

RIDDLES IN SCHEDULES OF INDIAN WILDLIFE (PROTECTION) ACT, 1972 IN NEED OF RELOOK

B.M.T. RAJEEV

Krishna #709, 11th Corss, 5th Main, M C Layout, Vijayanagar, Bengaluru, Karnataka

ABSTRACT

An attempt was made by me to indicate the Schedule numbers of the animals which have been described in my book (Hand Book of Indian Wild Animals- Kannada) to indicate their status of abundance/threats for their survival in India to the readers. Where in, I was struck with puzzle in the long list of invertebrates appended with scientific names & their respective families in Schedule-I of IWLPA, 1972. I took one name of a butterfly and tried to check its details in the web-site; to my surprise it led to its description and it was said to be found in Nandhi Hills-close to Bengaluru- the silicon city of Karnataka, India; still I could not find its English/ Vernacular name to check it locally as it happens to be a spp of my native state; and it is difficult too to crosscheck with anyone other than an Entomologist. Then, I tried many names of insects from the said list; all led to the schedules of IWLPA only and couldn't find descriptions in the website. Whereas Schedule I, according to IWLPA, 1972 is the list of animals classified as rare, endangered and threatened with extinction and is in need of special protection in India. E.g. Tiger, elephant, Rhino, bison, leopard, sloth bear, whales, dolphins, python, pea-cock, sea-horse, scores of invertebrates / insects including dragon fly etc etc. The punishments prescribed for the crimes against the animals listed under different schedules too vary in the IWLP Act. This exercise of indicating the Schedule number against the name of the animals described in my book appeared to me as a puzzle and led me to pen this article.

Key words: IWLPA, Schedules, Rare, Endangered, Threatened.

Back Ground for IWLPA, 1972

India is a country known for its biodiversity resources as it is one of the 12 mega biodiversity hot spots of the world. It is second to none other than Africa as it is in the oriental region that was believed to be parted and drifted from Madagascar to its present position about 50 million years ago. It is proud to possess most of the fauna found in Africa. It is a home for about 47,000 floral spp and 90,000 faunal spp and scores of floral/ faunal spp are yet to be documented scientifically.

India has a long history of wildlife conservation as it is a country of Vedic/Upanishads culture that taught compassion towards all forms of animals; followed by Jainism and Buddhism which also preached non-violence and compassion with animals. India has long historical evidences to show as far back as 320 BC, when the 'Arthashastra of Kautilya' the bible of Administrative systems of Chandragupta Maurya-an emperor, had the system of setting up the national parks for conservation of wildlife; the definition of which is almost similar to the present day definition of national parks. With this back grounds, India had wildlife in abundance till it was invaded by Mughals in 16th century and then by the British in 18th century.

The Mughal rulers indulged in 'hunting for recreation' with summer camps in forests followed by

their subjects. British indulged in 'holiday camps/jolly hunting trips as games' with the help of guns, torches and vehicles that entered the market with the beginning of 'Science and Technological Revolution'. The locals also did not fall behind in 'hunting for meat and for trade in lucrative animals' parts in international markets'. And after independence in 1947, the mass took to hunting of animals with a mind set as owners of all natural resources-free for all and none to question in India after British rule. This uncontrolled situation for 4 centuries before independence and free for all situation for 2½ decades after independence for hunting of animals for pleasure, as game, for meat and for trade in animals' parts decimated the wealth of wild animals. For e.g. the population of tigers which were estimated to be 100,000 in the beginning of 20th century gradually decimated to 40,000, 32,000 and to a nadir of 1872 by 1972. This situation not only threatened the existence of tiger but also threatened with extinction of other animals like leopard, rhino, elephant, and varieties of deer, antelopes, bison, some birds, whales, dolphins, some reptiles and some invertebrates... This ground reality and the pressure/ agitation of wildlife enthusiasts, environmentalists and CITES, WWF and IUCN to bring a law to stop hunting of wild animals, and also to ban the trade in animals' parts forced the government of India to enact a comprehensive law Indian Wildlife Protection Act, (IWLPA) 1972.

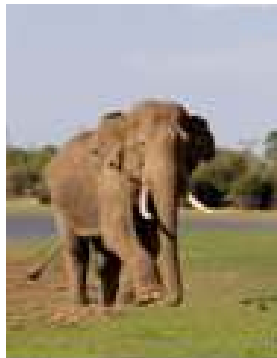
The ambiguity in reigning the protection and conservation of marine mammals and other aquatic animals needs to be streamlined.

