

Pictorial Field Guide

First Edition

Turtles of South Asia



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Cover front: *Testudo horsfieldii* (top), *Pangshura sylhetensis* (right),
Vijayachelys silvatica (left), *Nilssonia nigricans* (bottom)

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Preface

South Asia is a hotspot for turtle diversity. The region includes eight countries- Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The uncertainty surrounding species distribution, the absence of comprehensive threat assessments and the increasing risks of population decline due to exploitation and trade have resulted in significant gaps in species information.

This Field Guide on South Asian Testudines (Chelonia) provides information on 48 species and subspecies (excluding marine turtles) inhabiting the different freshwater and terrestrial ecosystems. The authors have given an illustrated account of the structure of the carapace; plastron and other body parts. Detailed accounts of their taxonomic importance, geographical range, size, habits, habitats, reproduction and threats. Moreover, the colour photographs of each species are provided for easy identification.

It is our privilege to write the preface to this field guide of publications. It is hoped that this illustrated book will serve as an important and handy tool to specialists, research, students, naturalists and those interested in the fascinating study of colourful turtles and tortoises.

This publication is supported by IUCN/SSC-TFTSG and executed by Humanitarian and Biodiversity Conservation Society (HBCS). The fieldwork and published works on turtles of South Asia have contributed to vital information about the species features. This publication has been developed to acquaint conservation organizations, researchers and community organizations about the turtle species and their current distributions in the region.

We extend our sincere thanks to Gernot Vogel, Hermann Schleich, Mohammad Firoz Ahmed, Prakash Chandra Aryal, Sagar Bishwakarma, Scott Trageser and Sushmita Kar for providing turtle photographs and permitting to illustration. We are thank to Peter Praschag for providing the valuable materials for this guide book.

We sincerely apologize to those whose names are not mentioned here due to oversight. If your name is not listed, please know that it is an unintentional omission. You remain our valued well-wisher and we deeply appreciate your contributions. Kindly accept our heartfelt apologies for this oversight.

July 2026
The Authors

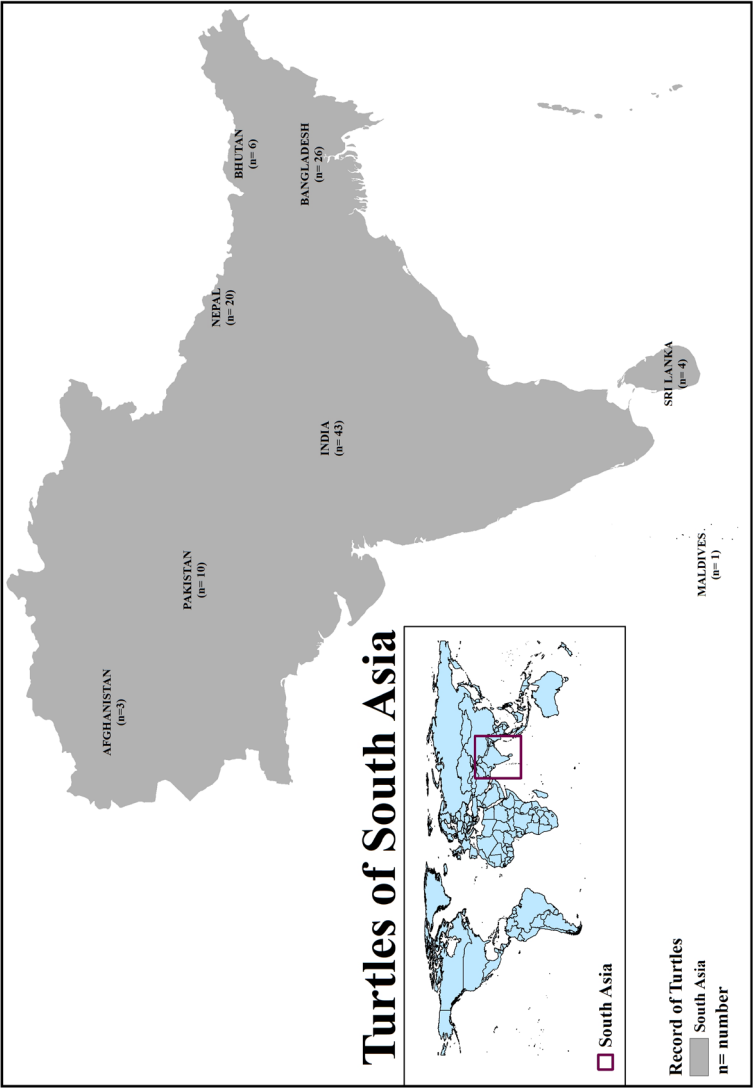
Abbreviations and Acronyms

ARCO-Nepal	Amphibian and Reptile Conservation of Nepal
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
cm	centimeter
Fig.	Figure
GPS	Global Positioning System
gm	gram
HBCS	Humanitarian and Biodiversity Conservation Society
IUCN	International Union for Conservation of Nature and Natural Resources
kg	kilogram
km ²	square kilometer
n	number
ND	Nicotinamide Adenine Dinucleotide Dehydrogenase
nRNA	nuclear Ribonucleic Acid
SCL	Straight Carapace Length
SSC	Species Survival Commission
TCC	Turtle Conservation Coalition
TFTSG	Tortoise and Freshwater Turtle Specialist Group
TMS	Turtle Monitoring Survey
ToMS	Tortoise Monitoring Survey
TNS	Turtle Nesting Survey
TRCC	Turtle Rescue and Conservation Centre
TTWG	Turtle Taxonomy Working Group

Glossary

1. Alveolar: Pertaining to the margin of the jaw where the teeth are generally situated.
2. Anal Seam: The incomplete line of division along the midline of the single anal scute.
3. Ankylose: To grow together into one.
4. Areola: Part of the carapace of a Testudine which exists from the time of hatching and from which the new growth of shell proceeds.
5. Axillary: Pertaining to the axilla or armpit.
6. Bicuspid: Having two points or cusps.
7. Bridge: That portion of the shell connecting the carapace of plastron.
8. Callosity: A thickening of the skin.
9. Carapace: Bony upper shield of a turtle or tortoise.
10. Carinate: Having a keel.
11. Caudal: Of the tail.
12. Centrum: The body of a vertebra.
13. Choanae: The posterior nares.
14. Columella auris: A delicate rod-like bone in the middle ear.
15. Columnar: Vertically elongated.
16. Condyle: An articular prominence on a bone.
17. Coprodaeum: A part of the cloaca.
18. Costal: Pertaining to the ribs.
19. Crenulated: Feebly indented or crenate.
20. Crepuscular: Active at twilight or preceding dawn.
21. Cusp: A point.
22. Denticulate: Having small tooth like projections.
23. Digit: Finger or toe.
24. Disc: The dorsal or ventral shield.
25. Endemic: Restricted to a particular region.
26. Emarginate: Opened in the form of a broad notch at the margin.
27. Facet: A small flat and smooth articular surface of bone.
28. Femoral: Of the thigh.
29. Fossa: A shallow depression or cavity.
30. Frontal: Head shield.
31. Gular: Pertaining to the throat.
32. Hinge: Movable connective tissue between plastral and/or carapacial scutes, only present in some species.
33. Humeral: Pertaining to the humerus or bone of the upper arm.
34. Imbricate: Overlapping like tiles on a roof.
35. Inguinal: Groin area.
36. Intercalated: Interposed.
37. Intercentrum: A pad of cartilage or bone interposed between the centra or bodies of the vertebrae.

38. Internasal: Shield between nasal shields.
39. Juxtaposed: Placed in opposition to not imbricate.
40. Keel: Elongated ridge on scale.
41. Labyrinth: The cavities of the internal ear.
42. Lamellae: Thin plates.
43. Lanceolate: Tapering at the end.
44. Lareal: Space between the snout and the eye.
45. Lumbar: Pertaining to loin.
46. Mandible: The bone of the lower jaw.
47. Marginal: Plates forming the edge of the carapace (12 scutes usually).
48. Maxillary groove: A well-marked groove in the midline of the palate which is found in some species.
49. Mental: Of the chin.
50. Nares: The nasal opening.
51. Neural: Pertaining to the nerves or nervous tissue.
52. Nodose: Knobbed.
53. Nuchal: Pertaining to the neck.
54. Occipital: Pertaining to the occiput or back part of the head.
55. Ocellus: A coloured spot surrounded by a ring of different colour.
56. Ossicle: A little bone.
57. Pectoral: Pertaining to the breast.
58. Pentadactyle: Having five fingers and toes.
59. Phalanges: Digit bones.
60. Plastron: Bony ventral shield of a turtle or tortoise shell.
61. Poikilothermous: Animals in which the body temperature varies with the temperature of the environment.
62. Prefrontal: Head shield preceding frontal shield.
63. Preocular: In front of eye.
64. Procoelous: Vertebrae with the anterior end of the centrum or body concave.
65. Reticulate: Arranged like a net.
66. Rostral: Of the snout.
67. Scutes: Scales or plates.
68. Seam: Line of division between two adjacent scutes, no parenchyma is present.
69. Serrated: Saw-toothed edge.
70. Supranasal: Above the nostril.
71. Symphysis: The union of two bones in the median plane of the body.
72. Temporal: Pertaining to the temple.
73. Tricuspid: Having three cusps or points.
74. Truncate: Cut short.
75. Tympanum: Visible eardrum seen as a round patch on both sides of the head.
76. Vermiculate: Marked with wavy impressions, like worm-tracks.
77. Vertebral: Pertaining to the vertebrae or backbone (5 scutes usually)
78. Webbing: The skin between the digits, always present in freshwater turtles



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1 Introduction

How to use this book

About this Guide

This is a colour guide to the turtles of South Asia, which includes information on freshwater turtles and tortoises in the region. There are currently 364 species of turtle and tortoise globally, more than 50% of which are threatened with extinction (TTWG 2025, TCC 2025). The recorded turtles of South Asia are represented by three families: Geoemydidae (Freshwater Hardshell-27), Testudinidae (Terrestrial Hardshell-8) and Trionychidae (Freshwater Softshell- 13) (Fig. 1 and 2). In South Asia, a total of 48 species of turtles have been reported (Fig. 3). Each species is illustrated with one or more colour photographs. The species information comprises geographical range, size, identification, habit, habitat, reproduction and threats. Natural history information provided here is based on observations of the authors and published literature. A checklist of the turtles of South Asia is also incorporated in the guide, which is based on published literature. This book was designed for general to field practitioners such as students, forest staff, nature guide, researchers etc. towards understanding the little known turtle of the region. Hence, its format and layout have been made to meet the field standards so that it will be easily brought and can be used in the field.

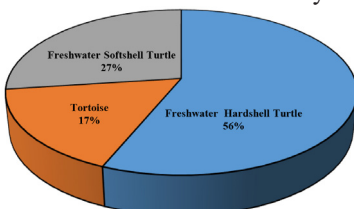


Fig. 1. Status of turtles in South Asia.

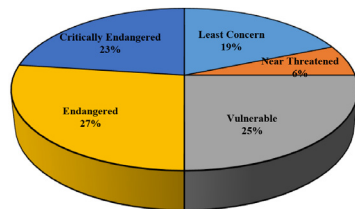


Fig. 2. Conservation status of turtles in South Asia.

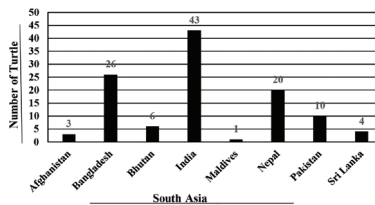


Fig. 3. Number of turtle species in South Asia.

