornithology and Natural History, Steering Committee Member of BCPP, to coordinate the species prioritisation which is being done using the CAMP methodology with CBSG, India coordinating, organising and facilitating the CAMPs. There are 3 more CAMP exercises to happen until October 1997 for mangroves, mammals and freshwater fishes.

The CAMP Workshop was attended by 25 amphibian researchers in India many of whom have been in the field for more than a decade. The group consisted of systematists, amphibian biologists and field researchers who had extensive field knowledge. Some of the important collaborating institutions/ organisations in addition to the organisers were the Declining Amphibian Population Task Force, South Asia, South Asian Reptile and Amphibian Specialist Group, Friends of Rare Amphibians of the Western Ghats and Fauna and Flora International.

The Inaugural, an informal affair, began with a Welcome and Introduction to the status of amphibians in India by Dr. Sushil Dutta, Co-chair of DAPTF-SA. Dr. Ajith Kumar briefly explained the BCPProject and its goals. Mr. S.K. Patnaik, Conservator of Forests and Director of the Nandankana Zoological Park, Bhubaneswar and Dr. Indraneil Das, Chairman of the South Asian Reptile and Amphibian Specialist Group gave felicitations. Ms. Sally Walker, Founder Secretary of Zoo

Hosts, Coordinators, Organisers and Sponsors of the Amphibian CAMP

Utkal University Zoology Department
Declining Amphibian Populations Task Force, South Asia (DAPTF-SA)
Forest Department of Orissa
Friends of Rare Amphibians of the Western Ghats (FRAWG)
Flora and Fauna International (FFI)
World Wide Fund for Nature, India (WWF)
The Nature Conservancy (TNC)
World Resources Institute (WRI)
Salim Ali Centre for Ornithology and Natural History (SACON)
Conservation Breeding Specialist Group, India (CBSG, India)
Zoo Outreach Organisation (ZOO)



Working group participants hard at work during the Amphibian CAMP. "...ah, completed assessing the 61st endemic taxon, whats next?!"



Workshop participants taking a short break to pose for a photograph during the extremely busy 5-day CAMP

Outreach Organisation and Convenor of Conservation Breeding Specialist Group, India spoke on behalf on the Conservation Breeding Specialist Group and gave the Vote of Thanks.

Later in the morning, Sally Walker explained the concept of the Project and the role of CAMPs followed by a slide presentation on the Species Survival Commission and the Conservation Breeding Specialist Group. Sanjay Motur, Programme Officer, CBSG, India and Co-chair DAPTF-SA explained in detail the New IUCN Red List Categories, its evolution, the criteria and the procedure in filling up Taxon Data Sheets. The Workshop was facilitated by Sally Walker and Sanjay Motur.

A Taxon Data Sheet is filled out for assessing the status of a taxon. Information required in filling out the sheet would lead the group into deriving the IUCN status. Some information required for assessment includes Global distribution, Extent of occurrence, Area of occupancy, Number of locations, Number of mature individuals, Population trends, Threats, Trade. Depending on what information is available, the taxon is assessed according to any of the five criteria of threat. If the required criteria are not met or if information is not available, the taxon is categorised as non-threatened or data deficient.

As an introductory exercise, all participants together assessed 1 amphibian.

This is done to help familiarise the group with the Taxon Data Sheet and the CAMP Manual (a booklet that contains the definitions to the terminologies in the sheet and the IUCN categories) and the process of filling-in information. *Hoplobatrachus tigerinus* (*Rana tigerina*) was a natural choice of the group for assessment because of its wide distribution and familiarity to everyone.

Later the participants were divided into 2 groups based on the expertise available, viz. Western Ghats and Northeast India groups. The Western Ghats group also assessed the southern Indian taxa, while the Northeast group also assessed eastern Indian and Andaman and Nicobar taxa. In total, the groups assessed 210 taxa of amphibians which were listed in the checklists provided by Indraneil Das and Sushil Dutta.

The final assessment consisted of 133 Indian endemic and 77 non-endemic amphibians.

The mandate of the workshop was to first assess all the political endemic taxa before assessing the non-endemics. As per the checklist 4 very distinct areas of endemism were identified such as Western Ghats, Eastern and Northeastern India, Andaman and Nicobar islands and Northern India. Other than these a combination of the areas also contributed to a few endemic taxa.