The IWLPA, 1972 banned all forms of hunting and trade in animals' parts and created a net work of Protected Areas (PAs) as national parks, wildlife sanctuaries, community reserves and conservation reserves to the extent of 20% of its forest area by forming 'wildlife Wing' within the forest department and 'Project Tiger' for conservation of the 'national animal-tiger' was launched in 1973, 'Project Elephant' in 1992 and other projects with special grants for conservation of tiger/ elephant/wildlife. With the strict protection measures and punitive law against perpetrators of habitats/animals; population of some of the animals, birds went up creating 'human-animals conflicts'.



Pic: Tiger by S G Neginhal

Now, India is seized with the problems... First, how to deal with increased population of some wild animals / birds in need of space for dispersal; a cause for 'human-animals conflicts' without the provisions of hunting/ culling. Second, how to manipulate the habitats to maintain their 'carrying capacity' to sustain the diverse food, shelter & space requirements of diverse animals without the provision for manipulation of habitats to keep them at different vegetative succession stages and when the vegetation attains the stage of climax. Third, how to control summer fires without salvaging the dead fuel wood load and without removing the exotic weeds like Lantana and Eupatorium from the habitats in succession without the provision in the IWLPA, 1972.



Pic: Indian elephant-male by MN Jayakumar

Riddles in Schedules of IWLPA, 1972 - a Research

While writing the book 'A hand book of Indian wild animals' in Kannada – a translation of part of my book in English- Glimpses of Indian Wildlife- I tried to orient the descriptions of wild animals found in India with reference to schedules of IWLPA, 1972, so that the reader can visualize the population status of the said wild animals in India. This put me to look in to the details of all the animals listed in Sch. I to V to explore the status of their population in my book. The IWLPA, 1972, provides protection for wild animals, birds and plants (vide preamble) and Section-2 clause-36 restricts the definition of wild animals only to animals listed in Sch I-IV. Even, the restriction imposed in Sec.9, 48, 49, armed with Sec.51 relies on Sec-2. Only in

Sec-48, 49 the word 'animals' is used but it also implies on Sec-2 clause-36.

This exercise gave me an opportunity to visualize the mistakes in lists/lacunae in names; and necessity for inclusion of some notable animals left over from the schedules to give them protection in the best interest of ensuring ecological and environmental balance in the nature-India. Otherwise, anybody can hunt the animals not listed in Sch I-IV and challenge the authorities and get free from punishments under the Wildlife Act. As per Sec 2- clause 36. all animals should find place either in Sch I-IV or in V to consider them as Indian wild animals deemed to be fit for different degree of conservation or to learn that they are in abundance and can be persecuted.

I could able to write the following analysis basing on my experience in the field of 'wildlife management' for a long period-exclusively in Protected Areas with extensive tours in India and study tours abroad (Malaysia, Indonesia, Australia and U.K.); private trips after retirement in India as well as abroad (Kenya – African safaris, USA and Australia) and also on my hobby of writing/ publishing articles and books on 'wildlife management issues' while in forest service and after retirement.

The analysis of the lacunae in schedules and left out animals for consideration for inclusion in to schedules to prevent the discrimination in protection and conservation of wild animals are as follows. I made two representations to Honble Prime Minister of India to set right the riddles in Schedules and received favorable replies from him/ ministry of EF &CC in Feb. and April, 2016.

Part I- LACUNAE

Schedule - I

Part- I

1. Sl.No 1-B, Bharal (*Ovis nahuval*): It is wrong, the Bharal's scientific name is (*Pseudois nayaur*)
2. Sl.No. 25, Musk Deer (*Moschus moschiferus*): This scientific name refers to Siberian musk deer, but we have white bellied musk deer its scientific name is *Moschus leucogaster*- it needs to be corrected.
3. Sl.No. 31-B, Otter (*Anonyx cinerea*): It has been again named along with other 2 otters of India in Sch-II part-II at sl no. 4 it is a confusion for the authorities to name as it is Sch-I or Sch-II Part II . It needs correction.

Part-III

5. Sl.No. 7-C Monal pheasants (*Lopophoras scalteri*) and Sl. no 13. Sclater's monal (*Lopophoras scalteri*) is the same bird with different English names which is common. This need to be deleted in any of the Sl no.

Part IV

6. The heading of the columns; it needs to be stated as scientific name.... like common English name of the butterflies and moths.

Schedule-II, Part-II

7. Sl.No. 1 Beetles: 13 families of beetles have been identified with hundreds of scientific names of the beetles. The field staff or any for that matter in the field can try to identify some beetles with the common English names by translating in to local names like birds or any animal. But, without this clue... who can identify the beetles in the field to book the offenders if found... is the question? No Entomologist will be available in the field... It looks hypothetical. Hence, the authorities should ask the entomologist who gave the list of beetles to the schedules to give common English names to help the men in the field or courts... and it needs incorporation of common English names.