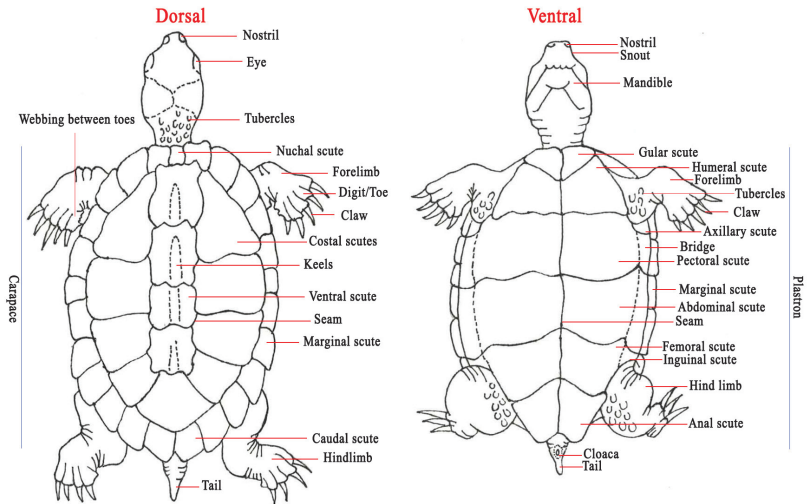
1.2 Turtles Record in South Asia

S.N.	Scientific Name	Common Name	Afg	Ban	Bhu	Ind	Mal	Nep	Pak	Sri
		Freshwater Turtle (n= 27)								
1	<i>Batagur baska</i>	Northern River Terrapin		✓		✓				
2	<i>Batagur dhongoka</i>	Three striped Roofed Turtle		✓		✓		✓		
3	<i>Batagur kachuga</i>	Red-crowned Roofed Turtle		✓		✓		✓		
4	<i>Cuora amboinensis kamaroma</i>	Southeast Asian Box Turtle				✓				
5	<i>Cuora amboinensis lineata</i>	Myanmar/Burmese Box Turtle				✓				
6	<i>Cuora praschagi</i>	Assam Box Turtle		✓	✓	✓				
7	<i>Cuora mouhotii mouhotii</i>	Northern Keeled Box Turtle		✓	✓	✓				
8	<i>Cyclemys fusca</i>	Myanmar Brown Leaf Turtle				✓				
9	<i>Cyclemys gemeli</i>	Assam Leaf Turtle		✓	✓	✓		✓		
10	<i>Geoclemys hamiltonii</i>	Spotted/Black Pond Turtle		✓		✓		✓	✓	
11	<i>Hardella thurjii</i>	Eastern crowned River Turtle		✓		✓		✓	✓	
12	<i>Heosemys depressa</i>	Arakan Forest Turtle		✓						
13	<i>Melanochelys tricarinata</i>	Tricarinate Hill Turtle		✓	✓	✓		✓		
14	<i>Melanochelys trijuga coronata</i>	Cochin Black Turtle				✓				
15	<i>Melanochelys trijuga indopeninsularis</i>	Bengal Black Turtle		✓		✓		✓		
16	<i>Melanochelys trijuga parkeri</i>	Parker's Black Turtle								✓
17	<i>Melanochelys trijuga thermalis</i>	Sri Lanka Black Turtle				✓	✓			✓
18	<i>Melanochelys trijuga trijuga</i>	Indian Black Turtle				✓				
19	<i>Morenia petersi</i>	Indian Eyed/ Ocellated Turtle		✓		✓		✓		
20	<i>Pangshura smithii pallidipes</i>	Pale-footed Roofed Turtle				✓		✓		
21	<i>Pangshura smithii smithii</i>	Brown-footed Roofed Turtle		✓		✓		✓	✓	
22	<i>Pangshura sylhetensis</i>	Assam/Sylhet Roofed Turtle		✓	✓	✓				
23	<i>Pangshura tentoria circumdata</i>	Pink-ringed Tent Turtle				✓		✓		
24	<i>Pangshura tentoria flaviventer</i>	Yellow-bellied Tent Turtle		✓		✓		✓		
25	<i>Pangshura tentoria tentoria</i>	Indian Tent Turtle				✓				
26	<i>Pangshura tecta</i>	Indian Roofed/Sawback Turtle		✓		✓		✓	✓	
27	<i>Vijayachelys sylvatica</i>	Cochin Forest Cane Turtle				✓				
		Tortoise (n= 8)								
28	<i>Geochelone elegans actinodes</i>	Northwestern Indian Star Tortoise				✓		✓	✓	
29	<i>Geochelone elegans elegans</i>	Southern Indian Star Tortoise				✓				✓
30	<i>Indotestudo elongata</i>	Elongated Tortoise		✓	✓	✓		✓		
31	<i>Indotestudo travancorica</i>	Travancore Tortoise				✓				
32	<i>Manouria emys phayrei</i>	Burmese Black Giant Tortoise		✓		✓				
33	<i>Manouria impressa</i>	Impressed Tortoise				✓				
34	<i>Testudo horsfieldii horsfieldii</i>	Central/Steppe/Horsfield's Asian Tortoise	✓						✓	
35	<i>Testudo horsfieldii rustamovi</i>	Kopet-Dag Steppe Tortoise	✓							
		Softshell Turtle (n= 13)								
36	<i>Amyda ornata jongli</i>	Northwest Asian Softshell Turtle		✓		✓				
37	<i>Amyda ornata phayrei</i>	Myanmar/Burmese Softshell Turtle				✓				
38	<i>Chitra indica</i>	Narrow headed Softshell Turtle		✓		✓		✓	✓	
39	<i>Lissemys ceylonensis</i>	Sri Lankan Flapshell Turtle								✓
40	<i>Lissemys punctata andersoni</i>	Spotted North Indian Flapshell Turtle		✓		✓		✓	✓	
41	<i>Lissemys punctata punctata</i>	Southern Indian Flapshell Turtle				✓				
42	<i>Lissemys punctata vittata</i>	Central Indian Flapshell Turtle		✓		✓				
43	<i>Nilssonina formosa</i>	Burmese/Myanmar Peacock Softshell Turtle				✓				
44	<i>Nilssonina gangetica</i>	Indian/Ganges Softshell Turtle	✓	✓		✓		✓	✓	
45	<i>Nilssonina hurum</i>	Indian Peacock Softshell Turtle		✓		✓		✓	✓	
46	<i>Nilssonina leithii</i>	Leith's/Deccan Softshell Turtle				✓				
47	<i>Nilssonina nigricans</i>	Black/Bostami Softshell Turtle		✓		✓		✓		
48	<i>Pelochelys cantorii</i>	Asian/Cantor's Giant Softshell Turtle		✓		✓				
	Total = 48		3	26	6	43	1	20	10	4

Afg- Afghanistan, Ban- Bangladesh, Bhu- Bhutan, Ind- India, Mal- Maldives, Nep- Nepal, Pak- Pakistan, Sri- Sri Lanka

1.3 Turtle Identification

Hardshell Turtle



Softshell Turtle

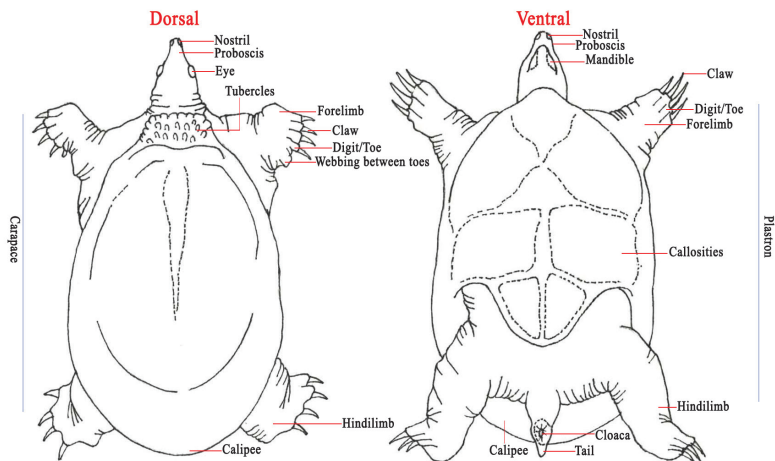


Fig. 4. Turtle Hardshell and Softshell- Dorsal and Ventral view.

Lateral

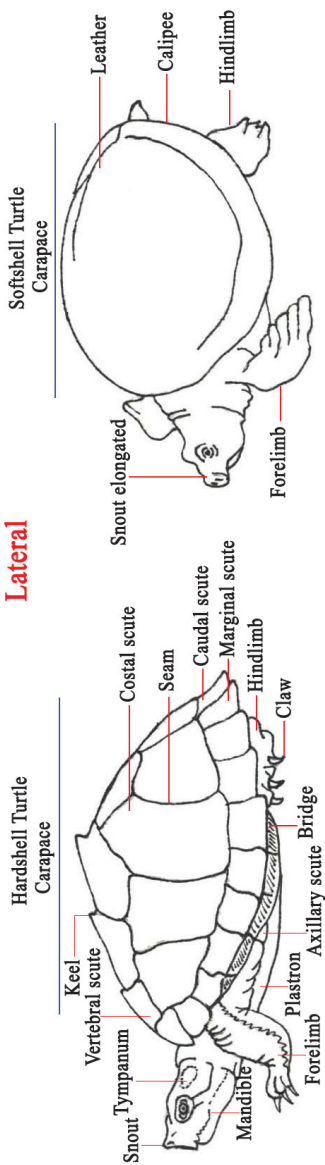


Fig. 5. Turtle Hardshell and Softshell- Lateral view.

2 Turtle and Tortoise Survey Techniques

2.1. Survey Equipment: Binoculars, field guide, GPS, gloves, gumboots, measuring tape, weighing machine, survey sheets, topographic map, turtle cards and thermometer.

2.2. Social-Survey: It is based on consultation with the village authority to enhance community involvement in the evaluation. It is designed such that local knowledge and attitudes pertaining to species past history, present status and future conservation objectives would be reflected. The simple Random Sampling Technique is followed to select the individuals for interviews and questionnaire with a number of people. This section involves key informant person such as staffs of village leaders, Park officials, Reserve officials, Buffer Zone community members etc.

2.3. Monitoring Survey

i. Turtle Monitoring Survey (TMS): The work divides a river channel into survey sections. The survey is conducted during the morning and daytime from fishing boats with a team of observers and boatmen and/or a guide who belongs to the local ethnic group. The use of point count sighting for 20 minutes in each spot within the sections along the paths or rivers with a line transect. Visual inspection transects are walked along the banks of large water bodies and wetland habitats. Binoculars, camera and GPS are used to count, photograph and locate turtles. Also, one should note potential threats to the turtles.

ii. Tortoise Monitoring Survey (ToMS): Visual encounter surveys and opportunistic surveys are used to examine the studied sites throughout the day. During the extensive survey period, visual inspection of the forest floor, shrub berries, grasses, woodland etc., is carried out using park guards with prior permission. Indirect evidence such as the presence of signs like tracks, dens or tunnels is helpful for finding the existence, range and rough population of the species. The observed tortoise's location will be noted using a GPS device.

2.4. Turtle Nesting Survey (TNS): During the nesting season, researchers carefully select study areas known for the species populations. They use GPS devices for precise nest location marking, data sheets for systematic record-keeping, measuring tools and cameras for documentation. The behavioral observations are made from a safe distance providing further insights into the nesting process.

2.5. Data Analysis: All qualitative and quantitative data are analyzed by appropriate analytical tools. The map of the study area and the distribution map for the species record are produced using suitable mapping software.