The taxa were distributed according to their distribution to the respective working groups which first assessed endemics and then the non-endemics. The Western Ghats group which had more than 120 endemics took most of the time assessing those while the Northeastern group after assessing the Eastern, Northeastern and Andaman and Nicobar endemics, assessed the non-endemics found in those regions. Non-endemics that were found all over India was assessed by one group and the taxon data sheets passed onto the other group for their input. All the taxa were finally discussed in plenary when all the participants got an opportunity to input and question the working groups on the reasoning behind the assessment. The Workshop results was derived by consensus.

Ten amphibians were categorised as Critically endangered, 42 as Endangered, 41 as Vulnerable, 60 as Lower Risk near threatened, 13 as Lower Risk least concern, 40 as Data Deficient and 4 not Evaluated. The taxa and their categories are listed in the following pages. These results are just a draft and there may be few changes depending on the input

provided by the participants on the draft report.

More than half the Indian amphibians are political endemics (63%) of which more than 50% are threatened and 15% are near threatened. Twenty-three percent of the endemics are Data Deficient. The high percentage of Data Deficient taxa is due to lack of any information either on populations, distribution or habitat of many of C.R.N. Rao's taxa of which the type specimens were described in 1920 and 1937, and subsequently lost.

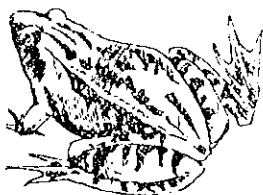
The fear that most of the amphibian taxa would be Data Deficient was proved unfounded since there was sufficient information in publications, monographs, theses, and field notes. Even unpublished information from field researchers was used for extrapolating inferences for assessments.

It was decided that only taxa that were formally described and published would be taken up for assessment and that new taxa that were being described by some of the participants and was in press would not be assessed at the workshop.

Nomenclature changes and confusion in taxonomy and identifications is a major problem in amphibians in India. The problems were discussed in separate working groups dealing with topics such as Nomenclature, Future strategies, Education, Captive breeding.

Z.O.O./ CBSG, India, coordinator of the CAMPS had prepared briefing material consisting of selected reprints on amphibian studies in India and also lists of amphibians. Copies of the Briefing Book are available at our office on request. Draft Report of the workshop has been completed and sent to the participants for final review. The Final Report will be ready by August 1997.

It is the policy of the Conservation Breeding Specialist Group, SSC, IUCN that the output of such workshops is the property of all the participants and is liberally distributed for maximum use in conservation action and management planning. CBSG, India follows the same policy.



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ENDEMIC

Western Ghats

Ichthyophiidae

<i>Ichthyophis beddomei</i> Peters, 1879	-- VU
<i>Ichthyophis bombayensis</i> Taylor, 1960	-- EN
<i>Ichthyophis longicephalus</i> Pillai, 1986	-- VU
<i>Ichthyophis malabarensis</i> Taylor, 1960	-- VU
<i>Ichthyophis penninsularis</i> Taylor, 1960	-- VU
<i>Ichthyophis subterrestris</i> Taylor, 1960	-- VU
<i>Ichthyophis tricolor</i> Annandale, 1909	-- EN

Uraeotyphlidae

<i>Uraeotyphlus malabaricus</i> (Beddome, 1870)	-- EN
<i>Uraeotyphlus menoni</i> Annandale, 1913	-- VU
<i>Uraeotyphlus narayani</i> Seshachar, 1939	-- VU
<i>Uraeotyphlus oxyurus</i> (Dumeril & Bibron, 1841)	-- VU

Caeciliidae

<i>Gegeneophis carnosus</i> (Beddome, 1870)	-- VU
<i>Gegeneophis ramaswamii</i> Taylor, 1964	-- EN
<i>Indotyphlus battersbyi</i> Taylor, 1960	-- CR

Bufo

<i>Ansonia kamblei</i> Ravichandran & Pillai, 1922	-- DD
<i>Ansonia ornata</i> Günther, 1875	-- EN
<i>Ansonia rubrigina</i> Pillai & Pattabiraman, 1981	-- EN
<i>Bufo beddomii</i> Günther, 1875	-- LRlc
<i>Bufo brevirostris</i> Rao, 1937	-- DD
<i>Bufo koynaensis</i> Soman, 1963	-- EN
<i>Bufo parietalis</i> Boulenger, 1882	-- LRnt
<i>Bufo silentvalleyensis</i> Pillai, 1981	-- LRlc
<i>Pedostibes tuberculosus</i> Günther, 1875	-- VU