Schedule-IV

Sl. No. 11 Birds

8. Sl.No. 11 Birds and sub nos. 13-Comb duck (*Sarkidiornis melanotos*) is part of Sub no. 21-Ducks (Anatidae)... what is the necessity of sub sl no. 13?.....it needs correction.
9. Sub Sl.No. 16, Cranes (Anatidae) in fact cranes belong to Gruidae family; hence, it should be-Cranes (Gruidae).
10. Sl no. 12 Snakes
 1. Sub Sl.No. 1. Amblycephalidae: No details available for this family- instead it leads to Amblycephalus - a marine fish.
 2. Sub Sl.No. 2 Amilidae: It also leads to nowhere? --- needs correction.
 3. Sub Sl.No. 5 Dasypetidae (Egg-eating snake): It is a snake of 'Colubridae' family and called as The Indian egg-eating snake or Indian egg-eater (*Elachistodon westermanni*); it needs correction.
 4. Sub Sl.No. 7 Glauconidae: leads nowhere- needs correction.
 5. Sub Sl.No. 8 Hydrophidae: (Fresh water and sea snake) - it is an Elapidae - Coral snake and not a fresh water and sea snake - There are only two spp of this type of venomous snakes called 'Fresh water and sea snake'; but, not found in South Asia---- it needs to be deleted.

Part II-Animals left over from Schedules

The animals left out run in volumes. The list of the left out animals will burn the heart of the conservationists

if, someone pursue the prosecution of perpetrators in the court of law for the crimes committed against the denizens' left over from the schedules in spite of the powerful law of the land. Further, many issues appears to be hidden truths and need to be made clear. For example the State animal of Uttar Khand- Alpine Musk deer (*Moschus chrysogaster*) is not found place in any Schedule etc...The details are as follows.

Mammals

Mammals are very important animals mostly hunted for meat, skin and their parts for medicinal values and also as games in India. Most of the animals are subjected for persecution and need protection at various degrees as prescribed in schedules. But, some animals are left over from the schedules even though their population is at risk/ rare and need to be included in schedules for their safety and protection. Such animals are as follows.....

1. The Himalayan wolf (*Canis himalayensis*): A wolf found in Himachal Pradesh and J & K states; and it is an endangered spp needs to be included in Schedule II.
2. The striped backed weasel (*Mustela strigidorsa*): a weasel confined to temperate zones of Himalayas not included in any schedules. Needs to be considered for inclusion in schedule.
3. Shrews are the insectivorous mammals in islands of India and are said to be threatened due to loss of their habitats. They are
 - a. Andaman Shrew or Andaman White-toothed Shrew (*Crocidura andamanensis*):
 - b. Andaman Spiny Shrew (*Crocidura hispida*):
 - c. Nicobar Shrew or Nicobar White-tailed Shrew (*Crocidura nicobarica*)(Nicobar Tree Shrew (*Tupaia nicobarica*):
 - d. Jenkin's Shrew (*Crocidura jenkinsi*): These shrews have not been included in any schedule. They require to be considered for inclusion in schedule-IV.
4. Flying squirrels are endangered spp. The genus *Bulopetes* (is wrongly spelled and needs to be corrected as *Hylopetes* in Sche-II part II Sl.No. 1-C), *Petaurista*, *Belomys* and *Eupetaurus* are included in Sche-II part II Sl.No. 1-C; but genus-*Biswamoyoterus* has been left over i.e. The Namdapha flying squirrels (*Biswamoyopterus biswasi*) has been left over from the Schedules. It needs to be considered for inclusion in the schedule.
5. Stripped squirrels: are the beautiful small animals found all over India with bushy tail and stripes on their back. They are subjected for persecution for meat by some tribals and also for their skin for taxidermy-

articles. It is also the state animal of Tamil Nadu. All squirrels needs to be declared as schedule animals, since only 'Five striped palm squirrel' is included in Sch-IV. At least 'Three striped palm squirrel, Dusky striped squirrel and Himalayan striped squirrel' should be included in Sch-IV.

6. The Indian desert gerbille (*Meriones hurricane*): It is unique in its own nature that survives on eating dry food and survives without drinking water. For this character it should find place in Sch-IV.
7. Hares are subjected for hunting for meat and found listed in schedules except Rufus tailed hare (*Lepus nigricolis ruficaudatus*), This animal also needs to be included in schedule.
8. Wild oxen: Among wild oxen found in India, Banteng or Tsaine (*Bos banteng*) confined to Manipur and a rare animal. But not included in schedule. This needs to be considered for inclusion in schedule. It is found in wild as well as domesticated.
9. Wild sheep and goats: Among wild sheep and goats found in India, Marko polo's sheep (*Ovis ammon polii*) a beautiful animal because of its big horns and confined to high Himalayas; and the Kabul Markhor (*Capra falconeri megaceros*) found in NW of Himalayas- Ladakh valleys are not included in any schedules. They need to be included in schedule as they are persecuted for meat.
10. Alpine Musk deer (*Moschus chrysogaster*): it is confined to the higher altitudes in and around Uttar Khand, H P states, Nepal & Bhutan. It is the state animal of Uttar Khand state but not included in any schedules. It is a musk deer subjected for persecution and needs to be included in sch-II part II.