Illustrations with permission

1. Gernot Vogel: *Cyclemys gemeli* (Dorsal, Ventral), *Indotestudo elongata* (Juvenile), *Lissemys punctata andersoni* (Adult)
2. Hermann Schleich: *Melanocheilus tricarinata* (Juvenile), *Morenia petersi* (Dorsal), *Pangshura tentoria flaviventer* (Dorsal, Ventral), *Pangshura tentoria circumdata* (Ventral), *Pangshura smithii smithii* (Dorsal), *Pangshura smithii pallidipes* (Dorsal), *Nilssonina gangetica* (Adult)
3. Mohammad Firoz Ahmed: *Nilssonina nigricans* (Adult)
4. Prakash Chandra Aryal: *Hardella thurjii* (Ventral), *Pangshura smithii smithii* (Ventral), *Pangshura smithii pallidipes* (Ventral)
5. Sagar Bishwakarma: *Chitra indica* (Juvenile)
6. Scott Trageser: *Geoclemys hamiltonii* (Dorsal, Ventral), *Melanocheilus tricarinata* (Adult), *Pangshura tecta* (Ventral), *Indotestudo elongata* (Adult), *Nilssonina hurum* (Ventral)
7. Sushmita Kar: *Nilssonina nigricans* (Juvenile)

Photos Illustrations by Other Sources

1. Andreas Nöllert (TTWG 2025): *Testudo horsfieldii rustamovi* (Adult)
2. Anslém de Silva (TTWG 2025): *Melanocheilus trijuga parkeri* (Ventral)
3. Ayushi Jain (Jain et al. 2023): *Pelochelys cantorii* (Adult, Juvenile)
4. Bill Hughes (www.flickr.com): *Heosemys depressa* (Juvenile)
5. Brian D. Horne (TTWG 2025): *Geochelone elegans elegans* (Juvenile)
6. Hai- Tai Shi (Shi 2015): *Heosemys depressa* (Adult), *Manouria emys phayrei* (Juvenile)
7. Hans-Dieter Philippen: *Cuora amboinensis lineata* (Schoppe and Das 2011- Dorsal, Ventral), *Melanocheilus trijuga coronata* (Das and Bhupathy 2009- Juvenile), *Morenia petersi* (Das and Sengupta 2010- Juvenile)
8. Inaturalist.org: Vijay Anand Ismavel- *Cuora praschagi* (Juvenile), lightwind - *Cuora mouhotii mouhotii* (Adult), Edward - *Lissemys ceylonensis* (Adult, Juvenile), Ann Sebastian - *Lissemys punctata punctata* (Juvenile), Neel Shah - *Lissemys punctata vittata* (Adult, Juvenile), Yuriy Danilevsky - *Testudo horsfieldii horsfieldii* (Adult), Ayuwat- *Manouria impressa* (Adult), Nyein Chan and Yae Aung- *Nilssonina formosa* (Juvenile)
9. Indiabiodiversity.org: *Nilssonina leithii* (Juvenile)
10. Joel Sartore (www.joelsartore.com): *Cuora mouhotii mouhotii* (Juvenile), *Amyda ornata jongli* (Adult)
11. Li Shengyong: *Amyda ornata phayrei* (Zhou et al. 2025- Juvenile)
12. Neil D'Cruze (TTWG 2025): *Geochelone elegans actinodes* (Juvenile, Adult)
13. Peter Paul van Dijk: *Cyclemys fusca* (TTWG 2025- Dorsal, Ventral), *Melanocheilus trijuga thermalis* (S. Jayakumar, Das and Bhupathy 2009- Dorsal, Ventral), *Pangshura tentoria tentoria* (TTWG 2025- Dorsal), *Geochelone elegans elegans* (D'Cruze et al. 2018- Adult)
14. Peter Praschag: *Batagur baska* (TTWG 2025- Male), *Lissemys punctata andersoni* (Bhupathy et al. 2014- Juvenile), *Pangshura sylhetensis* (Das et al. 2010- Juvenile), *Pangshura tentoria tentoria* (TTWG 2025- Ventral), *Vijayachelys silvatica* (Deepak et al. 2014- Juvenile), *Amyda ornata phayrei* (Frit et al. 2014-Adult)
15. Rahul Naik (Das et al. 2014): *Nilssonina leithii* (Adult)
16. Raju Vyas (TTWG 2025): *Geochelone elegans actinodes* (Adult)
17. Rick Hudson (Moll et al. 2009): *Batagur baska* (Female)
18. S. Bhupathy (Das and Bhupathy 2009): *Melanocheilus trijuga coronata* (Adult)
19. S. Jayakumar (Das and Bhupathy 2009): *Melanocheilus trijuga trijuga* (Dorsal, Ventral)
20. Sabine Schoppe (Schoppe and Das 2011): *Cuora amboinensis kamaroma* (Adult, Juvenile)
21. Torsten Blanck (www.cuora.org): *Cuora praschagi* (Adult)
22. Turtle Conservancy: *Manouria impressa* (Juvenile)
23. V. Deepak: *Vijayachelys silvatica* (Deepak et al. 2014- Adult), *Indotestudo travancorica* (Deepak et al. 2011- Adult, Juvenile)
24. Zhou Ting: *Nilssonina formosa* (Zhou et al. 2025- Adult)



<https://iucn-tftsg.org/>



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3 Turtle Species Profiles

Order : Testudines / Chelonia

Freshwater Hardshell Turtle

Family : Geoemydidae

Page Number : 18-65

Tortoise

Family : Testudinidae

Page Number : 68-83

Softshell Turtle

Family : Trionychidae

Page Number : 86-109

3.1 Freshwater Hardshell Turtle

Family : Geoemydidae

Page Number : 18-65

***Batagur baska* / Northern River Terrapin**

Geographic Range Bangladesh, India, Myanmar, Pakistan (?), Thailand (?)

Size Maximum SCL male 49 cm, female 60.9 cm, 18 kg

Identification Head small with relatively angulate snout. Head and neck are brown with reddish bases. Nuchal scute broader than long. Males are blackish but females and juveniles are usually olive gray. Relatively flat and a vertebral keel present in juveniles. Carapace is dome shaped, marginal is unserrated. Plastron is cream or whitish. During the breeding season, the colour of the pupils of females are brown whereas the males are yellowish-white eyes, snout is bluish. Limbs are fully webbed and fore limbs have four claws.

Habit and Habitat Omnivorous, highly aquatic but uses terrestrial nesting sites, frequenting the tidal areas of estuaries, large rivers and mangrove forests.

Reproduction Mating from September-November, nesting January-March. Incubation period 80-110 days. Clutches 50-75 eggs, 3-4 clutches per year. Nest in sandy banks with slopes and also on river islands. Maturity 9 years (captivity).

Threats Exploited for food, habitat loss and illegal trade.

Batagur baska



(orange dots = uncertain or trade; stars = type localities)



Male



Female

***Batagur dhongoka* / Three-striped Roofed Turtle**

Geographic Range Bangladesh, India, Nepal

Size Maximum SCL male 26 cm, female 48 cm, 25 kg

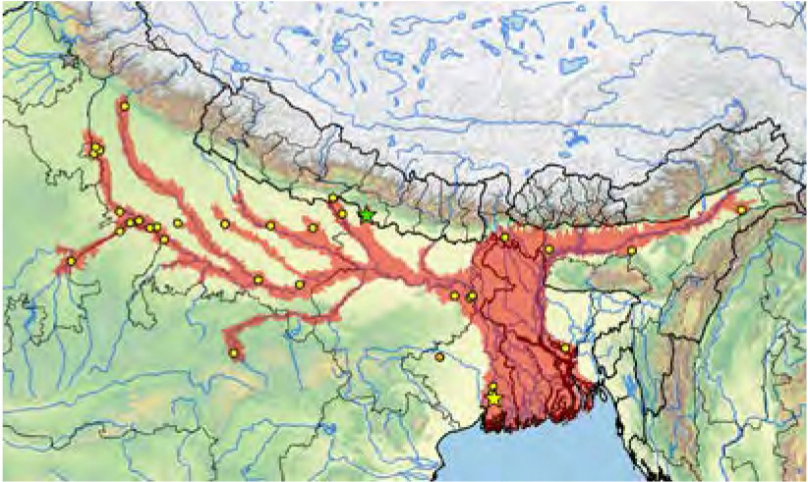
Identification Carapace olive, smoke grey or brownish with a dark brown or black vertebral and two lateral stripes. Plastron without pattern in adults, straw to sulphur yellow or cream; dark in old specimens; especially males, yellowish in juveniles. Soft parts grey, yellowish; a cream coloured to yellow stripe on each side of the head, starting from the nostrils and passing over the eye and tympanum. The head pattern also darkens in old specimens. Males are smaller than females.

Habit and Habitat Herbivorous, highly aquatic, moderate in large rivers. Basks on sand banks, rocks and wood.

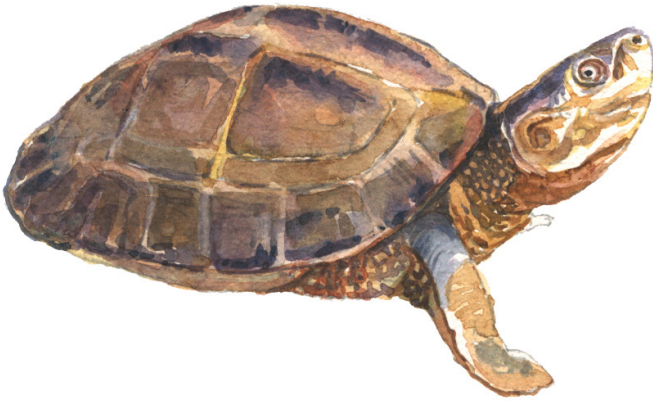
Reproduction Nesting from March-April. Incubation period 56-89 days, clutches 21-35 eggs. Nests on river banks. Maturity apparently not reported, generation length over 20 years.

Threats Exploited for food and traditional medicines.

Batagur dhongoka



(orange dot = questionable; stars = type localities)



Adult

***Batagur kachuga* / Red-crowned Roofed Turtle**

Geographic Range Bangladesh, India, Nepal

Size Maximum SCL male 30 cm, female 56 cm, 25 kg

Identification Males head is bluish black. A broad red patch on the upper head extending from the snout. Neck is creamy white, dorsally with six bright red parallel stripes. Two sulphur yellow stripes on the side of the head, one from the eye above the tympanum, another from the snout over the lower margin of the tympanum on the neck. Females and non-breeding male are dark olive or brownish throughout. Males are smaller than females with brighter head colouration.

Habit and Habitat Herbivorous, highly aquatic, moderate to large rivers. Basks on sand banks, rocks and logs.

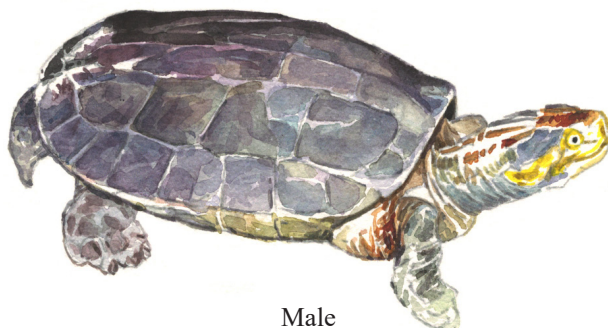
Reproduction Nesting from March-April. Incubation period 80-86 days with single clutch 10-30 eggs per year. Nests on river banks. Maturity 18 years (captivity), generation length over 25 years.

Threats Exploited for food and traditional medicines.

Batagur kachuga



(orange dots = probable trade; stars = type localities)



Male



Female

***Cuora amboinensis* / Southern Asian Box Turtle**

Geographic Range (500 m) Cambodia, India, Laos, Myanmar, Thailand, Vietnam

Size Maximum SCL male 21.5 cm, female 27.8 cm, 19.5 kg

Subspecies

***Cuora amboinensis kamaroma* / Southeast Asian Box Turtle**

Geographic Range Cambodia, India, Laos, Myanmar, Thailand, Vietnam

Size Maximum SCL male 21.5 cm, female 27.8 cm

***Cuora amboinensis lineata* / Myanmar/Burmese Box Turtle**

Geographic Range India, Myanmar

Size Maximum SCL male 22.1 cm, female 25.7 cm

***Cuora praschagi* / Assam Box Turtle**

Geographic Range Bangladesh, Bhutan, India, Myanmar

Size Maximum SCL male 23.3 cm, female 25 cm

Identification Head dark brown or green above, yellow below with yellow or orangish-yellow bands running across the sides of the head. Tympanum yellow or cream. Nuchal scute present. Carapace, dome-shaped and dark olive, brown or black. Carapace with or without sloping sides and tricarinate in juveniles with keels disappearing during growth. Posterior edge of carapace unserrated. Plastron is yellowish-white with a large black blotch on each scute. Digits are fully webbed. Fore limbs have 5 claws, hind limbs 4 claws. Males are smaller and lighter than females.