Microhylidae

<i>Melanobatrachus indicus</i> Beddome, 1878	-- VU
<i>Ramanella anamalaiensis</i> Rao, 1937	-- DD
<i>Ramanella minor</i> Rao, 1937	-- DD
<i>Ramanella montana</i> (Jerdon, 1854)	-- LRnt
<i>Ramanella mommorata</i> Rao, 1937	-- VU
<i>Ramanella triangularis</i> (Günther, 1875)	-- VU

Ranidae

<i>Indirana beddomii</i> (Günther, 1875)	-- VU
<i>Indirana brachytarsus</i> (Günther, 1875)	-- VU
<i>Indirana diplostictus</i> (Günther, 1875)	-- VU
<i>Indirana gundia</i> (Dubois, 1985)	-- DD
<i>Indirana leptodactyla</i> (Boulenger, 1882)	-- VU
<i>Indirana phrynoderma</i> (Boulenger, 1853)	-- NE
<i>Indirana semipalmata</i> (Boulenger, 1882)	-- VU
<i>Indirana tenuilingua</i> (Rao, 1937)	-- DD
<i>Limnonectes brevipalmata</i> (Peters, 1871)	-- LRlc
<i>Limnonectes mysorensis</i> (Rao, 1922)	-- CR
<i>Limnonectes murthii</i> (Pillai, 1979)	-- EN
<i>Limnonectes nilagiricus</i> (Jerdon, 1853)	-- EN
<i>Limnonectes sauriceps</i> (Rao, 1937)	-- DD
<i>Micrixalus fuscus</i> (Boulenger, 1882)	-- LRnt
<i>Micrixalus gadgii</i> Pillai & Pattabiraman, 1991	-- EN
<i>Micrixalus nudis</i> Pillai, 1978	-- VU
<i>Micrixalus opisthorhodus</i> Günther 1868	-- VU
<i>Micrixalus saxicolus</i> (Jerdon, 1853)	-- LRnt
<i>Micrixalus silvaticus</i> (Boulenger, 1882)	-- VU
<i>Micrixalus thampii</i> Pillai, 1981	-- EN
<i>Nyctibatrachus aliciae</i> Inger, Shaffer, Koshy & Bakde, 1984	-- VU
<i>Nyctibatrachus beddomii</i> (Boulenger, 1882)	-- LRnt

<i>Nyctibatrachus kempholeyensis</i> (Rao, 1937)	-- DD
<i>Nyctibatrachus deccanensis</i> Dubois, 1984	-- VU
<i>Nyctibatrachus humayuni</i> Bhaduri & Kripalani, 1955	-- EN
<i>Nyctibatrachus major</i> Boulenger, 1882	-- LRnt
<i>Nyctibatrachus minor</i> Inger, Shaffer, Koshy & Bakde, 1984	-- VU

<i>Nyctibatrachus sanctipalustris</i> Rao, 1920	-- EN
<i>Nyctibatrachus sylvaticus</i> Rao, 1937	-- DD
<i>Rana aurantiaca</i> Boulenger, 1904	-- LRnt
<i>Rana curtipes</i> Jerdon, 1853	-- LRnt
<i>Rana travancorica</i> Annandale 1910	-- DD
<i>Tomopterna leucorhynchus</i> (Rao, 1937)	-- DD
<i>Tomopterna parambikulamana</i> (Rao 1937)	-- DD
<i>Tomopterna rufescens</i> (Jerdon, 1854)	-- LRnt

Rhacophoridae

<i>Philautus beddomii</i> (Günther, 1875)	-- VU
<i>Philautus bombayensis</i> (Annandale, 1919)	-- EN
<i>Philautus chalazodes</i> (Günther, 1875)	-- VU
<i>Philautus charius</i> Rao, 1937	-- LRnt
<i>Philautus cmri</i> Dutta, 1985	-- DD
<i>Philautus elegans</i> Rao, 1937	-- DD
<i>Philautus flaviventris</i> (Boulenger, 1882)	-- DD
<i>Philautus glandulosus</i> (Jerdon, 1853)	-- VU
<i>Philautus hassanensis</i> Dutta, 1985	-- DD
<i>Philautus kottigeharensis</i> Rao, 1937	-- DD
<i>Philautus leucorhinus</i> (Lichtenstein & Martens, 1856)	-- LRnt
<i>Philautus melanensis</i> Rao, 1937	-- DD
<i>Philautus narainensis</i> Rao, 1937	-- DD
<i>Philautus nasutus</i> (Günther, 1868)	-- LRnt
<i>Philautus nobeli</i> (Ahl, 1927)	-- DD
<i>Philautus parkeri</i> (Ahl, 1927)	-- DD
<i>Philautus pulcherimus</i> (Ahl, 1927)	-- VU
<i>Philautus signatus</i> (Boulenger, 1882)	-- VU
<i>Philautus swamianus</i> Rao, 1937	-- DD
<i>Philautus temporalis</i> (Günther, 1864)	-- EN
<i>Philautus travancoricus</i> (Boulenger, 1891)	-- DD
<i>Philautus variabilis</i> (Günther, 1868)	-- LRnt
<i>Polypedates cruciger</i> Blyth, 1852	-- VU
<i>Ramanella obscura</i>	-- NE
<i>Ramanella palmatus</i>	-- NE
<i>Rhacophorus calcadensis</i> Ahl, 1927	-- DD
<i>Rhacophorus lateralis</i> Boulenger, 1883	-- EN
<i>Rhacophorus malabaricus</i> Jerdon, 1870	-- LRnt
<i>Rhacophorus pleurostictus</i> (Günther, 1864)	-- VU

