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Front cover: Bengal Florican mating display, Manas National Park, Assam
Back cover: Leatherback turtle hatchlings, Little Andamans
Lithographs: Bikram Grewal personal collection

Critically Endangered Animal Species of India

March 2011

Ramki Srinivasan

Ministry of Environment and Forests
GOVERNMENT OF INDIA

Zoological Survey of India

Contents

Foreword

India has a staggering variety of flora and fauna, including some of the rarest species in existence on the planet. There is so far a paucity of information for the general public on the status, biology, and major threats to the endangered species of our country. As per the latest (2011) quantitative evaluation done by the International Union for Conservation of Nature (IUCN) there are 57 critically endangered species of animals in India.

I am pleased to therefore introduce this booklet on "**Critically Endangered Animal Species of India**"- a pioneering attempt by the Ministry of Environment and Forests in collaboration with Zoological Survey of India to, for the first time, catalogue and share information on these species, presented in a concise and visually appealing format.

I am confident that this booklet will raise the level of awareness among people from all walks of life and strengthen our efforts at conservation.

Jairam Ramesh
Minister of State (Independent Charge)
Environment & Forests
Government of India

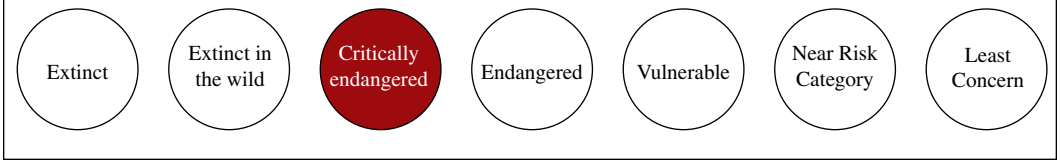
9th March, 2011

Jerdon's Courser

Pink-headed Duck

Himalayan Quail

Risk Category



Critically endangered is the highest risk category assigned by the IUCN (International Union for Conservation of Nature) Red List to wild species. There are five quantitative criteria to determine whether a taxon is threatened. A taxon is critically endangered when the best availabile evidence indicates that it meets any of the following criteria:

I. Populations have declined or will decrease, by greater than 80% over the last 10 years or three generations.

II. Have a restricted geographical range.

III. Small population size of less than 250 individuals and continuing decline at 25% in 3 years or one generation.

IV. Very small or restricted population of fewer than 50 mature individuals.

V. High probability of extinction in the wild.

(A) BIRDS

1. The **Jerdon's Courser** (*Rhinoptilus bitorquatus*) is a nocturnal bird found only in the northern part of the state of Andhra Pradesh in peninsular India. It is a flagship species for the extremely threatened scrub jungle. The species was considered to be extinct until it was rediscovered in 1986 and the area of rediscovery was subsequently declared as the Sri Lankamaleswara Wildlife Sanctuary.


Simon Cook

Habitat: Undisturbed scrub jungle with open areas.

Distribution: Jerdon's Courser is endemic to Andhra Pradesh. However, 19th century records do attribute its presence in the neighbouring areas of the state of Maharashtra.

Threats: Clearing of scrub jungle, creation of new pastures, growing of dry land crops, plantations of exotic trees, quarrying and the construction of the Telugu-Ganga Canal. Illegal trapping of birds is also a threat.

2. The **Forest Owlet** (*Heteroglaux blewitti*) had been lost for more than a century. It has an interesting history. When not sighted for decades, posters were printed and Salim Ali, the premier ornithologist of India made a public appeal to look for the bird. After 113 long years, the owlet was rediscovered in 1997 and reappeared on the list of Indian birds.


Ian Merrill

Habitat: Dry deciduous forest.

Distribution: South Madhya Pradesh, in north-west Maharashtra and north-central Maharashtra.

Threats: Logging operations, burning and cutting of trees damage roosting and nesting trees of the Forest Owlet.

3. The **White-bellied Heron** (*Ardea insignis*) is an extremely rare bird found in five or six sites in Assam and Arunachal Pradesh, one or two sites in Bhutan, and a few in Myanmar. It is inherently rare, and populations have never been known to be very high.


Sujan Chatterjee

Habitat: Rivers with sand or gravel bars or inland lakes.

Distribution: Bhutan and north-east India to the hills of Bangladesh and north Myanmar.

Threats: Loss and degradation of lowland forests and wetlands through direct exploitation and disturbance by humans.