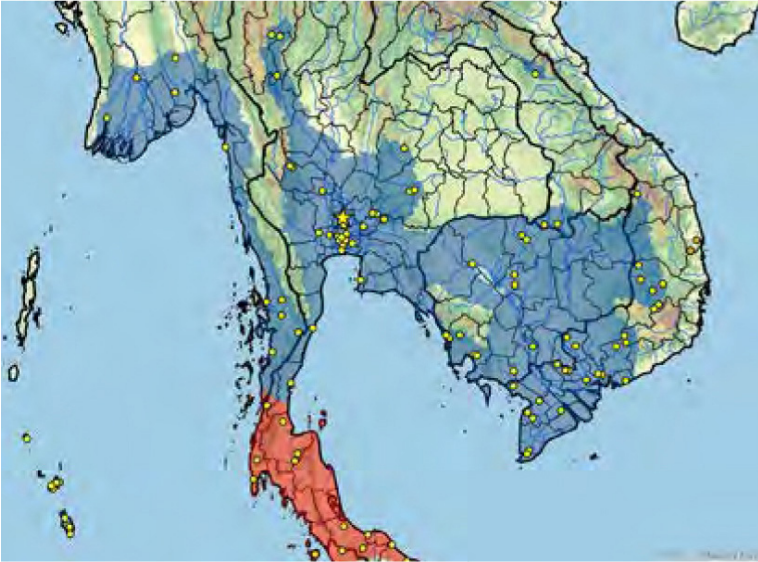
Subspecies Recognised *C. a. kamaroma* high domed carapace and smaller with a more elongated plastron with fewer black spots and short tail. *C.a. lineata* has a domed shell with a variable carapacial pattern of one or three light stripes. *C.praschagi* has a high domed carapace with yellowish stripes along the costal and vertebral scutes.

Habit and Habitat Omnivorous, semi-aquatic, inhabit natural and man-made wetland including rivers, lakes, marshes, ponds, channels, creeks, swamps, paddy fields and lowland forests. It spend more time on land at night, juveniles are more aquatic than adult. Bask on banks or on logs. Forages in the morning, mid-day hides under piles of debris along banks of streams during the day and nocturnal.

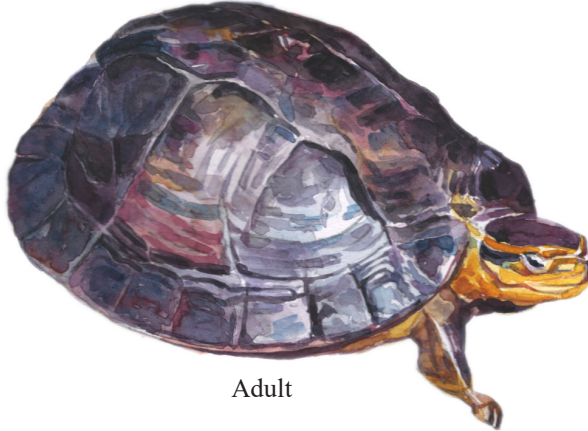
Reproduction Mating November-April. Nesting January-February and April. Incubation 47-120 days. Clutches 1-5 eggs, 3 clutches per year. Egg buried and covered with some dead leaves. Maturity 4-5 years, Generation length 18 years.

Threats Exploited for food, habitat loss, pet trade and traditional medicines.

Cuora amboinensis kamaroma



(subspecies: *couro* = red, *kamaroma* = blue, orange dots = probable trade;
star = type locality)

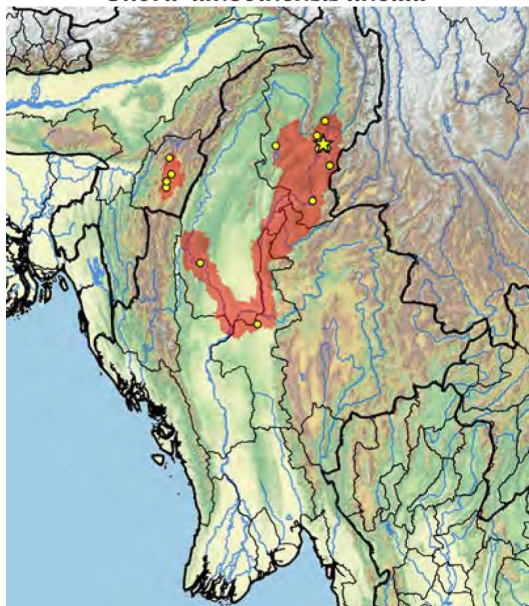


Adult



Juvenile

Cuora amboinensis lineata



(star = type locality)

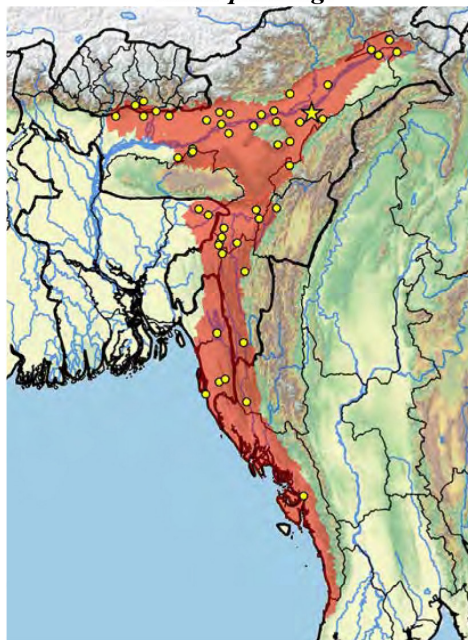


Dorsal



Ventral

Cuora praschagi



(star = type locality)



Adult



Juvenile

***Cuora mouhotii* / Keeled Box Turtle**

Geographic Range (350-2500 m) Bangladesh, Bhutan, China, India, Laos, Myanmar, Thailand (?), Vietnam

Size Maximum SCL male 25.7 cm, female 23.7 cm

Subspecies

***Cuora mouhotii mouhotii* / Northern Keeled Box Turtle**

Geographic Range Bangladesh, Bhutan, China, India, Laos, Myanmar, Thailand (?), Vietnam

Size Maximum SCL male 25.7 cm, female 23.7 cm

Identification Head brownish with dark vermiculations, temporal region with dark edged light spots. One or two yellowish spots may be present between the eye and tympanum. Nuchal long and narrow. Carapace elongated, flattened with 3 strong keels and light to dark brown. Plastron truncated anteriorly, notched posteriorly and yellow or light brown with dark brown blotches on each scute. Hatchling plastron is black, yellow edged and the pattern fades over in time. Digits are half webbed. Male have longer and thicker nails and eyes are either black or brown. Female have shorter and thinner nails and they have orange or red eyes.

Subspecies Recognised *C.m.mouhotii* has an elongated shell and plastron with black bars on the outer edges. Hatchlings often display bright orange/ red plastrons with generally dark black centers which is almost the inverse of the adult markings.

Habit and Habitat Omnivorous, terrestrial, inhabits forests, small caves, rock crevices and deep layers of leaves.

Reproduction Mating from May-September, nesting May-July. Incubation period 90-110 days. Clutches 1-7 eggs, 2-4 clutches per year. Laid eggs are covered with soil and also under fallen leaves. Generation length approx. 25 years.

Threats Exploited for food, habitat loss, pet trade and traditional medicines.

Cuora mouhotii mouhotii



(subspecies: *mouhotii* = red, *obsti* = blue; overlap = intergrades, orange dots = probable trade; stars = type localities)



Adult



Juvenile

Cyclemys fusca / Myanmar Brown Leaf Turtle

Geographic Range (175-1000 m) India, Myanmar

Size Maximum SCL male 22.5 cm, female 26.9 cm

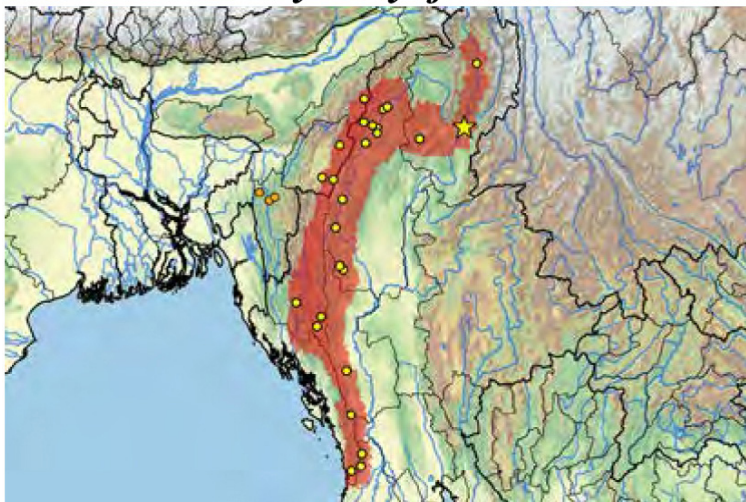
Identification Carapace is dark brown, ovoid and lacks patterns in adults. Plastron is dark brown to black with or without dense, black, radiating lines. The head is greenish yellow. The throat and neck are uniformly dark. The bridge is dark brown to black.

Habit and Habitat Omnivorous, rocky streams (with boulders) within hill country, forest floor associated with dry stream beds.

Reproduction Maturity approx. 7 years, generation length is not well known.

Threats Habitat loss loss and illegal trade.

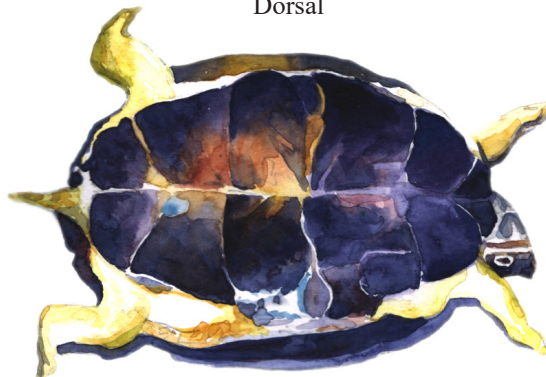
Cycllemys fusca



(orange dots = translocated; star = type locality)



Dorsal



Ventral

Cyclemys gemeli / Assam Leaf Turtle

Geographic Range (1300 m) Bangladesh, Bhutan, India, Myanmar, Nepal

Size Maximum SCL male 19 cm, female 23.2 cm

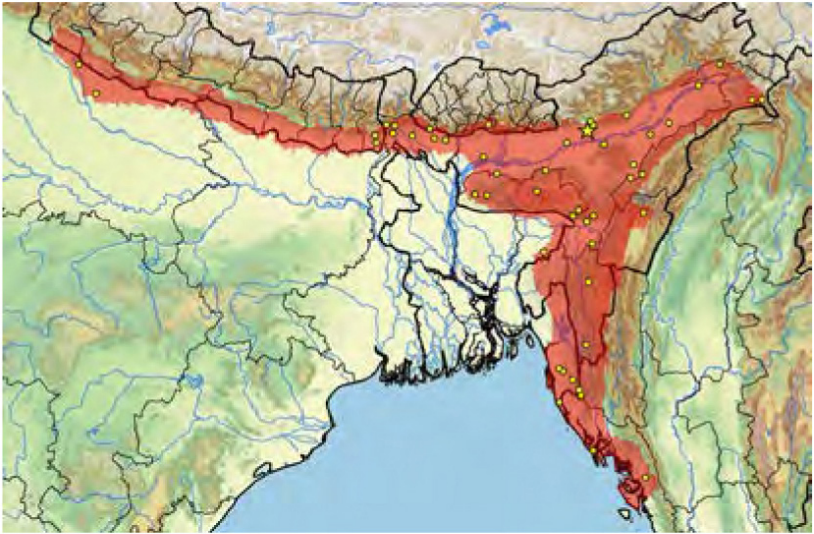
Identification Carapace flat, rounded and posterior marginal serrated in juveniles. In adult shell is elevated, smooth and elongated. The shell is brown with dark radiation on each scute that fades out with age. Juveniles have unusually long tails, shorter in adults. Head, neck and throat are uniformly brown, also bridge is brown.