North East

Caeciliidae

<i>Gegeneophis fulleri</i> (Alcock, 1904)	-- VU
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Bufo

<i>Bufoides meghalayana</i> (Yazdani & Chanda, 1971)	-- CR
<i>Pedostibes kempii</i> (Boulenger, 1919)	-- CR

Ranidae

<i>Euphlyctis ghoshi</i> (Chanda, 1990)	-- EN
<i>Limnonectes khasiana</i> (Anderson, 1871)	-- DD
<i>Phrynoglossus borealis</i> Annandale, 1912	-- EN
<i>Rana danieli</i> Pillai & Chanda, 1977	-- LRnt
<i>Rana garoensis</i> Boulenger, 1920	-- EN
<i>Rana khare</i> (Kiyasetuo & Khare, 1986)	-- EN
<i>Rana mawlyndipi</i> Chanda 1990	-- CR

Rhacophoridae

<i>Philautus cherrapunjiae</i> Roonwal & Kripalani, 1961	-- EN
<i>Philautus garo</i> (Boulenger, 1919)	-- CR
<i>Philautus kempiae</i> (Boulenger, 1919)	-- CR
<i>Philautus namdaphaensis</i> Sarkar & Sanyal, 1985	-- VU
<i>Philautus shillongensis</i> Pillai & Chanda, 1973	-- CR

- Philautus shyamrupus* Chanda & Ghosh, 1989 -- VU
Rhacophorus namdaphaensis Sarkar & Sanyal, 1985 -- VU
Rhacophorus naso Annandale, 1912 -- DD

Northeast + East

- Ranidae**
Limnonectes mawphlangensis (Pillai & Chanda, 1977) -- CR

- Rhacophoridae**
Rhacophorus jerdonii (Günther, 1875) -- VU
Rhacophorus tuberculatus (Anderson, 1871) -- LRnt

East

- Ichthyophiidae**
Ichthyophis sikkimensis Taylor, 1960 -- VU

- Pelobatidae**
Megophrys robusta (Boulenger, 1908) -- EN

- Bufonidae**
Bufo abatus Ahl, 1925 -- DD

- Ranidae**
Rana senchalensis Chanda 1986 -- CR

- Rhacophoridae**
Rhacophorus taeniatus (Boulenger, 1906) -- LRnt

N. India

- Pelobatidae**
Scutigera occidentalis Du bois, 1978 -- DD

- Rhacophoridae**
Chirixalus dudhwaenensis Ray, 1992 -- DD

Andaman & Nicobar

- Bufonidae**
Bufo camortensis Mansukhani & Sarcar, 1980 -- LRic

- Microhylidae**
Caloula baleata ghoshi Cherchi, 1954 -- LRic
Microhyla chakrapani Pillai, 1977 -- LRic

- Ranidae**
Limnonectes andamanensis (Stoliczka, 1870) -- LRic
Limnonectes shompenorum Das, 1996 -- EN