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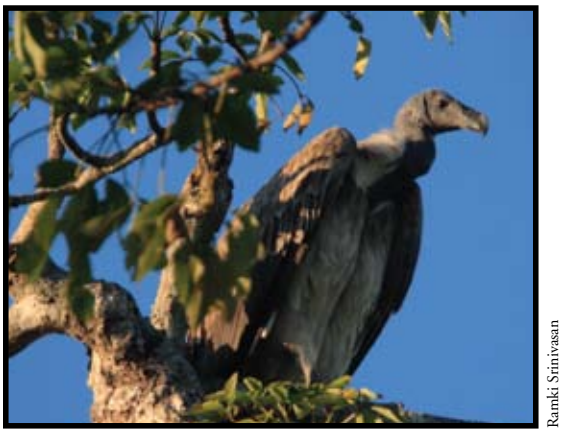
White-backed Vulture



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Slender-billed Vulture

Kalyan Varma

Long-billed Vulture

Ramki Srinivasan

Red- headed Vulture

4-7. Out of nine species of vultures, the population of three species- **White-backed Vulture** (*Gyps bengalensis*), **Slender-billed Vulture** (*Gyps tenuirostris*) and **Long-billed Vulture** (*Gyps indicus*) has declined by 99%. The **Red- headed Vulture** (*Sarcogyps calvus*) has also suffered a rapid decline in the recent past. Vultures keep the environment clean, by scavenging on animal carcasses. The decline in vulture populations has associated disease risks, including increased risk of spread of rabies and anthrax, besides adversely impacting the observance of last rites by the Parsis in the Towers of Silence.

Habitat: Forests, villages etc.

Distribution: Across India.

Threats: A major threat to vultures is the painkiller diclofenac used by veterinarians to treat cattle. When vultures consume these carcasses, diclofenac enters their system, but they are unable to metabolize it. Accumulation of diclofenac results in gout-like symptoms such as neck-drooping, ultimately leading to death.

8. The **Bengal Florican** (*Houbaropsis bengalensis*) is a rare bustard species that is very well known for its mating dance. Among the tall grasslands, secretive males advertise their territories by springing from the ground and flitting to and fro in the air.

Shashank Dalvi

Habitat: Grasslands occasionally interspersed with scrublands.

Distribution: Native to only 3 countries in the world - Cambodia, India and Nepal. In India, it occurs in 3 states, namely Uttar Pradesh, Assam and Arunachal Pradesh.

Threats: Ongoing conversion of the bird's grassland habitat for various purposes including agriculture is mainly responsible for its population decline.

9. **The Himalayan Quail** (*Ophrysia superciliosa*) is presumed to be extinct since no reliable records of sightings of this species exist after 1876. Intensive surveys are required as this species is hard to detect due to its reluctance to fly and its preference for dense grass habitats. Possible sighting of this species was reported in Nainital in 2003.

Habitat: Tall grass and scrub on steep hillsides.

Distribution: Western Himalayas.

Threats: Indiscriminate hunting during the colonial period along with habitat modification.

10. The beautiful **Pink- headed Duck** (*Rhodonessa caryophyllacea*) has not been conclusively recorded in India since 1949. Males have a deep pink head and neck from which the bird derives its name.

Habitat: Overgrown still-water pools, marshes and swamps in lowland forests and tall grasslands.

Distribution: Recorded in India, Bangladesh and Myanmar. Maximum records are from north-east India.

Threats: Wetland degradation and loss of habitat, along with hunting are the main causes of its decline.

11. The **Sociable Lapwing** (*Vanellus gregarious*) is a winter migrant to India. This species has suffered a sudden and rapid population decline due to which it has been listed as critically endangered.

Ramki Srinivasan

Habitat: Fallow fields and scrub desert.

Distribution: Kazakhstan, Russia, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan, Afghanistan, Armenia, Georgia, Azerbaijan, Iran, Iraq, Saudi Arabia, Syria, Turkey, Egypt, India, Pakistan and Oman. In India, distribution is restricted to the north and north-west of the country.

Threats: Conversion of habitat to arable land, illegal hunting and proximity to human settlements.

12. The **Spoon Billed Sandpiper** (*Eurynorhynchus pygmeus*) requires highly specialized breeding habitat, a constraint that has always kept its population scarce. India is home to some of the last existing wintering grounds of this species (estimated at only 150-320 breeding pairs worldwide).

Habitat: Coastal areas with sparse vegetation. No breeding records further inland than 7 km from the seashore.

Distribution: Has been recorded in West Bengal, Orissa, Kerala and Tamil Nadu.

Threats: Habitat degradation and land reclamation. Human disturbance also leads to high incidence of nest desertion.

13. The **Siberian Crane** (*Grus leucogeranus*) is a large, strikingly majestic migratory bird that breeds and winters in wetlands. They are known to winter at Keoladeo National Park, Rajasthan. However the last documented sighting of the bird was in 2002.

Sujan Chatterjee

Habitat: Wetland areas.

Distribution: Keoladeo National Park in Rajasthan.