Habit and Habitat Omnivorous, freshwater wetland, forest, slow-moving rivers and leaf litter close to water bodies.

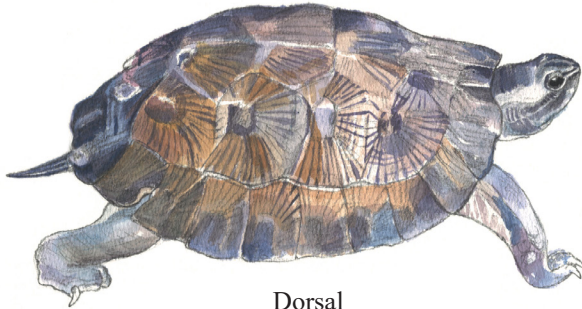
Reproduction Incubation period 82 days, clutch 2-5. Laid eggs under shrubs, in the grass, or in leaf litter. Maturity approx. 5 years, generation length approx. 15 years.

Threats Exploited for food and habitat loss.

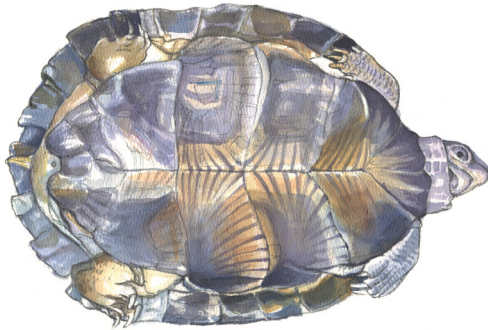
Cyclemys gemeli



(star = type locality)



Dorsal



Ventral

Geoclemys hamiltonii / Spotted Pond Turtle

Geographic Range Bangladesh, India, Nepal, Pakistan

Size Maximum SCL male 39.2 cm, female 40.5 cm, 7 kg

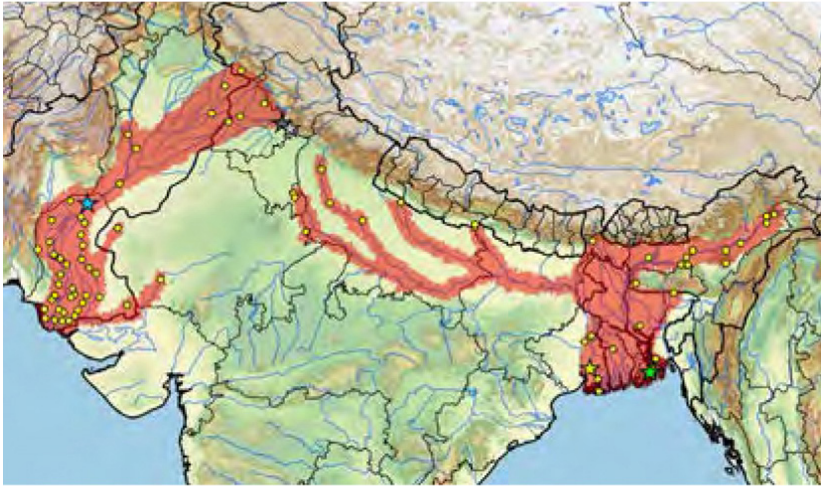
Identification Head large, pale yellow spots, short-snouted neck and gray white spots. Shell has black and yellow streaks and wedge-shaped marks. Carapace dark brown with three prominent keels and marginal scutes that are covered with white blotches. The margin of the plastron has some white blotches. Limbs and tail colour pattern are similar to those of the head and neck. Digits are completely webbed.

Habit and Habitat Carnivorous, absolutely aquatic, shallow dense vegetated near water bodies, ponds and reservoirs. Bask on the water's edge.

Reproduction Two clutches per year, first clutch between mid-December and mid-January and second clutch between late February and early March with clutches 12-36 eggs. Incubation period 50-76 days. Nests are dug in a bushy area in loamy soil. Maturity 6-8 years or 12 years, generation length 20 years.

Threats Exploited for food, habitat loss and pet trade.

Geoclemys hamiltonii



(stars = type localities)



Dorsal



Ventral

***Hardella thurjii* / Eastern-crowned River Turtle**

Geographic Range Bangladesh, India, Nepal, Pakistan

Size Maximum SCL male 20.5 cm, female 65.3 cm, 10.5 kg

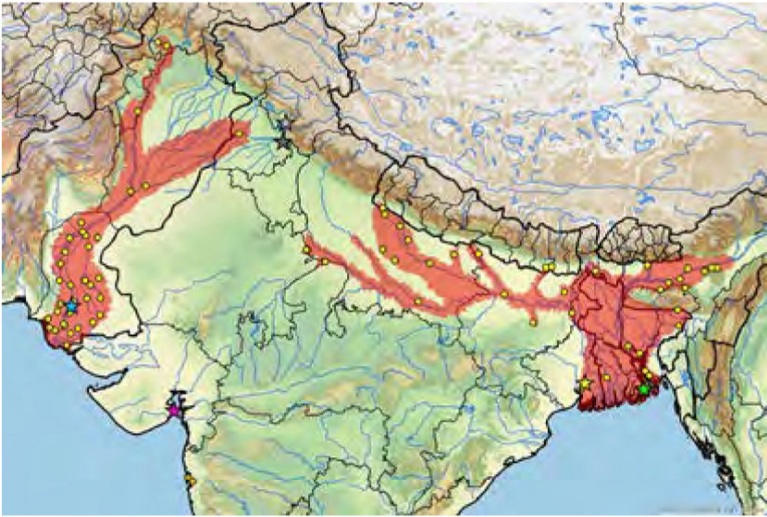
Identification Yellow stripes run from the sides of the head and mouth to the neck, iris black speckled with gold. Carapace with a yellow margin and three keels. Plastron uniform creamish to dark grey to black or yellow with a large grey spot in the center of each shield. The presence of a yellow band along the junction of laterals and marginal. Limbs have narrow, transverse scales and digits are strongly webbed. Males are less than one-third of the size of females.

Habit and Habitat Herbivorous but also documented fish parts and prawns in the stomach. Entirely aquatic, ponds, canals and lakes with thick vegetation. Diurnal and crepuscular. Warm up in surface water but rarely emerge to bask.

Reproduction Mating April-July, nesting November-January. Incubation period 223-273 days (indoor nests), clutches 8-19 eggs, multiple clutches per year. Nest on sandy banks. Maturity of female at carapace length 40-45 cm, generation length over 10 years.

Threats Exploited for food and pet trade.

Hardella thurjii



(orange dots = probably introduced or trade; stars = type localities)



Dorsal



Ventral

Heosemys depressa / Arakan Forest Turtle

Geographic Range (600 m), Bangladesh, Myanmar

Size Maximum SCL male 29.6 cm, female 25.9 cm, 1.3 kg

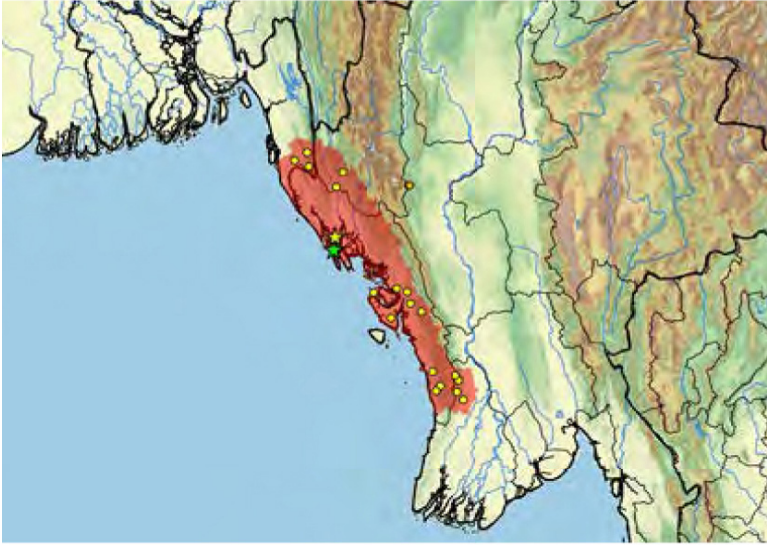
Identification Head moderately small with a short blunt snout. Nuchal scutes long and narrow. Neck is pale yellowish-brown. Carapace depressed, posterior edge serrated and uniform light brown sometimes with dark mottling and a dark margin. Plastron is yellow brown with brown or black blotches, streaks or broad rays on each scute, sometimes extending onto the bridge, usually uniform dark brown or black. Limbs are pale yellowish-brown and the large scales on the legs are nearly black. Digits are half webbed.

Habit and Habitat Omnivorous, semi-terrestrial, inhabit forest but adults prefer terrestrial. They remain dormant the majority of the time and hide in leaves and debris. Active at night and increases activity during the wet season.

Reproduction Nesting from June-July. Incubation period 100 days. Clutches 3-7 eggs, single clutch per year. Maturity 7-9 years (captive), generation length 21-27 years.

Threats Exploited for food, pet trade and traditional medicines.

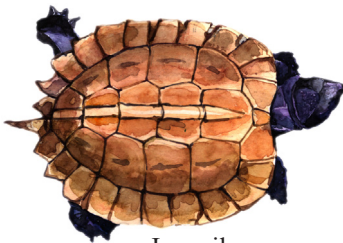
Heosemys depressa



(orange dot = probable trade; stars = type localities)



Adult



Juvenile

Melanochelys tricarinata / Tricarinate Hill Turtle

Geographic Range Bangladesh, Bhutan, India, Nepal

Size Maximum SCL male 19.6 cm, female 18.5 cm, 461.5 gm

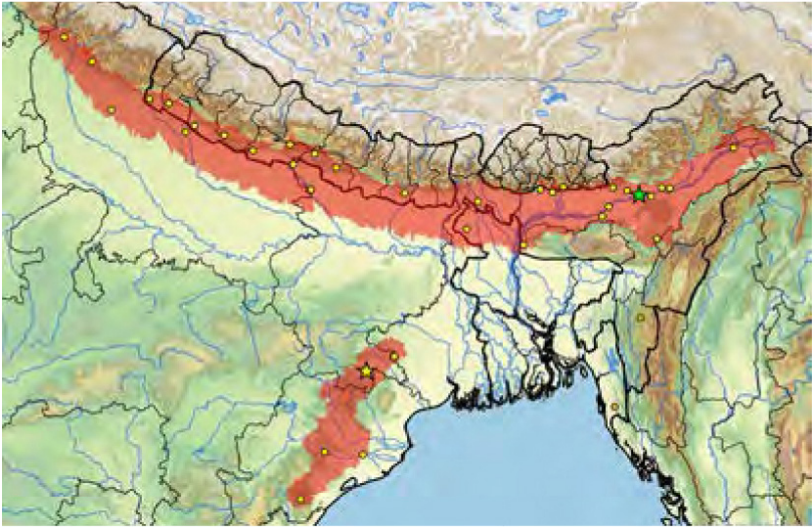
Identification Head dark, sometimes with a broad red stripe on each side, pattern mostly intense in juveniles and can be entirely faded in adults; a yellow or red stripe from the nostril over the eye and tympanum to the neck. The carapace has three bright yellow keels and the plastron is yellow or orange. Heels of hind limbs have large scales. The reddish brown colouration of the plastron might be temporary and caused by mud as in other aquatic turtles. Limbs dark plum-coloured to greyish black above; the latter with or without yellow dots, fingers are half webbed, toe webbing rudimentary.