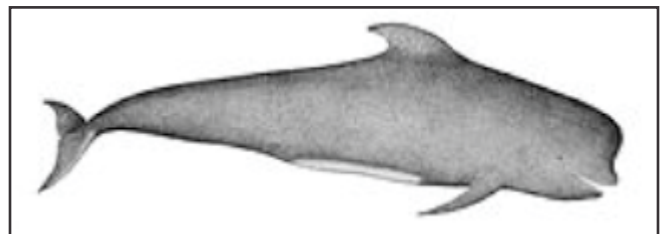
Pic: Alpine musk deer

11. Marine mammals: Marine mammals consist of Cetaceans, Sirenians, Pinnipeds and Otters. Cetaceans found in India are Whales and Dolpins. All cetaceans are declared as Sche-I spp vide part-I, Sl.No. 4; Again listed Gangetic dolphin (*Platanist gangetica*) Sl.No. 8-D; Snubfin Dolphin (*Oreaella brevezastris*) in Sl.No. 33. Further, in Sch-II part I Sl.No. 3-C, it is said (Cetaceans spp other than those listed in Sch-I and Sche-II p-II) and listed Sperm whale (*Physeter macrocephalus*) in Sch-II Part II Sl.No. 5-A.; A Sirenian- Sea-cow (*Dugong dugon*) is listed in Sch-I, Part-I at Sl.No. 7 and Little Indian Porpoise (*Neomeris phocaenoides*) in Sl.No. 20-A in the same schedule.

The marine mammals are the very big animals and confined to waters and most vulnerable for hunting for meat and fats. Except listing of one Whale, two dolphins; nowhere in schedules one can find the mention any of the Whales and Dolphins for reference in the field. How many Forest Officer/Police Officer who are authorized to protect them... can make out any case pertaining to the crimes against these mammals except 3 Cetaceans named in the schedules in the field without the analyzing list of 'Cetaceans' present in the Indian waters? On search with reference books-I could find the list of 8 whales and a few dolphins said to be in Indian waters in a book- Indian Wildlife; and again I was struck for details for my book about marine mammals.

When Cetaceans were explored through web site- I could trace Cetaceans consists of whales (20 spp of whales), Dolphins (13 spp of dolphins) said to be found in Indian waters including rivers with maps of their distribution; I considered the information of the web site fit to be listed in my book and did so with details culled from literature. These animals need to be listed in the schedules to make the concerned field officers to understand and also for the reference of the judiciary and the public.

This is the reason that when- The short finned pilot whales - school of whales-about 100 nos. found washed off in to the sea shore of the Bay of Bengal-Tuticorin in the limits of Tamil Nadu and about 40 found dead in the winters of 2015-16 ie January.2016; only the Marine Fisheries Dept. and fisher men were found attending on rescue operations and burying of dead whales as Samaritans with mercy for lovely animals. No Chief Wildlife Warden (CWW) and his line department officers- the guardians of the schedule animals were seen in action to save the sch-I animals. Even in Bombay beach in the same season, Indian humpbacked Dolphins- about 10 were found dead and washed off in to shore from Arabian Sea were attended by Marine department and City Corporation and not the CWW of Maharashtra State.



Pic: The short finned pilot whale.

If the press were to know about this hidden secret of these animals cited in Schedule-I but not listed in IWLPA, 1972; they would have made CWWs to run and take

responsibility. The law needs to be written the detail about these marine mammals as schedule animals and empower the CWWs to authorize the Marine Officers or the Forest Officers/ Police to take safety measures for conservation of these animals and whole thing has to be moved under his nose and authority as per IWLPA, 1972.

Therefore, I propose for listing of the following marine mammals in schedule-I as detailed below in the interest of conservation of these animals.