- Rhacophoridae**
Polypedates insularis Das, 1995 -- EN

Western Ghats + C. India

- Ranidae**
Indirana leithii (Boulenger, 1888) -- LRnt

Western Ghats + Eastern Ghats

- Bufonidae**
Bufo hololius Günther, 1875 -- LRnt

W. Ghats + East + Central

- Ranidae**
Rana malabarica Tschudi, 1838 -- LRnt

Western Ghats + S. India

- Ichthyophiidae**
Ichthyophis peninsularis Taylor, 1960 -- VU

- Ranidae**
Tomopterna dobsonii (Boulenger, 1882) -- DD

Western Ghats + Eastern India

- Ichthyophiidae**
Ichthyophis beddomei Peters, 1879 -- VU

- Ranidae**
Limnonectes keralensis (Du Bois, 1980) -- LRnt

NON ENDEMIC

North East

- Salamandridae**
Pleurodeles verrucosus Anderson, 1871 -- EN

- Pelobatidae**
Leptobatrachium hasseltii Tschudi, 1838 -- EN
Megophrys boettgeri (Boulenger, 1899) -- LRnt
Megophrys kempii (Annandale, 1912) -- EN
Megophrys lateralis (Anderson, 1871) -- LRnt
Megophrys monticola Kuhl & Van Hasselt, 1822 -- EN
Megophrys parva (Boulenger, 1893) -- LRnt
Scutigera sikkimensis (Blyth, 1854) -- LRnt

- Bufonidae**
Bufo himalayanus Günther, 1864 -- LRnt
Bufo stuarti Smith, 1929 -- LRnt

- Hyalidae**
Hyla annectans (Jerdon, 1870) -- LRnt

- Microhylidae**
Microhyla berdmorei (Blyth, 1855) -- LRnt

- Ranidae**
Amolops afghanus (Günther, 1858) -- LRnt
Amolops gerbillus (Annandale, 1912) -- LRnt
Amolops monticola (Anderson, 1871) -- EN
Chaparana sikkimensis (Jerdon, 1870) -- LRnt
Occidozyga lima (Gravenhorst, 1829) -- DD
Paa annandalii (Boulenger, 1920) -- EN
Rana assamensis Sclater, 1892 -- LRnt
Rana erythraea (Schlegel, 1837) -- LRnt
Rana leptoglossa (Cope, 1868) -- EN
Rana livida (Blyth, 1855) -- LRnt
Rana nigrovittata (Blyth, 1855) -- EN

- Rhacophoridae**
Chirixalus doniae Boulenger, 1893 -- EN
Chirixalus simus Annandale, 1915 -- EN
Chirixalus vittatus (Boulenger, 1887) -- EN
Nyctixalus moloch (Annandale, 1912) -- EN
Philautus andersoni (Ahl, 1927) -- EN
Philautus annandalii (Boulenger, 1906) -- LRnt
Rhacophorus bipunctatus Ahl, 1927 -- LRnt
Rhacophorus bisacculus Taylor, 1962 -- EN
Rhacophorus maximus Günther, 1858 -- LRnt
Rhacophorus nigropalmatus Boulenger, 1895 -- DD
Rhacophorus reinwardtii (Schlegel, 1840) -- LRnt
Theloderma asper (Boulenger, 1886) -- DD

India

- Bufonidae**
Bufo melanostictus Schneider, 1799 -- LRnt
Bufo stomaticus stomaticus Lütken, 1862 -- LRnt

Microhylidae

<i>Kaloula taprobanica</i> Parker, 1934	-- LRnt
<i>Microhyla omata</i> (Dumeril & Bibron, 1841)	-- LRnt
<i>Microhyla rubra</i> (Jerdon, 1854)	-- LRnt
<i>Ramanella variegata</i> (Stoliczka, 1872)	-- LRnt
<i>Uperodon globulosus</i> (Günther, 1864)	-- LRnt
<i>Uperodon systoma</i> (Schneider, 1799)	-- LRnt

Ranidae

<i>Euphylyctis cyanophlyctis</i> (Schneider, 1799)	-- LRnt
<i>Euphylyctis hexadactylus</i> (Lesson, 1834)	-- LRnt
<i>Hoplobatrachus crassus</i> (Jerdon, 1853)	-- LRnt
<i>Hoplobatrachus tigerinus</i> (Daudin, 1803)	-- VU
<i>Limnonectes limnocharis</i> (Boiein & Wiegmann, 1835)	-- VU
<i>Tomopterna rolandae</i> Dubois, 1983	-- LRnt

Rhacophoridae

<i>Polypedates leucomystax</i> Gravenhorst	-- LRlc
<i>Polypedates leucomystax teraiensis</i> (Dubois, 1986)	-- NE
<i>Polypedates maculatus maculatus</i> (Gray, 1834)	-- LRlc
<i>Polypedates maculatus himalayensis</i> Annandale, 1912	-- EN

North

Pelobatidae

<i>Scutigera nyingchinesis</i> Fei, 1977	-- LRnt
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Bufo