Threats: Pesticide pollution, wetland drainage, development of prime habitat into agricultural fields, and to some extent, hunting.

(B) MAMMALS

1. The **Pygmy Hog** (*Porcula salvania*) is the world's smallest wild pig, with adults weighing only 8 kgs. This species constructs a nest throughout the year. It is one of the most useful indicators of the management status of grassland habitats. The grasslands where the pygmy hog resides are crucial for the survival of other endangered species such as Indian Rhinoceros (*Rhinoceros unicornis*), Swamp Deer (*Cervus duvauceli*), Wild Buffalo (*Bubalus arnee*), Hispid Hare (*Caprolagus hispidus*), Bengal Florican (*Eupodotis bengalensis*) and Swamp Francolin (*Francolinus gularis*). In 1996, a captive-breeding programme of the species was initiated in Assam, and some hogs were reintroduced in Sonai Rupai area in 2009.


Kalyan Varma

* **Pygmy hog-sucking Louse** (*Haematopinus oliveri*), a parasite that feeds only on Pygmy Hogs will also fall in the same risk category of critically endangered as its survival is linked to that of the host species.


ZSI

Habitat: Relatively undisturbed, tall 'terai' grasslands.

Distribution: Formerly, the species was more widely distributed along the southern Himalayan foothills but now is restricted to only a single remnant population in Manas Wildlife Sanctuary and its buffer reserves.

Threats: The main threats are loss and degradation of grasslands, dry-season burning, livestock grazing and afforestation of grasslands. Hunting is also a threat to the remnant populations.

2-4. **Andaman White-toothed Shrew** (*Crocidura andamanensis*), **Jenkin's Andaman Spiny Shrew** (*Crocidura jenkinsi*) and the **Nicobar White-tailed Shrew** (*Crocidura nicobarica*) are endemic to India. They are usually active by twilight or in the night and have specialized habitat requirements.

Habitat: Leaf litter and rock crevices.

Distribution: The Andaman White-toothed Shrew is found on Mount Harriet in the South Andaman Islands. The Jenkin's Andaman Spiny Shrew is found on Wright Myo and Mount Harriet in the South Andaman Islands.

The Nicobar White-tailed Shrew (*Crocidura nicobarica*) is found in the southern tip of Greater Nicobar Island and is also recorded in the area extending from the Campbell Bay National Park to the Galathea River in the Andaman and Nicobar Islands.

Threats: Habitat loss due to selective logging, natural disasters such as the tsunami and drastic weather changes.


ZSI

Andaman White-toothed Shrew


ZSI

Jenkin's Andaman Spiny Shrew


ZSI

Nicobar White-tailed Shrew

5. **Kondana Rat** (*Millardia kondana*) is a nocturnal burrowing rodent that is found only in India. It is sometimes known to build nests.


ZSI

Habitat: Tropical and subtropical dry deciduous forests and tropical scrub.

Distribution: Known only from the small Sinhagarh Plateau (about one km²), near Pune in Maharashtra. Reported from an elevation of about 1,270 m above mean sea level.

Threats: Major threats are habitat loss, overgrazing of vegetation and disturbance from tourism and recreational activities.

6. The **Large Rock Rat** or **Elvira Rat** (*Cremnomys elvira*) is a medium sized, nocturnal and burrowing rodent that is endemic to India.


ZSI

Habitat: Tropical dry deciduous shrubland forest, seen in rocky areas.

Distribution: Known only from Eastern Ghats of Tamil Nadu. Recorded from an elevation of about 600 m above mean sea level.

Threats: Major threats are habitat loss, conversion of forests and fuel wood collection.

7. The **Namdapha Flying Squirrel** (*Biswamoyopterus biswasi*) is a unique (the only one in its genus) flying squirrel that is restricted to a single valley in the Namdapha Tiger Reserve in Arunachal Pradesh.


ZSI

Habitat: Tropical forest.

Distribution: Found only in Namdapha Tiger Reserve in Arunachal Pradesh.

Threats: Hunted for food.

8. The **Malabar Civet** (*Viverra civettina*) is considered to be one of the world's rarest mammals. It is endemic to India and was first reported from Travancore, Kerala. It is nocturnal in nature and found exclusively in the Western Ghats.

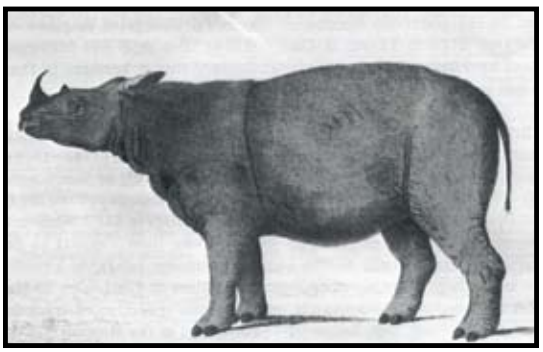
ZSI

Habitat: Wooded plains and hill slopes of evergreen rainforests.