Whales

1. Blue Whale (*Balaenoptera musculus*);
2. Sperm Whale (*Physeter catodon* / *Physeter macrocephalus*) - Already listed Sch-II, Part-II
3. Common Rorqual or Fin Whale (*Balaenoptera physalus*)
4. The Sei Whale (Pronounced /se or sa/)*Balaenoptera borealis*)
5. Lesser Rorqual or Piked Rorqual (*Balaenoptera acutorostrata*)
6. Hump-backed Whale (*Megaptera novaeangliae*)
7. Pygmy Sperm Whale (*Kogia breviceps*)
8. Dwarf Sperm Whale (*Kogia sima*, formerly *Kogia simus*)
9. Bryde's Whale (*Balaenoptera brydei*):
10. Eden's Whale (*Balaenoptera edeni*):
11. The Common Minke Whale or Northern Minke Whale (*Balaenoptera acutorostrata*)
12. Omura's Whale or the Dwarf Fin Whale (*Balaenoptera omurai*)
13. The Pygmy Killer Whale (*Feresa attenuata*)
14. The Short-finned Pilot Whale (*Globicephala macrorhynchus*)
15. The Killer Whale (*Orcinus orca*)
16. The Melon-headed Whale (*Peponocephala electra*);
17. The False Killer Whale (*Pseudorca crassidens*):
18. Cuvier's Beaked Whale or the Goose-beaked Whale (*Ziphius cavirostris*):
19. Blainville's Beaked Whale (*Mesoplodon densirostris*)
20. The Ginkgo-toothed Beaked Whale (*Mesoplodon ginkgodens*)

Dolphins

1. Gangetic Dolphin (*Platanista gangetica gangetica*)- Already listed in Sch-I
2. Snubfin Dolphin (*Oreaella brevezastri*)-already listed in Sch-I
3. IndoPacific Bottle-nosed Dolphin (*Tursiops aduncus*)
4. Common Dolphin (*Dolphinus delphis*)
5. Plumbeous Dolphin (*Sotalia plumbea*):
6. Risso's Dolphin (*Grampus griseus*):
7. Fraser's Dolphin (*Lagenodelphis hosei*):

8. Indian humpback dolphin (*Sousa plumbea*)
9. Pantropical Spotted Dolphin (*Stenella attenuata*)
10. Spinner Dolphin (*Stenella longirostris*):
11. Striped Dolphin (*Stenella coeruleoalba*):
12. Rough-toothed Dolphin (*Steno bredanensis*)
13. Common Bottle-nosed Dolphin (*Tursiops truncatus*)

Birds

Most of the important birds have been listed in the Schedule I and rest under Schedule IV with common names of the geneses in a family which covers all the birds of that genus. But, on close analysis of the birds of the genus in such families, notable birds are found to be left over from the schedules. That means, they are left free for exploitation by miscreants. One example of such left over is –House sparrow- a common bird and most liked by children and whose population is under threat. Therefore, it is necessary to consider for inclusion of the following genus of birds under Sch-IV in the interest of conservation of birds.

1. (a) Divers (Gaviidae) 2 spp of birds that visit North India in winter (b) Shearwaters and Petrels- Sea birds of 'Procellariide' family -8 spp; (c) Boobies – 3 spp of sea birds of the family- 'Sulidae' have not been included in any of the Schedules even though they are big water birds. These birds need to be considered for inclusion in Sch-IV.
2. (a) Tropic birds (Phaethontidae)... 3 spps of birds are found in India; (b) Frigate birds- sea birds of the family 'Fregatidae'- 3 spp are found in India; all these birds are not included in any Schedules and needs to be considered for inclusion in Sch-IV.
3. Eagles (Accipitridae)- These are the predatory birds that come under the family 'Accipitridae' along with Hawks & vultures. All Hawks have been included in Sch-I and vultures under Sch-I by name and rest under Sch-IV but, Eagles have been left over from schedules. We have a very religious and most venerated bird- Brahminy kite- under eagles- how can it be left over from the schedule.... even the Crested Serpent eagle- the most beautiful bird is also left over.... Therefore, it is necessary to include the Eagles (Accipitridae) under Sch-IV. There is hardly any difference between Hawks & Eagles as they belong to same family and food habits are same.
4. Plovers and Lapwings- are the birds under the family- 'Charadriidae'... The Plovers have been included in Sch-IV vide Sl.No. 11 sub clause56- but lapwings have been leftover. Lapwings are the very melodious song birds in the rural areas viz-Red wattled lapwing- famous for the song can you do it, can u do it.... One will wonder, if he is told that it is not found in Sch. Who

is not attracted by the songs of this bird in open grass lands of South India? ---- It needs to be included.