Habit and Habitat Omnivorous, occupy hilly terrestrial areas and deciduous forest. During the monsoon period occupy shallow ponds and become semi-aquatic. Active mainly during the wet season and hidden in the dry season. Crepuscular to nocturnal active.

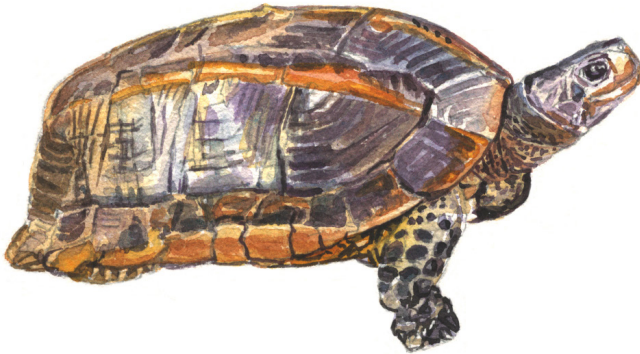
Reproduction Mating monsoon, egg laying dry season and hatching wet season. Incubation period 60-72 days, clutches 1-6 eggs, multiple clutches (maximum 3 per year). Maturity 5 years, generation length 15 years.

Threats Exploited for food and habitat loss.

Melanochelys tricarinata



(orange dots = possible trade or uncertain; stars = type localities)



Adult



Juvenile

***Melanochelys trijuga* / Indian Black Turtle**

Geographic Range (1400 m) Bangladesh, India, Maldives (?), Myanmar, Nepal, Sri Lanka, Thailand

Size Maximum SCL male 38.3 cm, female 26.2 cm, 760 gm

Subspecies

***Melanochelys trijuga coronata* / Cochin Black Turtle**

Geographic Range India

Size Maximum SCL male 26 cm, female 23 cm, 746.2 gm

***Melanochelys trijuga indopeninsularis* / Bengal Black Turtle**

Geographic Range Bangladesh, India, Nepal

Size Maximum SCL male 34.2 cm, female 26.2 cm, 760 gm

***Melanochelys trijuga parkeri* / Parker's Black Turtle**

Geographic Range Sri Lanka

Size Maximum SCL 38.3 cm

***Melanochelys trijuga thermalis* / Sri Lanka Black Turtle**

Geographic Range India, Maldives (?), Sri Lanka

Size Maximum SCL male 25.6 cm, female 22.9 cm

***Melanochelys trijuga trijuga* / Indian Black Turtle**

Geographic Range India

Size Maximum SCL male 25 cm, female 32 cm

Identification Carapace elongated with three keels, elevated in adults and low in juveniles. Carapace brown and blackish in colour. Dark yellow border on plastron with a yellow margin may disappear with age. Nuchal shield is very small. Head grey with yellow spots. Males are larger than females. Digits are fully or nearly fully webbed.

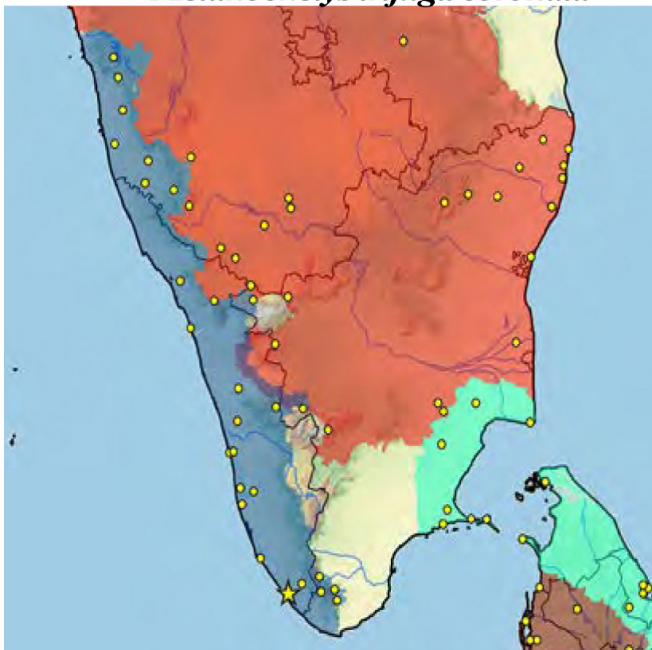
Subspecies Recognised *M.t. coronata* has a yellow head with a gray-black diamond-shaped mark on the forehead, the plastron is completely unpatterned black in adults, but not in juveniles. *M.t. indopeninsularis* has a head olive brown with a long, spear-shaped mark on the forehead, the lighter plastral rim disappears in the large individuals. *M.t. parkeri* is the largest subspecies and the head is uniform olive-brown finely spotted with orange. *M.t. thermalis* has a head grey-black and spotted or blotched with red, orange or pink. *M.t. trijuga* has a head with pale yellow reticulation, especially on the temples.

Habit and Habitat Omnivorous, semi-aquatic, slow moving waterbodies in deciduous forest, grasslands and ricefields. Basking in day time but active nocturnal.

Reproduction Mating in water, August-October, nesting in the 3rd week of October. Incubation period 76-180 days, clutches 2-16 eggs. Nest in the ground or lay under a Rhino or Elephant dung heap or under a clump of grass. Maturity 5 years, generation length 15 years.

Threats Exploited for food and habitat loss.

Melanochelys trijuga coronata



(subspecies: *trijuga* = red, *coronata* = blue, *parkeri* = brown, *thermalis* = tourmaline; overlap = intergrades; star = type locality)

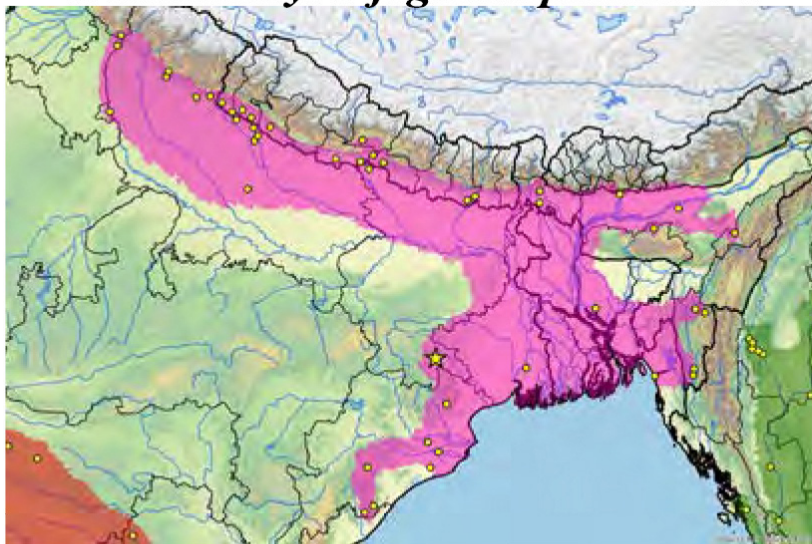


Adult



Juvenile

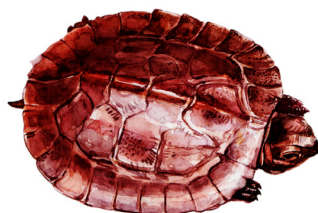
Melanochelys trijuga indopeninsularis



(subspecies: *trijuga* = red, *edeniana* = green, *indopeninsularis* = pink;
star = type locality)



Adult



Juvenile

Melanochelys trijuga parkeri



(subspecies: *parkeri* = brown, *thermalis* = tourmaline; stars = type localities)

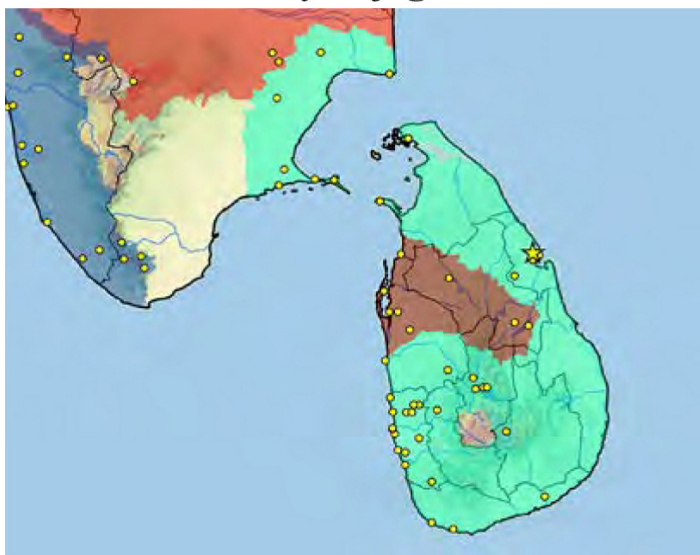


Dorsal

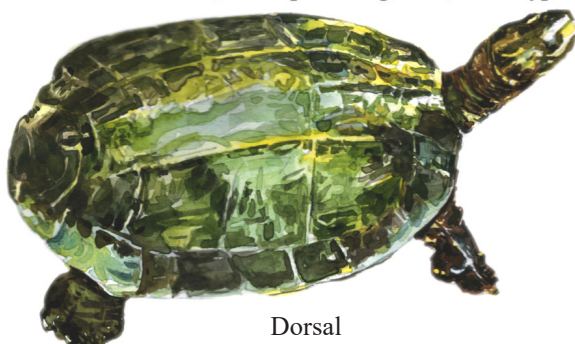


Ventral

Melanochelys trijuga thermalis



(subspecies: *trijuga* = red, *coronata* = blue, *parkeri* = brown, *thermalis* = tourmaline; overlap = intergrades; star = type locality)

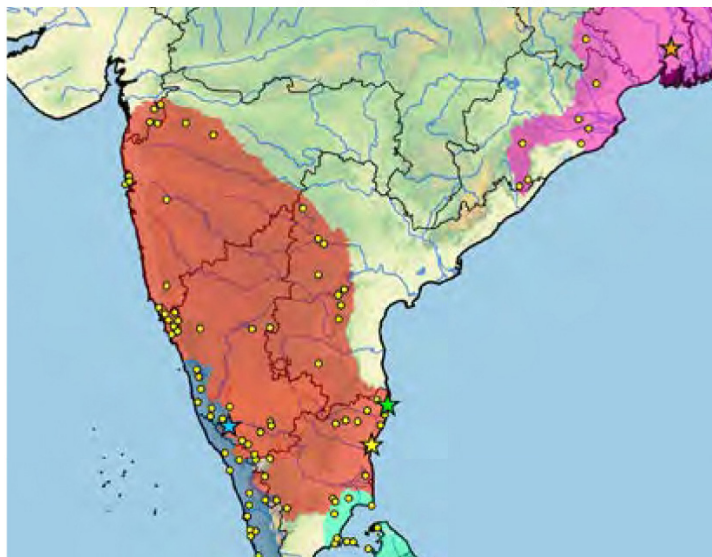


Dorsal



Ventral

Melanochelys trijuga trijuga



(subspecies: *trijuga* = red, *coronata* = blue, *indopeninsularis* = pink, *thermalis* = tourmaline; stars = type localities)



Dorsal



Ventral

***Morenia petersi* / Indian Eyed/Ocellated Turtle**

Geographic Range Bangladesh, India, Nepal

Size Maximum SCL male 19.4 cm, female 26 cm, 1.15 kg

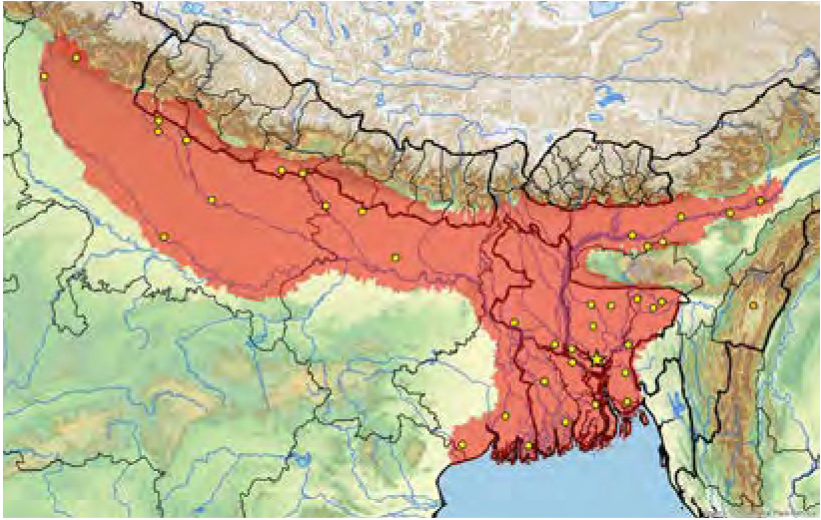
Identification Sides of the head and neck with 4 bright yellow stripes, running from the snout, eyes, upper and lower jaws, respectively to the base of the neck. Head moderate in size and nuchal shield large, longer than wide. Carapace is dark with a yellow ring on each scute and yellow seams and vertebral line. First 4 vertebral scutes with green stripes and a U-shaped mark. The 3 anterior vertebral scutes have prominent, protruding keels. Plastron yellow without any markings, nearly as long as the carapace, laterally angulate and truncated anteriorly. Limbs covered with narrow band-like scales. Digits are fully webbed.