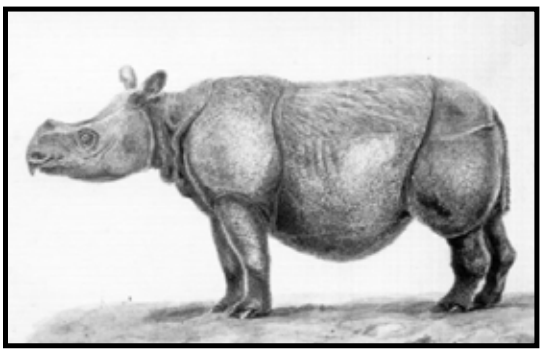
Distribution: Western Ghats.

Threats: Deforestation and commercial plantations are major threats.

9-10. The **Sumatran Rhinoceros** (*Dicerorhinus sumatrensis*) is the smallest and most endangered of the five rhinoceros species. It is now thought to be regionally extinct in India, though it once occurred in the foothills of the Himalayas and north-east India.The **Javan Rhinoceros** (*Rhinoceros sondaicus*) is also believed to be extinct in India and only a small number survive in Java and Vietnam.



Sumatran Rhinoceros



Javan Rhinoceros

(C) REPTILES

1. The **Gharial** (*Gavialis gangeticus*) is the most uniquely evolved crocodilian in the world, a specialized, river-dwelling, fish-eater. The dire condition of the gharial reflects the tragedy of our rivers, where we stand to not only lose other endangered taxa such as the Ganges River Dolphin (*Platanista gangetica*) but also the use of their waters for human consumption and other needs.

Suresh Chaudary

Andrew Leith Adams (1867) wrote: "abounds in all the great rivers of Northern India… Ten or twenty may be frequently seen together."

Habitat: Clean rivers with sand banks.

Distribution: Only viable population in the National Chambal Sanctuary, spread across three states of Uttar Pradesh, Rajasthan and Madhya Pradesh in India. Small non-breeding populations exist in Son, Gandak, Hoogly and Ghagra rivers. Now extinct in Myanmar, Pakistan, Bhutan and Bangladesh.

Threats: The combined effects of dams, barrages, artificial embankments, change in river course, pollution, sand-mining, riparian agriculture and ingress of domestic and feral livestock caused irreversible loss of riverine habitat and consequently of the gharial.

2. The **Hawksbill Turtle** (*Eretmochelys imbricata*) is a heavily exploited species. The species is migratory in nature and nesting occurs in about 70 countries across the world. Maturation is slow and is estimated between 25 – 40 years.

Indraneel Das

Habitat: Nesting occurs on insular, sandy beaches.

Distribution: In India they are found in the Andaman and Nicobar Islands, the coast of Tamil Nadu and Orissa.

Threats: Turtle shell trade, egg collection, slaughter for meat, oil pollution and destruction of nesting and foraging habitats.

3. The **Leatherback Turtle** (*Dermochelys coriacea*) is the largest of the living sea turtles, weighing as much as 900 kg. Adult leatherback turtles are excellent swimmers. They swim an average of 45-65 km a day, travel upto 15,000 km per year and can dive as deep as 1200 m. Jellyfish is their primary food. The population spikes of leatherbacks coincide with abundance of jellyfish, making them important top-predators in marine environments.

Kartik Shanker

Habitat: Tropical and subtropical oceans.

Distribution: Found in tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans.

Threats: High sea fishing operations, harvesting of eggs, destruction of nests by wild predators and domesticated species such as cats, dogs and pigs. Artificial lighting disorients hatchlings and adults and causes them to migrate inland rather than towards the sea. Threats to habitat include construction, mining and plantation of exotics.

4. **Four-toed River Terrapin or River Terrapin** (*Batagur baska*) is a critically endangered turtle. The omnivorous diet of the river terrapin and other terrapin species makes them an essential part of the efficient clean-up systems of aquatic habitats.

Indraneel Das

Habitat: Freshwater rivers and lakes.

Distribution: Bangladesh, Cambodia, India, Indonesia and Malaysia.

Threats: Use of flesh for medicinal purposes, demand for eggs, which are considered a delicacy.

5. **Red-crowned Roofed Turtle** or the Bengal Roof Turtle (*Batagur kachuga*) is a critically endangered turtle mainly restricted to the Ganga basin. Males have a bright red coloration during the breeding season.

Romulus Whitaker

Habitat: Deep, flowing rivers but with terrestrial nest sites.

Distribution: Found in India, Bangladesh and Nepal. In India it resides basically in the watershed of the Ganga.