<i>Bufo latestii</i> Boulenger, 1882	-- LRlc
<i>Bufo vindis arabicus</i> Heyden, 1827	-- DD

Ranidae

<i>Paa hazarensis</i> Dubois & Khan, 1979	-- DD
<i>Paa minica</i> (Dubois, 1975)	-- DD
<i>Paa stenosignata</i> Murray, 1885	-- DD
<i>Paa vicina</i> (Stoliczka, 1872)	-- DD

Central

Ranidae

<i>Limnonectes cancrivorus</i> (Gravenhorst, 1829)	-- LRlc
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S. India

Bufo

<i>Bufo fergusonii</i> Boulenger, 1892	-- LRlc
<i>Bufo microtypanum</i> Boulenger, 1882	-- LRnt

Rhacophoridae

<i>Philautus variabilis</i> (Günther, 1858)	-- LRnt
<i>Rhacophorus appudiculatus</i> (Günther, 1858)	-- DD

Andaman and Nicobar

Microhylidae

<i>Microhyla heymonsi</i> Vogt, 1911	-- EN
<i>Micryletta inomata</i> (Boulenger, 1890)	-- EN

Ranidae

<i>Limnonectes doriae</i> (Boulenger, 1887)	-- LRlc
<i>Rana chalconota</i> (Schlegel, 1837)	-- EN
<i>Taylorana hascheanus</i> (Stoliczka, 1870)	-- DD

Andaman + Northeast

Ranidae

<i>Rana allicola</i> Boulenger, 1882	-- LRnt
<i>Rana nicobariensis</i> (Stoliczka, 1870)	-- LRnt

North + Northeast

Ranidae

<i>Amolops formosus</i> (Günther, 1875)	-- LRnt
<i>Paa blanfordii</i> (Boulenger, 1882)	-- LRnt
<i>Paa liebighii</i> (Günther, 1860)	-- LRnt
<i>Rana taipehensis</i> Van Denburgh, 1909	-- LRnt

Western Ghats

Ranidae

<i>Limnonectes syhadrensis</i> (Annandale, 1919)	-- LRnt
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Totals of Assessment Indian Amphibians	
ENDEMIC	NON-ENDEMIC
Western ghats --	All over India --
CR = 2	CR = 0
EN = 16	EN = 18
VU = 31	VU = 2
LRnt = 14	LRnt = 40
LRlc = 3	LRlc = 6
DD = 24	DD = 10
NE = 3	NE = 1
Total 93	Total 77
Northeast, East, Central, Andamans & others--	Grand total = 210
CR = 8	* This is a DRAFT. Count and categories may be revised after review and correction by participants.
EN = 8	
VU = 8	
LRnt = 6	
LRlc = 4	
DD = 6	
Total 40	

Participating Institutions

Arya Vidyapeeth College, Guwahati
 Conservation Breeding Specialist Group, India/ ZOO
 Dept. of Zoology, Utkal University, Bhubaneswar
 Dept. of Zoology, Kurukshetra University, Haryana
 Dept. of Zoology, Goa University, Goa
 Dept. of Environmental Sciences, Kuvempu University, Shimoga
 Dept. of Zoology, Bangalore University, Bangalore
 Dept. of Zoology, U.G. Mahavidyalaya, Khamare, Orissa
 Dept. Zool. Bio. Genetics Lab, Dayalbagh Edu. Institute, Agra
 Dharampeth Science College, Nagpur University, Nagpur
 Forest Department of Orissa
 Inst. of Self Organising Syst. & Biop, NE Hill University, Shillong
 Madras Crocodile Bank, Madras
 Nandankanan Biological Park, Cuttack
 Nature Environment and Wildlife Society, Calcutta
 Res. Centre on Natural Science, Howrah, W. B.
 Salim Ali Centre for Ornithology and Natural History
 South Asian Reptile and Amphibian Specialist Group
 Vidarbha Nature & Human Sciences, Nagpur
 Wildlife Wing, Forest Dept. of Orissa, Bhubaneswar
 Wildlife, Environment and Tourism Society, Ayodha
 Zoological Survey of India, Calcutta
 Zoological Survey of India, Western Regional Station, Pune
 Zoological Survey of India, Southern Regional Station, Madras

Special issue working group output during the Amphibian CAMP Workshop

What to do with frequent taxonomic revisions?