5. Curlews, Sandpipers, Wood cocks are the birds under sub-family-'*Scolopacinae*'---- all these birds are wet land birds that feed on minor aquatic animals, insects and seeds of weeds. Curlew, Sandpipers have been included vide Sche-IV vide Sl.No. 11 clauses 17-A and 61 and Wood-cocks have been leftover--- Wood cocks need to be included in Sch-IV as they are water birds and have importance like their cousins.
 6. Stilts, Avocets and Ibis bills-are the birds of family the '*Recurvirostridae*' - 4 species are found in India- Stilts and Avocets have been included in Sche-IV vide Sl.No. 11 clauses no 67 and 2 and the Ibisbills are not included under Schedule - This bird needs to be included to avoid confusion in distinguishing the Schedule & non-schedule birds as they are similar birds.
 7. Crab-plover - is a bird of the family-'*Dromadidae*'- it needs to be included in Sch-IV as it is not included in Sch-V.
 8. Coursers - are the birds under the family-'*Glariolidae*'- these are insectivorous land birds famous for running on land and not included in Sch-V. Hence, they need to be included in Sch-IV as they play important role in controlling insects.
 9. Skua, Jaegers are the water birds of the family- '*Stercoraridae*'; they are as big as ducks and subjected for hunting- They need to be included in Sch-IV.
- 
- Pic: Indian river tern
10. Gulls, Terns - are birds of the family '*Laridae*'- who is not fascinated by the water bird like- Indian river terns- by looking in to their beauty and their mating display- very rare birds- They needs to be included in sch-IV since Gulls are listed in Sch.IV.
 11. Frogmouths - are birds of the family - '*Batrachastomus*'and are the birds endemic to Western Ghats and rare birds- only 2 spp are found in India out of which one is included under Sch-I vide Sl No. 2-C (*Genues batrachastomus*) and the another bird -Ceylon frogmouth- is left out; it should found place under Sch-IV as there is no reason to leave it out.
 12. Swifts - are the birds of the family - '*Apodidae*' and they have not been included in schedules of WLP, 1972. But swiftlets have been listed under Sch-I vide Sl. No. 19. Hence, swifts need to be listed under Sch-IV as they are similar in behaviour and look except in size.
 13. Bee-eaters - are the birds of the '*Meropidae*'- They feed on bees- the farmers friendly insects those plays

very important role in nature- effective cross pollination of plant species. Hence, the bee-eaters might have been left over; but, how come the government of Karnataka is contemplating an idea to open a Bee - eaters' birds Sanctuary in Mandya- very close to Ranaganathittu Bird Sanctuary, Karnataka. Hence, it also needs to be included in Sche-IV as it has not been placed under Sch-V.

14. Hoopoes - are colourful birds of the family- '*Upupidae*'; and have 4 species in India and they are subjected for persecution due to their colourful feathers but not included in Schedules- It needs to be brought under sch-IV.
- 
- Pic: Hoopoe
15. Board bills - colourful birds of the family- '*Eurylaimidae*'; we have only 2 spp in India but not included in any schedules. It needs to be included under Sch-IV.
 16. Swallows - are the birds of the family- '*Hirundinidae*'; we have 23 spp of these birds in India. Some of them live very close to the human habitations. They have not been included under Sch-V. Hence, they need to be included under Sch-IV.
 17. Shrikes or Bucher birds - are the birds of the family- '*Laniidae*'; there are 19 spp in India. They have not been included under Sch-V. Hence, they need to be included under Sch-IV.
 18. Swallow - shrikes or wood swallows- are the birds of the family - '*Artamidae*'; there are 2 spp in India. They have not been included under Sch-V. Hence, they need to be included under Sch-IV.
 19. Cuckoo-shrikes and Munivets are the birds of the family-'*Campephagidae*'; there are 33 spp of these birds in India. Munivets are included in Sch-IV vide clause.No.43. But, 'Cuckoo-shrikes' have not been included under Sch-V. They are colourful birds and very attractive in nature. And are predatory birds. Hence, they need to be included under Sch-IV.
 20. Monarch flycatchers are birds of the family-'*Monarchinae*'; we have 10 spp in India. A most beautiful and are eye catching birds for the Ornithologists and the bird watchers. But, not included under any schedule. It needs to be done under Sch-IV
- 
- Pic: Indian Paradise Flycatcher
21. Warblers - birds of the family '*Sylviidae*'; we have 164 spp in India. They are famous for their noise making

songs and called as - Seven Sisters. They have not been included under Sch-V. Hence, they need to be included under Sch-IV.