Threats: Water development projects, water pollution, human disturbance and poaching for the illegal wildlife market.

6. **Sispara day gecko** (*Cnemaspis sisparensis*) is a large gecko which dwells usually in forests, it is largely insectivorous and is active by night.

ZSI

Distribution: Endemic to Western Ghats, and found in Sispara, Nilgiris, Kavalai near Cochin.

Threats: Habitat conversion and modification.

(D) AMPHIBIANS

1. The **Anamalai Flying Frog** (*Rhacophorus pseudomalabaricus*) is confined to rainforests of south-western Ghats and lives at elevations greater than 1,000 m above mean sea level.


S.D. Biju

Distribution: It is found in Andiparai Shola, Pudothottam and the Anamalai Hills of Tamil Nada and Kerala.

Threats: Conversion of forest to cultivated land (including timber and non-timber plantations) outside the Indira Gandhi National Park, and extraction of wood and timber by local people are the major threats to this species.

2. The **Gundia Indian Frog** (*Indirana gundia*) is found at an elevation of around 200 m above mean sea level.


S.D. Biju

Distribution: Known only to exist in Gundia, Kempholey in the Western Ghats region of Karnataka, South India.

Threats: Habitat loss caused due to intensive livestock production, harvesting of wood and timber by local people, road construction, and the development of tourism facilities.

3. The **Kerala Indian Frog** (*Indirana phrynoderma*) is found at elevations of around 500 m above mean sea level. Due to the presence of prominent warts and tubercles of various sizes and glandular folds on its dorsal surface, it is commonly also known as the toad-skinned frog.


S.D. Biju

Distribution: Anamalai Hills of Kerala and Tamil Nadu in the Western Ghats of south India.

Threats: Habitat loss due to subsistence wood collection is the major threat to this species.

4. The **Charles Darwin's Frog** (*Ingerana charlesdarwini*) is found at elevations below 500 m above mean sea level.


ZSI

Distribution: This species is currently restricted to its type locality of Mount Harriet in South Andaman Island and Saddle Peak in the North Andaman Island, India.

Threats: Clear felling of forest.

5. The **Kottigehar Bubble-nest Frog** (*Micrixalus kottigeharensis*) is only known to occur in Kottigehar, Kadur in the Western Ghats of Karnataka state. Its distribution is restricted to elevation around 1000 m above mean sea level.


S.D. Biju

Distribution: This species is known to occur in Kottigehar, Kadur in the Hassan district and Bhadra in Chikamangalur district, Karnataka, India.

Threats: Habitat loss as a result of conversion to agriculture, including paddy fields and cash crops such as coconut and cashew.

6. The **Amboli Bush Frog** (*Pseudophilautus amboli*) was recently discovered in 2009 in Amboli forest in the Western Ghats of Maharashtra. It is found at elevations ranging from 550 m to 940 m above mean sea level.


S.D. Biju

Distribution: This species has been recorded from its type locality of Amboli forest, Sawantwadi district; and Amba, Kolhapur district of Maharashtra; Londa, Belgaum district, Jog Falls-Mavingundi, Shimoga district, Castle Rock, Uttara Kannada district, Kudremukh-Malleshwaram, Chikamangalur district of Karnataka.

Threats: Habitat loss and fragmentation due to urbanization and tourism development are the major threats to this species.

7. The **Chalazodes Bubble-Nest Frog** (*Raorchestes chalazodes*) was described in 1876 based on a single female specimen, from "Travancore", south India. There was no authentic report of this species since 1876 until its rediscovery in Febuary 2011.


S.D. Biju

Distribution: All recorded specimens have been from the Western Ghats, India.

Threats: Conversion of forest to intensively cultivated areas.

8. The **Small Bush Frog** (*Raorchestes chotta*) is the smallest bush frog found in India with a snout to vent length of 1.7 cm only. It was recently discovered in 2009 in Ponmudi, Kerala in the Western Ghats. It is found at elevation of 980 m above mean sea level.


S.D. Biju

Distribution: Known only to occur in Ponmudi in Thiruvananthapuram district of Kerala, south India.

Threats: Extensive tea and Acacia plantations threaten the habitat of this species. While the species has been found to occur in abandoned plantations, its decline suggests that this species may not be tolerant to habitat changes or other unknown and less obvious threats.

9. The **Green-eyed Bush Frog** (*Raorchestes chlorosomma)* was discovered in 2009 from Munnar in Idukki district of Kerala. This species has greyish green iris with irregular brown lines, bordered by a blue ring.


S.D. Biju

Distribution: Known only to occur in the type locality of Munnar, Idukki district, Kerala in the Western Ghats of South India.