In recent years, Alan Dubois of Paris Natural History Museum has proposed nomenclatural changes to some amphibians (mostly Ranids) and thereby reinstating old generic names. Dr. Sushil Dutta and Dr. Indraneil Das have taken up that system of nomenclature change and thereby re-naming and standardizing taxonomy of Indian Amphibians. The system though valid and rational, is not widely understood by all amphibian researchers in India (and abroad) and therefore has led to confusion and "chaos" in taxonomy. A working group was set up to tackle that problem and for Dutta and Das to explain in length the rationale behind the changes.

Dr. S.K. Dutta stated that the species nomenclature remains unchanged and only generic changes have been proposed, hence, there should not be much concern on this issue. Mr. Kaushik Deuti asked for the reason for the sudden generic changes and asked if anyone could propose a change. S.K. Dutta replied that generic nomenclatures are very flexible and if anybody should wish to propose a new genus, he should first publish the report in a peer reviewed publication.

Dr. S. Katre said that, by and large, non-taxonomists are not so rigid over species nomenclature changes, but there should be a scientific methodology or key available to them for reference and cross-checking, as there are none to date. Dr. I. Das said that species nomenclature are biological in origin and hence very sound but the generic changes are man-made. Non-taxonomists should make species identifications from Boulenger's key following the International Code for Zoological Nomenclature rules.

S. Molur pointed out that not everybody had access to the key and hence whatever keys are available should be distributed to amphibian workers in India. He suggested that the translations could be distributed to all the 100 odd researchers through the network. It was agreed that S. Dutta, and I. Das provide a copy of the abridged translation of 1986 and 1992 papers by Alan Dubois they possess which would be distributed to all researchers. Dr. P.V. Desai agreed to pursue translation of the complete paper from French to English through the French department in his University. S. Walker pointed out that the check lists provided by I. Das and S.K. Dutta before the workshop had some contradictions and it would be helpful if these could be regularised at the workshop itself.

On the question of homonyms, raised by Dr. Krishnamurthy, Dr. Das and Dr. Chanda replied that anybody working with any species of frog research should first get the specimens identified by recognised authority e.g. Zoological Survey of India, Bombay Natural History Society, etc. and also deposit a voucher species and obtain a registration number.

Dr. Bhupathy raised the issue of the minimum number required to describe a new species to which the reply was "preferably six." He also raised a question with regard to the loss of the only type specimen, e.g. how long the nomenclature should be confirmed in the list? The response was that until the concerned species is taxonomically resolved, its validity should not be questioned.

Dr. Katre asked Dr. Dutta to pronounce the name of his proposed name for species, *Philautus cmri* as she felt it was "impossible" to pronounce. However, the species name has been accepted in the existing scientific literature.

A consensus of the core discussion group and the participants was that the proposed scientific nomenclature is accepted until scientifically disproved and the taxon list should have the latest combination of the valid species name first followed by the original name.

Captive Breeding group

The Working Group identified the following areas of priority for captive breeding:

- threatened species such as those identified by the workshop
- ecologically important species including species in pest biocontrol
- edible and other commercially important species (incl. genetic material)

The following centres were identified (by region) as places which may be interested in taking up systematic, scientific captive propagation programmes in future: Coimbatore Zoological Park, Madras Crocodile Bank, ZSI SRS, Chennai, Madras Snake Park, ZSI WGRS Calicut, Goa University, ZSI Western Regional Station, Utkal University, CIEFA, North Eastern Hill University, Agra University, Dayalbagh Educational Institute

Educational Institutions which use amphibians for research and teaching activities should be identified and encouraged to take up captive breeding to sustain their activities.

Resource materials in captive breeding (see below) need to be collected and made available at affordable rate to appropriate institutions.

Education Working Group

Conservation Education and Environmental Awareness should be created at these levels:

Policy makers level

1. Environmental education camps to be conducted at rural, urban and zoo level and even for policy makers.
2. Policy makers should be encouraged to release funds for conservation education.
3. Policy makers to be addressed on larger issues affecting amphibian conservation by influential conservationists or activist campaigns.

Public level

A. Urban

1. Popularising amphibians through television (wildlife films depicting Indian amphibians), cartoon films with animal of "foggy" character, quiz, etc.) radio (frog calls, etc.)
2. Zoos to exhibit amphibians and sell stickers, posters, leaflets, tee-shirts promoting amphibian protection and conservation and general knowledge of amphibians.

B. Rural

1. Creating awareness among villagers of the ecological importance of amphibians and their habitats by mass media (television, radio, newspapers, etc) in specific season (cropping season).
2. Villagers may be made aware of the ban in frog leg export by environmental awareness camps in local languages.

