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MANGROVE ECOSYSTEMS

A MANUAL FOR THE ASSESSMENT OF BIODIVERSITY

A follow up of the
National Agricultural Technology Project
(NATP.), ICAR.

Mangrove Ecosystem Biodiversity :
Its Influence on the Natural Recruitment of
Selected Commercially Important Finfish and Shellfish
Species in Fisheries

Edited by :
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Reptiles

S. K. Chakraborty, Sunirmal Giri, Gurudas Chakravarty and George J. P.

Reptiles of Mangrove Ecosystems.

Species	Common name
Class - Reptilia **Sub-class - Lepidosauria** **Order- Squamata** **Family- Varanidae**	
Varanus bengalensis (Daudin)	Indian Monitor
V. salvator (Laurenti)	Indian Water monitor
Family - Colubridae	
Naja naja.	Cobra
Family - Viperidae	
Vipera russelli	Chandrabora, russels viper
Sub-class - Archosauria. **Order - Crocodylia** **Family - Crocodylidae**	
Crocodylus porosus (Schneider)	Estuarine or salt water crocodile
Sub-class - Anapsida **Order - Testudines** **Family - Cheloniidae.**	
Lepidochelys olivacea (Eschscholtz)	Olive Ridley turtle
Family - Emydidae.	
Batagur baska (Gray)	River terrapin
Geoclemys hamiltonii (Gray)	Spotted pond turtle
Family - Trionychidae.	
Lissemys punctata andersoni (Bonnaterre)	Indian flapshell turtle
Trionyx gangeticus Cuvier	Ganges turtle

Class - Reptilia

1. Body covered with dry epidermal scales or scutes.
2. Pentadactyl clawed limbs (except snakes, where limbs are absent)
3. Typical cloaca present; cloacal aperture generally transverse.
4. Usually a post anal tail present.
5. Poikilothermic.

Sub-class - Lepidosauria

1. Skull with two temporal vacuities.

Sub-class - Archosauria

1. Skull with closed upper temporal vacuity.
2. Teeth thecodont.

Sub-class - Anapsida

1. Roof of the skull is solid, no temporal vacuity.

2. Body is enclosed within a box made of dorsal carapace and ventral plastron.

Order - Squamata

1. Body covered with horny granular scales.
2. Supra temporal vacuity single or absent.

Order - Crocodilia

1. Body is covered with an exoskeleton of horny thick epidermal scales.
2. Epidermal scales modified into scutes.
3. Long tail, laterally compressed.
4. Longitudinal cloacal opening.
5. Male with a single penis.

Order - Testudines

1. In aquatic forms limbs for walking are modified into paddles for swimming.
2. Jaws with horny sheath or without teeth.
3. Tail is always present
4. Cloacal opening longitudinal.

Diagnostic features of different species

1. Varanus bengalensis (Daudin, 1758)

[Indian Monitor]

Snout convex at the end, its length from two and a half times its height; nostril an oblique slit nearer to the orbit than to end of snout; scales on crown of head is larger than the nuchal scales; supraocular scales small, subequal; digits elongated, tail strongly compressed with low double-toothed crest above; adult olive grey, or brownish above with sparse black spots, yellowish below, uniform or flecked with black.

2. Varanus salvator (Laurenti, 1768)

[Indian Water Monitor]

Snout depressed at the end, its length at least three times more than its height; nostril round or oval; nuchal scales smaller than those on crown of head; median supraoculars transversely enlarged; dorsal scales keeled; digits elongated; tail strongly compressed with a low double toothed crest above; a fully grown lizard dark olive, indistinctly spotted with yellow; the young blackish with small yellow and large rounded spots arranged in transverse rows.

3. Naja naja.

[Cobra]

Body with oblique scales without pit and no limbs or limb girdles; neck with cervical ribs and dilated to form a hood; the upper surface of the hood bears a binocellate mark forming a spectacle; fangs are followed by 1-3 teeth; small eyes with round pupils and with immovable eye lids; Tympanum absent; sharp constriction below hood and head.

4. Vipera russelli.

[Chandrabora; russels viper]

Head large, triangular, flat and covered with small scales; V - marks is placed overhead; body elongated and cylindrical; no limbs; body is covered with keeled scales; large black patches are arranged on the back; paired erectile fangs in front of the upper jaw, one on each maxillary bone and folded backward when not in use; 4th supra labial is the largest and it does not reach the eye; eyes have white margins and elliptical pupil.

5. Crocodylus porosus Schneider,1801.

[Estuarine or salt water crocodile]

17-19 upper teeth on each side, four in each premaxillary in the adult; snout 1.7-2.2 times as long as broad at the base; four large nuchals forming a square, with a smaller one on each side; dorsal armour of 6-8 longitudinal series of scutes; a strong ridge in front of eye, nearly half the length of the snout; no enlarged post-occipital scales; colour dark olive or brownish above, interspersed with yellow which is distinctive of this species.

6. Lepidochelys olivacea (Eschscholtz, 1829)

[Olive Ridley Turtle]

Carpace with 6 or more scutes; bridge with 4 inframarginals; each inframarginal is provided with pores on the hinder margin; single claw present on each flipper; dorsal colour grey to olive-green.

7. Geoclemys hamiltonii (Gray,1831)

[Spotted pond turtle]

The head large, broad snout rounded, as long as the orbit and slightly projecting beyond the lower jaw; skin of the posterior portion of head is divided into large shields; carapace with three well-defined keels; Plastron nearly as long as carapace, deeply notched at the back; colour jet-black above, spotted and streaked with yellow.

8. *Batagur baska* (Gray,1831)

   [River Terrapin]

   The head comparatively small with an upturned, pointed and strongly projecting snout; skin of the posterior part of head divided into small shields; carapace smooth, shining, sub-truncated anteriorly, rounded posteriorly, heavy and moderately depressed; distinguished from other terrapins by the presence of only four, instead of five claws on the forelimb.

9. *Lissemys punctata andersoni* (Bonnaterre, 1789)

   [Indian Flapshell turtle]

   Distinguished from all other freshwater species of Indian turtles by the presence of skin flaps on the Plastron for hiding hindlimbs and tail; shell low domed, oval in adults, almost circular in the young; shell bones finely granular, eight pairs of coastal plates, the last pair meeting medially; Head oval terminating in tubular nostrils; digits fully webbed. Carapace olive-brown; Plastron yellowish or white.

10. *Trionyx gangeticus* Cuvier,1824.

    Carapace is covered by greenish soft skin with yellowish spots; snout elongated into a proboscis; digits are distinct, united by webs; 3 clawed digits are present in each limb; eyes are on the top of the head.

Crocodylus porosus