Threats: Extensive degradation of habitat by large-scale tea, eucalyptus and wattle plantations. The expanding tourism industry is also becoming a cause of concern. Though the species seems to be adaptable, its tolerance to degraded habitats is not precisely known.

10. The **Griet Bush Frog** (*Raorchestes griet*) is a small frog of snout to vent length ranging from 2-2.2 cm only. This species occurs at elevations between 600–1, 800 m above mean sea level.

S.D. Biju

Distribution: Munnar, Devikulam and Vagaman in Idukki district of Kerala; and Anamalai Hills and Valparai in Coimbatore district of Tamil Nadu.

Threats: Habitat fragmentation due to tea and eucalyptus plantations. It is not likely to survive in the face of extensive habitat loss.

11. The **Kaikatt's Bush Frog** (*Raorchestes kaikatti*) was discovered in 2009 from Kaikatti-Nelliyampathi, in the Western Ghats of Kerala. This species occurs at an altitude of 1000 m above mean sea level.

S.D. Biju

Distribution: Known only to occur in the type locality Kaikatti-Nelliyampathi in Palakkad district of Kerala, south India. It is believed to be endemic to the Nelliyampathi Hills.

Threats: Habitat loss and fragmentation due to small and large-scale agricultural practices and infrastructure development for tourism over the past five years.

12. The **Mark's Bush Frog** (*Raorchestes marki*) was discovered in 2009 from Kaikatti-Nelliyampathi, in the Western Ghats of Kerala. This species is found at an altitude of 1000 m above mean sea level. Mark's Bush frog is a small frog with snout to vent length ranging between 2.1-3 cm only.

S.D. Biju

Distribution: Currently known to occur only in Kaikatti-Nelliyampathi in Palakkad district, Kerala, India.

Threats: Habitat loss and fragmentation due to small and large-scale agricultural practices, infrastructure development and construction for tourism over the last five years. However, adaptability of this species to disturbed environments is not known.

13. The **Munnar Bush Frog** (*Raorchestes munnarensis*) was discovered in 2009 from Munnar in Idukki district of Kerala. It is found at an elevation of about 1,400 m above mean sea level.

S.D. Biju

Distribution: Currently known only to occur in two locations, Devikulam and Munnar, Idukki district, Kerala, south India.

Threats: Habitat clearance for tea and eucalyptus plantations. This threat is very serious as there are no other known areas in the surrounding region that could be considered as suitable habitat for the species.

14. The **Large Ponmudi Bush Frog** (*Raorchestes ponmudi*) is the largest bush frog of India with a snout to vent length upto 4 cm.

S.D. Biju

Distribution: Ponmudi and Agasthyamala Hills, Thiruvananthapuram district, Gavi, Pathanamthitta district, Vagaman, Idukki district., Wayanad Plateau, Kalpetta, Mananthavady and Sultan's Battery, Wayanad district of Kerala; Anamalai Hills and Valparai, Coimbatore district, Tamil Nadu.

Threats: Habitat decline and the rate of forest loss is likely to further intensify due to the expansion of surrounding tea plantations.

15. The **Resplendent Shrub Frog** (*Raorchestes resplendens*) was described in 2010 to occur in Anamudi Summit, Eravikulam National Park in the Western Ghats. The Resplendent Shrub Frog is a unique bush frog having brick red dorsal skin with black irregular furrows and prominent glands. This is the highest elevation bush frog reported from the Western Ghats from an altitude of 2,695 m above mean sea level.

S.D. Biju

Distribution: Currently known to occur in Anamudi Summit, Eravikulam National park in the Idukki district, Kerala.

Threats: Occurs in a highly protected national park with secure habitat. Cause for observed declines remains unknown in view of its protected habitat.

16. The **Sacred Grove Bush frog** (*Raorchestes sanctisilvaticus*) is known to occur only in the Kapildhara Falls, Madhya Pradesh.

    Distribution: Known only to occur in Kapildhara Falls, Amarkantak, Jabalpur District, Madhya Pradesh.

    Threats: Habitat loss due to harvesting of wood for subsistence purposes, infrastructure development for tourism, and occurance of fires are the major threats to this species.

ZSI

17. The **Sushil's Bush Frog** (*Raorchestes sushili*) was discovered in 2009 in Andiparai Shola, Valparai in the Western Ghats of Tamil Nadu. It is found at an altitude of around 600 m above mean sea level.

    Distribution: Known only to occur in Valparai and its vicinity, Coimbatore district, Tamil Nadu.

    Threats: Habitat loss due to small and large-scale agricultural activities such as tea and coffee cultivation in the Anamalai Hills.

S.D. Biju

18. The **Shillong Bubble-nest Frog** (*Raorchestes shillongensis*) was discovered in Shillong, Meghalaya.

    Distribution: Currently known to occur in the type locality of Malki Forest, Shillong, Meghalaya and in Mizoram.