22. Thrushes and Chats - are the birds of the family- 'Turdidae'; we have 134 spp in India. Thrushes have been included in Sch-IV vide clause No.71. But, Chats have been left over; and not included in any schedules. Hence, they need to be included under Sch-IV as their cousins are in Sch.
23. Dippers are the birds of the family- 'Prunellidae'; we have 5 spp of these water birds in India. They are not in Sch-V. Hence, they need to be included under Sch-IV.
24. Accentors or Hedge sparrow- birds of the family- 'Prunellidae'; we have 7 spp of these birds in India. They have not been included any Sch or in Sch-V. Hence, they need to be included under Sch-I.
25. Nuthatches and Creepers are the birds of the family- 'Sittidae'; we have 28 spp of these birds in India. They are not vermins as in Sch-V. Hence, they need to be included under Sch-IV.
26. Pipits and wagtails - are the birds of the family- 'Motacillidae'; they are very commonly seen with wagging tails. We have 40 spp of these birds in India. Pipits have been included in Sch-IV vide Sl. No. 11 clause No. 55a. But, Wagtails have been left over from Schedules. Hence, they need to be included under Sch-IV.
27. House and Rock sparrow - are the birds of the family- 'Ploceidae'; we have 19 spp of these birds in India. The population of the house sparrow, the most commonly known bird to the children in the past is facing extinction in India and many organizations are working for the revival of its population. One can find Organizations in cities to save this bird. But they have not been included under any Schedules. It looks odd. Hence, they need to be included under Sch-IV.
28. Sl no. 4, 4-C, 4-F, & 9 of Sch-I Part-III-Hornbills - totally 6 spp Horn bills have been named in Sch-I; and 2 spp have been left over like 1) Grey Indian Hornbill- (*Ocyrceros birostris*). 2) Malbar Grey Hornbill (*Tockus griseus*). These two birds are also rare birds and they need to be included in Sch-I and all these birds should be at one serial number as horn bills- to make it easy for reference in the field instead of naming them as per Alphabets.

Reptiles

Most of the important reptiles are found listed in the schedules. But, some rare and endangered spp of reptiles are found missing in the schedules. They may be included in the schedules.

1. Cane turtle (*Vijayachelys silvatica*) - a spp said to have

been vanished has resurfaced recently in Western Ghats of Kerala at Kavalai forests. This may be included in Sch-I.

2. Common roofed terrapin (*Kachunga tectum*)- A sweet water small terrapin found in marsh & sea shores. It is eaten and reared as pet. It needs to be included in Sch-I.

Amphibians

A few animals from this class of animals have been listed in the schedules. These animals play a very important role in controlling the insects that harm the human beings, animals & the crops in nature. Few of the important animals have been left over and needs to be included in Schedules.

1. Indian Purple Frog (*Nasikabatrachus sahyadrensis*): it is endemic to Silent valley of Western Ghats in Kerala and it is persecuted by tribals as food at toad stage with belief that it has medicinal value. This frog needs to be protected by including in to Sch-IV.
2. Fresh water frog (Rana species) Sch-IV spp - are the big frogs subjected for trapping for meat. The traders play havoc during monsoons in Western Ghats. They need to be included in Sch- II part II to control their trade with severe punishments against the perpetrators.

Fishes

Among the fishes the Cartilaginous fishes are the big fishes subjected for persecution for meat trade. Some of the big sharks and ray fishes have been included in schedules and some left over even though they are hunted very badly. Such of the fishes are as follows.

1. The Bull shark (*Carcharhinus leucas*) - sweet water loving shark found in estuaries and in Ganges & Brahmaputra rivers. It is not included in any schedules and needs to be included in Sch-IV.
2. Great White Shark (*Carcharodon carcharias*) - A fish of soft bones much hunted for meat. It is not included in any schedules and needs to be included in Sch-IV.
3. Mahasheer or Sor Machha (*Tor tor*) - is a rare fish of fresh waters and subjected for high fishing for its meat. It needs to be included in Sch-IV as it is not included in any schedules.

Invertebrates

Among the invertebrates - The animals listed under schedules are - Under Sch-I Crustaceans and Insects in Part-IV, Coelenterates in part IV- A, Mollusca in Part-IV-B, Echinodermata in Part IV-C; Beetles under Sch-II Part II; Sponges under Sl.No. 20 in Sch-III; Butter flies & Moths under Sl. No. 18 in Sch-IV; Mullusca under Sl.No. 19 in Sch-IV.

When attempted to search the details of the animals listed under some family under schedules in web site, it leads to Schedules of the IWIPA, 1972 and not to details of the animals; which indicates that the details are not available even in web sites. The families given indicate variety of insects- Beetles, butter flies and moths and individual spp leads to WLP, 1972 schedules. Regarding Crustacean- only one spp-Coconut or Robber Crab is named vide Sl.No.-1-A. (Sch-I Part-IV). Crustaceans are the sea animals most exploited for food and some of the bigger sized crabs, lobsters and Shrimps are over exploited and needs to be identified and named under schedules for better conservation.

Further, the animals named in schedules under Fishes and Invertebrates-Crustaceans, Sponges, Coleanterates, Mollusca, Echinoderms are sea/ aquatic animals and they are under the administrative control of the Marine/ Fisheries Depts. Even after working in Wildlife wing for quite a long period in my service... I never came across any discussion or a plan or review of the conservation strategies for the above cited marine animals in CWW office of the state. Hence, it is not known to public that how, the safety of these schedule animals listed in the IWLP, 1972 is ensured for the marine animals. The Act itself needs to make it known to the public and the Wildlife Authorities in the country to ensure the provisions of the Act are followed and respected. Eg.: In sea shore tourist centers one can see trade in shells/ conches ie. Mollusca-exploited and sold in huge quantities...most of them are scheduled animals.