Habit and Habitat Herbivorous, standing and slow moving waterbodies with dense vegetation. Basks on sand banks or in shallow water by holding floating objects. Swim away at slight disturbance. Active day and night.

Reproduction Nesting December-January. Incubation period 76-149 days, hatching April-May, clutches 6-10 eggs. Nesting in loamy soil with scattered vegetation in undisturbed areas with open sunlight. Maturity 7-8 years, generation length 21-24 years.

Threats Exploited for food and pet trade.

Morenia petersi



(orange dot = possibly introduced or trade; star = type locality)



Adult



Juvenile

***Pangshura smithii pallidipes* / Pale-footed Roofed Turtle**

Geographic Range India, Nepal

Size Maximum SCL male 10.8 cm, female 22.3 cm, 2 kg

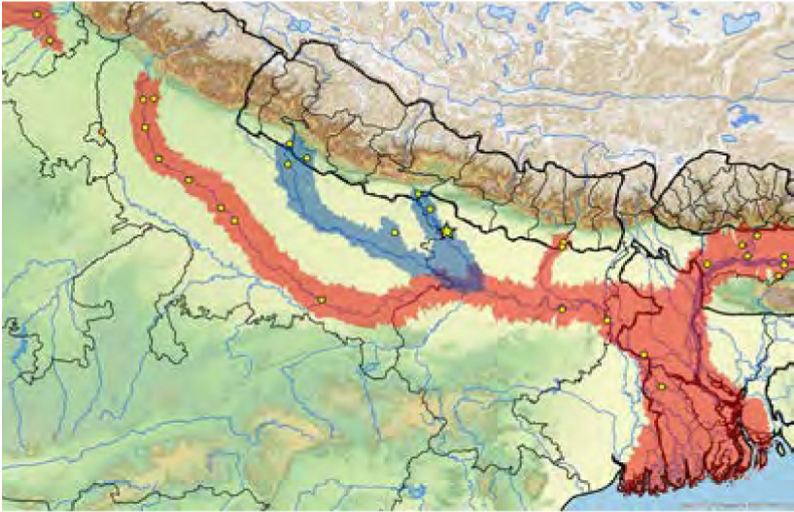
Identification Carapace depressed, flat keel terminating in a knob, light greyish brown, with pale yellow rim round its periphery, black or brown to reddish vertebral stripe from vertebrals 2-6, growing fainter posteriorly and darkening with age. Plastron shields straw yellow, without spots, or faint ones near lateral sutures; head light olive, pale greyish yellow to dark brown, Iris pale green to blue; neck with narrow dark and light cream stripes. Limbs are pale grey, with dull yellow margins of webs.

Habit and Habitat Omnivorous, entirely aquatic, river, prefer muddy areas with rich vegetation. Active day and night. Bask on sand banks and floating objects.

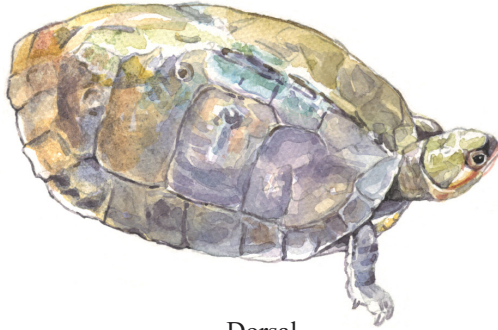
Reproduction Mating July-September. Incubation period 140-156 days. Clutches 3-11 eggs, multiple clutches per year. Nesting on the sand and soil of river banks. Maturity 5-6 years, generation length 18 years.

Threats Exploited for food and traditional medicines.

Pangshura smithii pallidipes



(subspecies: *smithii* = red, *pallidipes* = blue; overlap = intergrades;
orange dot = possibly introduced; star = type locality)



Dorsal



Ventral

***Pangshura smithii smithii* / Brown-footed Roofed Turtle**

Geographic Range Bangladesh, India, Nepal, Pakistan

Size Maximum SCL male 12.8 cm, female 24 cm, 2 kg

Identification Side of heads darker pigmented, the anterior surfaces of the limbs, on the feet and the penis. Head and neck olive dorsally, with a tawny blotch behind each eye. Lateral neck vaguely striped; mandibles buff yellow, iris pale blue-grey. Carapace depressed and flat keel terminating in a knob. Female brownish olive carapace, with a mid-dorsal dark brown stripe and small dark triangles on the costals 2 and 3. Plastron and bridge are mainly dark and narrowly bordered with light yellow. Hind limbs and rump are characteristically striped.

Habit and Habitat Omnivorous, entirely aquatic, rivers, prefer muddy areas with rich vegetation. Active day and night. Bask on sand banks and floating objects.

Reproduction Mating July-September. Incubation period 140-156 days. Clutches 3-11 eggs, multiple clutches per year (2 clutches). Nesting on the sand and soil of river banks. Maturity 5-6 years, generation length 18 years.

Threats Exploited for food and pet trade.

Pangshura smithii smithii



(subspecies: *smithii* = red, *pallidipes* = blue; overlap = intergrades)



Dorsal



Ventral

***Pangshura sylhetensis* / Assam/Sylhet Roofed Turtle**

Geographic Range (300 m) Bangladesh, Bhutan (?), India, Myanmar (?)

Size Maximum SCL male 10 cm, female 21 cm

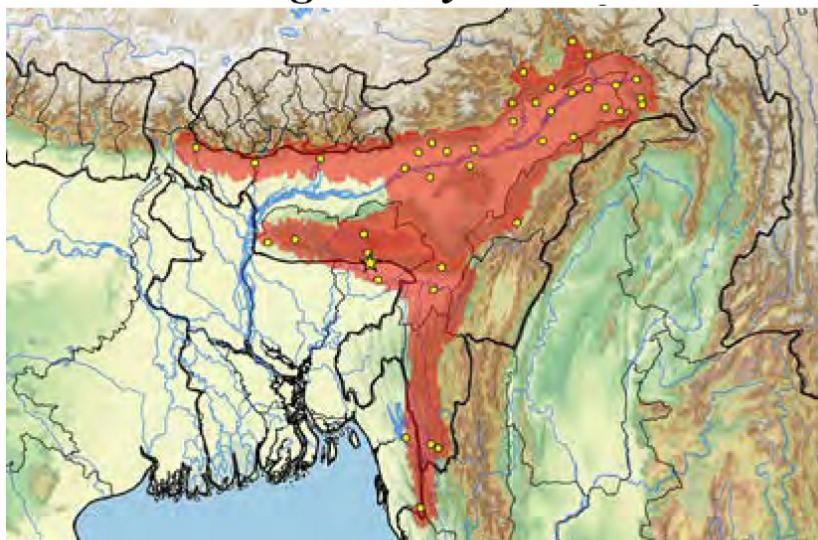
Identification Head small, dark-grey to brown with a narrow pink stripes running from the back of each eye to the middle of back of the head. The neck has nine yellow-beige coloured stripes. Reddish to pink stripes are distinct at the outside of the lower jaw. Thirteen pairs of marginal scutes. Carapace smoothly dome in females, highly elevated males and juveniles. Carapace is olive-brown with high spiked vertebral keel and bright pink in juveniles. Plastron yellow with dark spot in each scute. Fingers and toes webbed. Males are smaller than females.

Habit and Habitat Omnivorous, semi-aquatic in fast flowing water bodies, creeks, rivulets, does not uses river banks for sunbathing, but frequently in groups basks on floating objects like roots, branches or trunks of trees that are surrounded by water and occasionally on sand bars and along aquatic edge. Juveniles, males and small females can be found in shallow sections of rivers without strong current, whereas adult females occur exclusively in deeper river channels and pools of rivers. Jump into the water with the slightest disturbance. Juveniles often flee into accumulations of dead leaves for camouflage and remain motionless. It is nocturnal.

Reproduction Mating June-August, nest October-February. Incubation period 140 days. Clutches 6-12 eggs. Hatchings appear March and April. Maturity 6 years, generation length 18 years.

Threats Exploited for food, habitat loss and pet trade.

Pangshura sylhetensis



(star = type locality)



Adult



Juvenile

Pangshura tentoria circumdata / Pink-ringed Tent Turtle

Geographic Range India, Nepal

Size Maximum SCL male 14 cm, female 27.1 cm

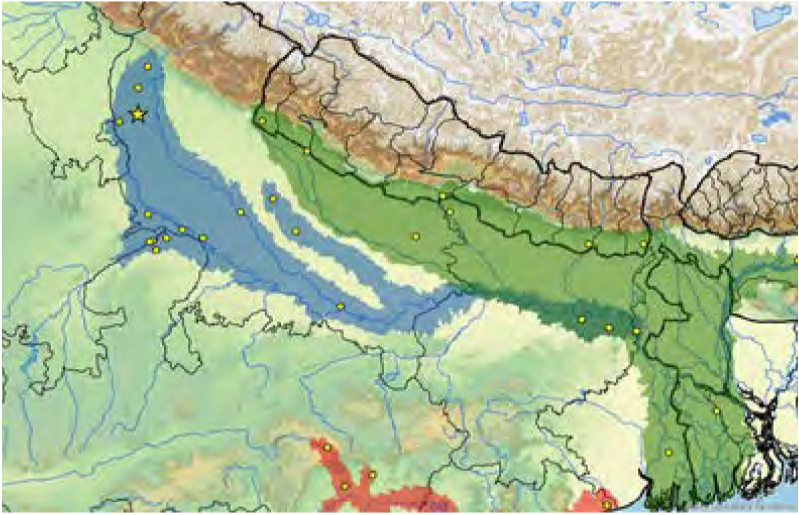
Identification Median keel is high and the 3rd vertebral keel projects sharply. Head olive green with geranium pink circular spot behind the eye and a pair of bars of the same colour on the posterior of the head. Iris smoke grey, mandibles light straw yellow, neck olive grey with dull cream coloured stripes on the sides and ventral region. Carapace olive green with a geranium-pink ring around the carapace where the costal and pleural scutes meet. Plastron straw yellow with a large dark blotch covering about half of each scute. Females almost double in size and weight.

Habit and Habitat Omnivorous, rivers. Active day and night. Bask on sand banks and floating objects.