    Threats: Selective logging, collection of wood for subsistence use and urbanization are major threats to the habitat of this species.

S.D. Biju

19. The **Tiger toad** (*Xanthophryne tigerinus*) was discovered in 2009 from Amboli in the Western Ghats of Maharashtra state. It is found at an altitude of around 720 m above mean sea level.

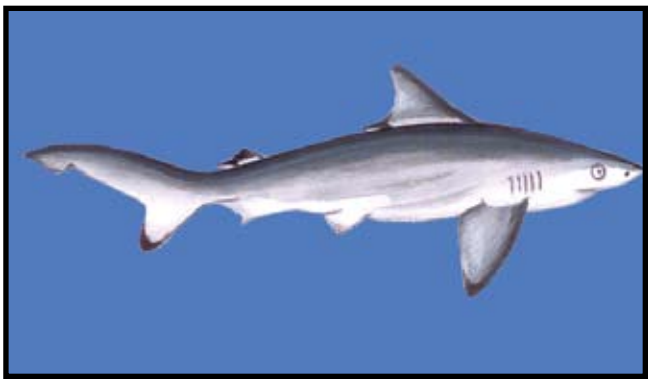
    Distribution: Found only in Amboli, Sindhudurg district, Maharashtra.

    Threats: Loss of forest and habitat fragmentation.

S.D. Biju

(E) FISH

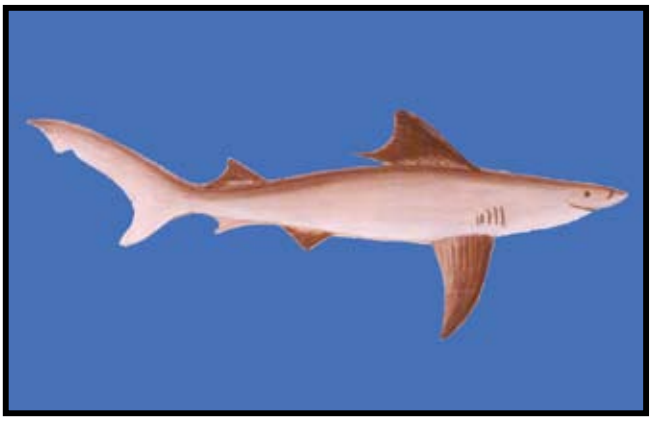
1. **The Pondicherry Shark** (*Carcharhinus hemiodon*) is a marine fish that occurs or occurred inshore on continental and insular shelves. This is a very rare and little-known species.


ZSI

Distribution: Indian Ocean - from Gulf of Oman to Pakistan, India and possibly Sri Lanka. In scattered localities spanning India to New Guinea. Has also been recorded at the mouth of the Hooghly river.

Threats: Large, expanding, and unregulated commercial fisheries in inshore localities and habitats. If still extant, it is probably caught as bycatch, although market surveys have failed to record it. Its populations are considered to have been severely depleted as a result of continued exploitation.

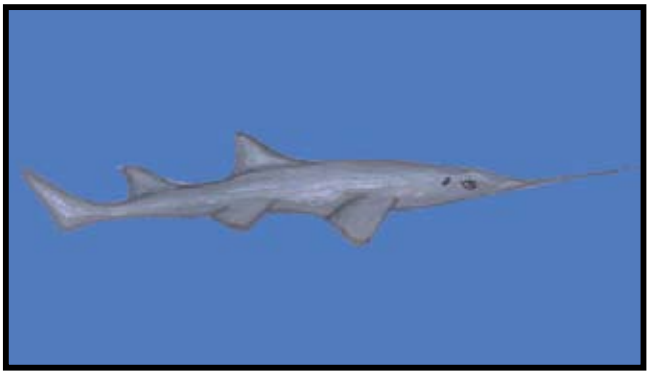
2. The **Ganges Shark** (*Glyphis gangeticus*) is a uniquely adapted fish-eating shark that occurs in the turbid waters of the Ganga river and the Bay of Bengal. The small eyes suggest that it is adapted to living in turbid water, while the slender teeth of the species suggests that it is primarily a fish-eater. It grows to a maximum length of 2.04 m.


ZSI

Distribution: It occurs in India and possibly in Pakistan. The Ganga river system and Hooghly river mouth are its known habitats.

Threats: Major fisheries targeting sharks. Other probable threats include overfishing, pollution, increasing river use and construction of dams and barrages. A few jaws of the species were found to have been traded in the international market during recent years, which testifies that the species is not extinct.