Educational Institutions

A. Primary school level

1. Field and photo guides and colouring books on local amphibians to be produced and distributed among school children.
2. Posters (with species and life cycle of frogs and toads) to be made available to children
3. Drawings and essay competitions on frogs to be arranged among school-children and the prize winners be awarded with mementos of frogs such as pins, lockets, tee-shirts, etc.

B. Secondary, High School and College levels

1. Usage of computer software to dem-

onstrate dissection and minimise number of specimens dissected by students

2. Behavioural studies on amphibians to be included in the curriculum. Students encouraged to do such field studies themselves.

3. Nature camps to be organised among students to promote "frog-watching."

Working Group on Strategies in Amphibian Research

The Working Group discussed strategies in amphibian research and produced the following list of needs and problems:

1. There should be better coordination among people for research
2. The Indian Wildlife (Protection) Act should reflect, as much as possible, the results of ongoing and current research and the present assessment.
3. As demonstrated by the results of the Workshop there are many Data Deficient species, indicating a serious lack of surveys which should be addressed.
4. Surveys should be of two types
 - a. Rarer species quantitative data not required
 - b. Identifying species for quantification of population data
5. Priority to taxonomy of species under complexes, e.g. *Limnodynastes limnodynastes*, *E. cyanophictis*
6. Ecological information on microhabitat should be collected.
7. Two kinds of monitoring
 - a. forest reserves
 - b. disturbed areas
8. Modern tools and techniques should be learned and utilised on priority basis, such as cytotaxonomy, chemotaxonomy, molecular genetics, acoustics, etc. A workshop in these techniques is an urgent requirement.
9. A well maintained / properly indexed / and accessible central repository for specimen is required.
10. Regional voucher collection with audio - video photographs is required.
11. Bioinformatics on amphibians is required.
12. Training workshops on survey, monitoring and identification should be held regularly.
13. Literature should be categorised and a bibliography updated.

14. Fundraising should be done for doing surveys. Additional funding agencies international, national, private, NGO should be identified.

15. Zoo Outreach Organisation should be asked to do the annual abstract of Indian publications on amphibians.

16. In the areas where C.R.N. Rao had collected specimen and the type specimen are lost an intensive survey should be made and at night, in the current monsoon, ZSI will provide this help.

Amphibian conservation and education project at Coimbatore Zoological Park

Sally Walker

The Coimbatore Zoological Park and Conservation Centre is yet to open but the Zoo is actively pursuing conservation, some recent grants helping the Zoo realise its initial dreams. Under the Jersey Wildlife Preservation Trust's grant scheme under Gerald Durrell Memorial Fund, the Trust has awarded project grants to eight of its trainees around the world. This is the first year that the Trust has introduced the grants and in the very first year, Coimbatore Zoo has been awarded funds for two projects -- Amphibian conservation and education project and Invertebrate conservation and education project. The Development Officer of the Zoo, Brij Kishor Gupta is among the thirty odd trainees from India at the Trust's various programmes. He attended the Endangered Species management Programme in 1993. The Durrell Memorial Funds are given to trainees of the Trust who have good project proposals for a year. The other person to get receive this prestigious grant at Coimbatore Zoo is Rathinasabapathy, Biologist, for a project on invertebrates.

The amphibian project is well underway, having started in January 1997. The main objectives of the project are:

1. Identify local species at the Zoo site for captive husbandry studies and breeding.
2. Survey of Zoo site and adjoining areas in the Nilgiri Biosphere Reserve of the Western Ghats for amphibian diversity.
3. To develop interpretive graphics relating to amphibians at the Zoo.
4. Create awareness among the locals and general public including students in schools and colleges in Coimbatore.
5. Develop educational packages.

Till date 14 species have been recorded of which 11 are found at the Zoo site. Six

of the common species have been currently maintained in separate terraria since April 1997. These species have been recorded during the dry months of the year. More species are likely to be found once surveys are conducted during the monsoon period which commences in Coimbatore in the month of July. Of the 14 species 2 are endemic to the Western Ghats.

Presently there are 4 big and 2 small terraria for the 6 species. Species behaviour is being studied in the terraria which is provided with substrate similar to the species habitat in the wild. The technique of keeping still needs refinement but fortunately there have been no mortality among the captive amphibians.

The project is for one year and is likely to end by December of 1997 but the programme of keeping and breeding amphibians in captivity will continue as the main goal of the Zoo.

Coimbatore Zoological Park and Conservation Centre, 'Pioneer House', Peelamedu, Coimbatore 641 004

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