Finally, one issue that use to crop up in my mind while in service and still daunting me is.... the Schedule I animals and the severe punishments prescribed in Sec. 51. We know well how the famous five icon animals- *the tiger, elephant, rhinoceros, leopard and lions have been subjected for hunting for their body parts to meet the demand in international black market for the oriental medicines and for ornaments etc.* The wildlife management in India is more dedicated for conservation of these animals and for the control of hunting/ trade in the body parts of these animals; but the punishments achieved in court trials are negligible. *Because, in the court the sch-I animals like tiger, leopard, lion, rhinoceros, elephant, even Forest little owl, dragon fly, butter fly-tiger and sea cucumbers (Echinoderms) are treated as similarly in trials.* The Assam State govt. even went ahead and has a special provision to impose 10 years RI for crimes against rhinos. Therefore, it appears pertinent to declare these five icon animals of India as - '*Special Schedule-I*' animals and prescribe RI of minimum 7 years and maximum 10 years with fines as in for Sch-I for crimes against these animals to create a special importance for these animals in the minds of the perpetrators, the law enforcing authorities and also the public in the best interest of the conservation of these animals.

Conclusion

In addition to inclusion of the above cited animals in to the schedules of IWLP, 1972; the ambiguity in reigning the protection and conservation of marine mammals and other aquatic animals needs to be streamlined under the authority of Chief Wildlife Wardens.

भारतीय वन्यजीव (संरक्षण) अधिनियम, 1972 की अनुसूचियों में पहेलियां, जिन पर पुनरवलोकन की आवश्यकता

बी.एम.टी. राजीव

सारांश

पशुओं की अनुसूची संख्याओं को दर्शाने के लिए मेरे द्वारा एक प्रयास किया गया है, जिसे मेरी पुस्तक (हैण्डबुक ऑफ इंडियन वाइल्ड एनिमल्स-कन्नड़) में वर्णित किया गया है ताकि पाठकों के लिए भारत में इनकी उत्तरजीविता हेतु प्रचुरता/संकटों के इनके स्तर को दर्शाया जा सके। जहाँ मैं भारतीय वन्यजीव संरक्षण अधिनियम, 1972 की अनुसूची-1 में वैज्ञानिक नामों एवं उनसे संबंधित कुलों के साथ संलग्न अपृष्ठवंशियों की लम्बी सूची में उलझ गया। मैंने तितली का एक नाम लिया और वेब साइट में इसके ब्यौरे की जांच करने का प्रयास किया, मुझे आश्चर्य हुआ जब मुझे इसका विवरण मिला और यह कर्नाटक, भारत के सिलिकॉन शहर-बंगलूरू के समीप नन्ही हिल्स में पाया जाता है। स्थानीय रूप से इसकी जांच करने के लिए मुझे अभी भी इसका अंग्रेजी/देशी नाम का पता नहीं चला है क्योंकि यह मेरे राज्य की एक प्रजाति है तथा इसे कीट विज्ञानी के अलावा किसी अन्य के साथ प्रतिपरीक्षा करना भी कठिन था। तब मैंने कथित सूची से कीटों के कई नामों का परीक्षण किया। सभी केवल आई.डब्ल्यू.एल.पी.ए. की अनुसूचियों से थी और वेबसाइट में विवरण नहीं पा सका। जबकि आई.डब्ल्यू.एल.पी.ए., 1972 के अनुसार अनुसूची-1 विलोपन के साथ दुर्लभ, संकटापन्न एवं संकटस्थ के रूप में वर्गीकृत पशुओं की सूची है और भारत में इनकी विशेष सुरक्षा की आवश्यकता है, उदाहरण- बाघ, हाथी, गेंडा, बाइसन, तेंदुआ, रीछ, व्हेल, डॉल्फिन, पाइथन, पी-कॉक, सी-हार्स, ड्रेगन फ्लाई सहित अनेकों अपृष्ठवंशी/कीट आदि। विभिन्न अनुसूचियों के तहत सूचीबद्ध पशुओं के विरुद्ध अपराधों के लिए विहित दण्डों में भी आई डब्ल्यू एल पी अधिनियम में भिन्नता है। मेरी पुस्तक में विहित पशुओं के नामों के विपरित अनुसूची संख्या दर्शाने का यह काम मुझे एक उलझन के तौर पर दिखाई पड़ता है तथा इसके फलस्वरूप मैंने यह शोधपत्र तैयार किया।