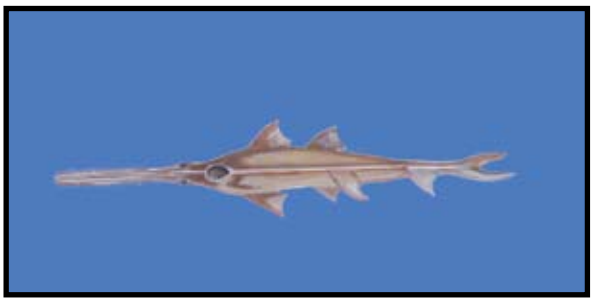
3. The **Knife-tooth Sawfish** (*Anoxypristis cuspidata*) has a long narrow snout with blade-like teeth and a shark-like body. It spends most of its time near the bottom of the sea, sometimes going down to almost 40 m. It can grow up to 2.8 m. in length and can withstand a range of salinity conditions. It is found in shallow coastal waters and estuaries.


ZSI

Distribution: Widespread in western part of the Indo-Pacific region, including Red Sea.

Threats: The principal threat to all sawfish are fisheries (targeted, bycatch, commercial and subsistence). Their long tooth-studded saw, makes them extraordinarily vulnerable to entanglement in any sort of net gear, including primitive fishing contraptions. When sawfish are caught in by catch, they often end up being traded because of the very high value of their products (meat is high quality and fins and saws extremely valuable in international trade).

4. **Large-tooth Sawfish** (*Pristis microdon*) are heavy-bodied sawfish with a short but massive saw, and grow up to 3 m. in length. It is seen seasonally and very occasionally caught along with the Bull Sharks and the Green Sawfish.


ISZ

Distribution and habitat : Western part of the Indo-Pacific (East Africa to New Guinea, Philippines and Vietnam to Australia). In India, it is known to enter the Mahanadi river, up to 64 km inland, and also is very common in the estuaries of the Ganga and Brahmaputra.

Threats: Same as that for the Knife-tooth Sawfish. There is also an increasing demand for sawfish in aquaria. Major habitat changes include construction of dams over rivers, siltation, pollution from industries and mining operations.

5. **Long-comb Sawfish or Narrow-snout Sawfish** (*Pristis zijsron*) grow up to 4.3m in length and are heavily exploited by humans. This species was reported as frequently found in shallow water. It inhabits muddy bottoms and also enters estuaries. Its presence has been recorded in inshore marine waters, and it goes down to depths of at least 40 m.


ISZ

Distribution and habitat: Indo-Pacific region including Australia, Cambodia, China, India, Indonesia and Malaysia.

Threats: This species has been damaged intensively, both as a target species and as incidental bycatch in commercial, sport or shark-control net fisheries, as well as for aquarium display. As a result, it has become severely depleted in recent decades, and now appears to have been extirpated from many parts of its range.

(F) SPIDERS

1. **The Rameshwaram Ornamental or Rameshwaram Parachute Spider** (*Poecilotheria hanumavilasumica*) was recently described in 2004, and is only found in India. It can give a nasty bite which usually is not fatal. The species is semi-social, which means they live partly in groups.


ZSI

Habitat: Arboreal and tend to live in hiding.

Distribution: Endemic to India. Spread along the coastal savannah, tropical lowland rain forests and montane forests upto an altitude of 2000 m above mean sea level.

Threats: Major threats causing the disappearance of this species is habitat alteration and degradation.

2. **The Gooty Tarantula, Metallic Tarantula or Peacock Tarantula** (*Poecilotheria metallica*) is steel blue in colour with patches of intense orange-yellow, black and white. It was first found in Gooty (Ooty/Udagamandalam) in south India in a burn pile during railway construction. Ever since the first picture of this spider was circulated globally, it has been in great demand in the illegal pet trade. A combination of small litter sizes and increased human pressures have made this species critically endangered.


ZSI

Habitat: Wooded mountain area of south India.

Distribution: Endemic to India

Threats: They are one of the most expensive spiders in the illegal pet trade. Large areas where the species occurs have been deforested, or subjected to habitat degradation due to local fuel wood collection, leading to decline in its population.

(G) CORALS

1. **Fire corals** (*Millepora boschmai*) are more closely related to jellyfish than corals. On contact, one usually feels a burning sensation similar to a sting from a jellyfish. The scientific name '*millepora*' is derived from the several small pores on the surface of these corals. They are usually yellow-green or brown in colour.

ZSI

Habitat: Millepora species are generally found in murky inshore waters and display a tolerance for siltation. They often are found in clear offshore sites.

Distribution: Indonesia, Gulf of Chiriquí, Panama Pacific Province. Possibly extinct from Australia, India, Indonesia, Malaysia, Panama, Singapore and Thailand.

Threats: Collected for decoration and jewellery trade. This group is also sensitive to temperature rise, and is thought to have completely disappeared from the majority of marine areas possibly because of growing global warming related bleaching effects.

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