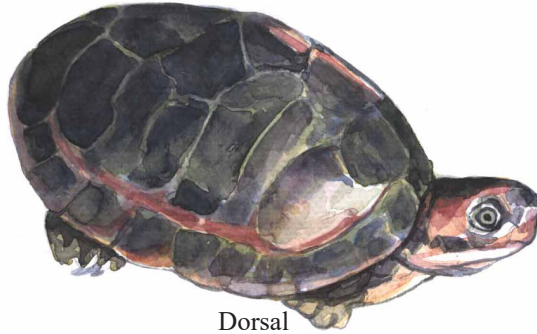
Reproduction Nesting October-January. Incubation period 95-144, clutches 3-12 eggs, multiple clutches per year. Nesting on the sand and soil of river banks. Maturity 5-6 years, generation length 20 years.

Threats Exploited for food and medicines.

Pangshura tentoria circumdata



(subspecies: *tentoria* = red, *circumdata* = blue, *flaviventer* = green;
overlap = intergrades; star = type locality)



Dorsal



Ventral

***Pangshura tentoria flaviventer* / Yellow-bellied Tent Turtle**

Geographic Range Bangladesh, India, Nepal

Size Maximum SCL male 17.9 cm, female 27 cm, 1.4 kg

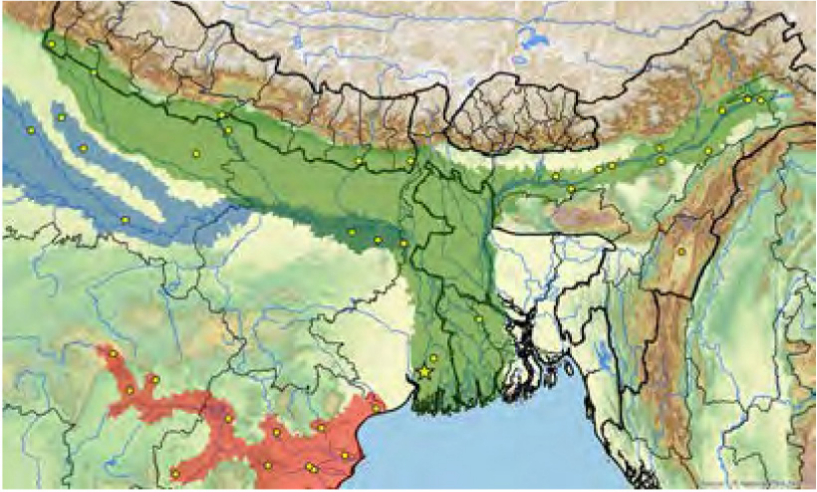
Identification Median keel high and 3rd vertebral keel projects sharply; the ventral colouration is uniformly light yellow. Carapace high and triangular in cross section with the median ridge on the central shield 3 ending in a prominent spine. In old age, the carapace grows more rounded and flatter. Carapace brownish olive with a light mid dorsal stripe of pale orange to cream on the vertebral. Head-colouration differs with age and intensive pigmentation in older show typical diffuse shades. Grey colour around eyes and snout; region behind eyes is pale orange to reddish brown. Neck greyish to cream coloured with four narrow light yellowish streaks on each side.

Habit and Habitat Omnivorous, rivers and oxbow lakes. Active day and night. Bask on sand banks and floating objects.

Reproduction Nesting October-January. Incubation period 95-144 days, clutches 4-10 eggs, multiple clutches per year. Nesting on the sand and soil of river banks. Maturity 5-6 years, generation length 20 years.

Threats Exploited for food and medicines.

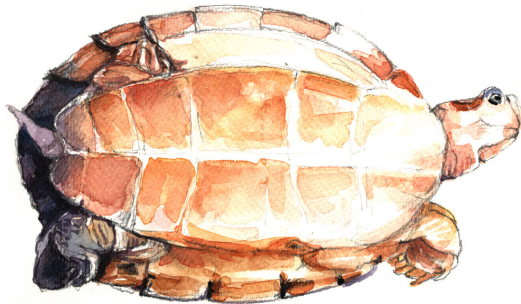
Pangshura tentoria flaviventer



(subspecies: *tentoria* = red, *circumdata* = blue, *flaviventer* = green;
overlap = intergrades; orange dot = probable trade or questionable;
star = type locality)



Dorsal



Ventral

***Pangshura tentoria tentoria* / Indian Roofed/Sawback Turtle**

Geographic Range India

Size Maximum SCL male 14.9 cm, female 22.8 cm

Identification Head is olive brown with a clay band present behind the eye, a smaller red mark located at the dorsal posterior edge of the eye as well as a poorly defined thin red line in the occipital region. Neck shows dull straw-yellow stripes on the lateral and ventral portions. Rump is marked with vertical black and cream stripes. Carapace is brown unicolor, except for an amber stripe along the mid-dorsal keel from vertebral 1-3, the plastron is yellow with large dark blotches. Plastron dark pattern and no pleuro-marginal ring or reddish markings. Mandibles are straw yellow. Limbs are of olive color with cream coloured edges of scales. Males are smaller than females.

Habit and Habitat Omnivorous, rivers. Active day and night. Bask on sand banks and floating objects.

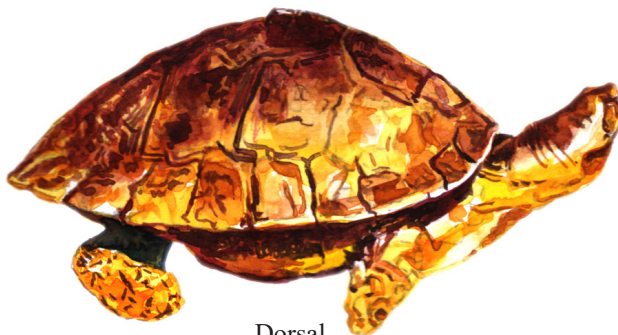
Reproduction Nesting October-January. Incubation period 95-144 days, clutches 3-6 eggs, multiple clutches per year. Nesting on the sand and soil of river banks. Maturity 5-6 years, generation length 20 years.

Threats Exploited for food and medicines.

Pangshura tentoria tentoria



(subspecies: *tentoria* = red, *flaviventer* = green; stars = type localities)



Dorsal



Ventral

***Pangshura tecta* / Indian Roofed Turtle**

Geographic Range Bangladesh, India, Nepal, Pakistan

Size Maximum SCL male 27.6 cm, female 33.9 cm, 1.1 kg

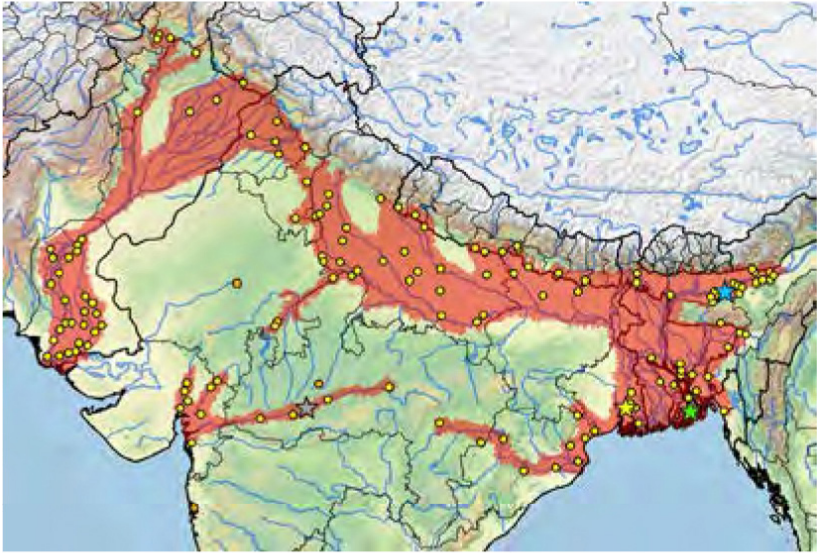
Identification Head has a reddish-brown patch behind the eyes that extends to the top of the head. The neck has dense yellow stripes while the carapace has a yellow margin. Brown vertebral line and prominent keels on the three on the 3rd vertebral scutes. Plastron is yellow with large black markings. Iris distinctly red in males and pink in females. Limbs are densely covered with small yellow spots. Females are twice the size and 9 times heavier than males.

Habit and Habitat Herbivorous, slow flowing-quiet water, river, ponds and lakes with abundant vegetation. Active day and night. Basking on banks, logs or aquatic vegetation in the early morning sun.

Reproduction Mating and nesting occur from October-March. Incubation period 69-144 days, clutches 3-14 eggs, multiple clutches per year. Maturity 4 years, generation length 12 years (over 17 years of captivity).

Threats Exploited for food and traditional medicines.

Pangshura tecta



(orange dots = possible translocations; stars = type localities)



Dorsal



Ventral

Vijayachelys silvatica / Cochin Forest Cane Turtle

Geographic Range (<400-800) India

Size Maximum SCL male 14 cm, female 17 cm, 340 gm

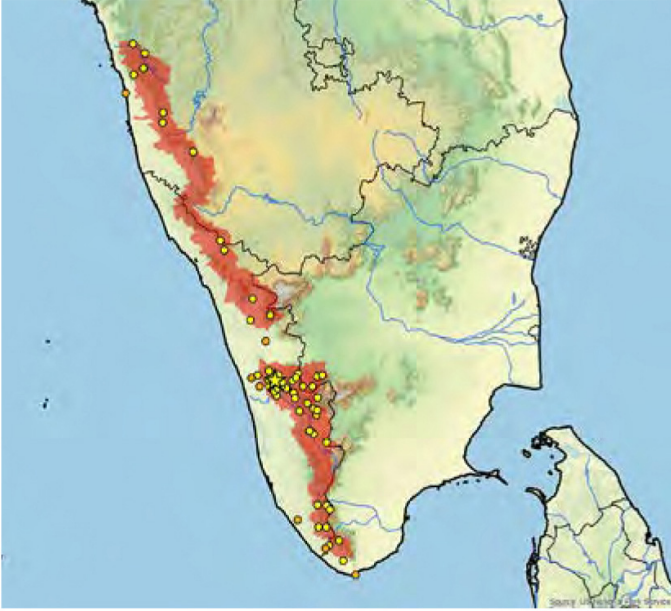
Identification Face reddish-yellow or olive grey, iris red sometimes with a white ring within. Nuchal scute is well developed. Carapace oval, flat with three keels. Carapace colour cinnamon to tawny or raw umber with a dark brown stripe along the central keel in females and darkens in males. Plastron colour buff to buff yellow in females and straw to sulfur yellow in males. Hatchling is light colour, the three carapacial keels are dirty yellow initially but the colour fades after a few months. Digits webbed, toes without webbing or with faint webbing. Females are heavier and wider than males.

Habit and Habitat Omnivorous, terrestrial associated with forests. Cryptic turtle is often hidden among small burrow, leaf litter, fallen logs and dense vegetation.

Reproduction Mating June-November, nesting December. Incubation period 91-96 days. Clutches 1-4 eggs, 1-2 clutches per year. Lay eggs in narrow crevices under logs or big pieces of bark, either dig an egg chamber or cover them with substrate or leaves.

Threats Exploited for food and traditional medicines.

Vijayachelys silvatica



(orange dots = probable trade; star = type locality)



Adult



Juvenile

3.2 Tortoise

Family: Testudinidae

Page Number: 68-83

***Geochelone elegans* / Indian Star Tortoise**

Geographic Range (100-900 m) India, Nepal, Pakistan, Sri Lanka

Size Maximum SCL male 25.7 cm, female 46.7 cm, 2.2-14 kg

Subspecies

***Geochelone elegans actinodes* / Northwestern Indian Star Tortoise**

Geographic Range India, Nepal, Pakistan

Size Maximum SCL male 25.7 cm, female 32.2 cm, 2.2-14 kg

***Geochelone elegans elegans* / Southern Indian Star Tortoise**

Geographic Range India, Sri Lanka

Size Maximum SCL female 41 cm, 2.2-14 kg

Identification Carapace highly domed, elongate, posteriorly flared and serrated in margins. Vertebral shields 5, 1st vertebral is longer than broad, 2nd - 5th vertebral are broader than long. Vertebrals and costals in adult markedly conical humps. Nuchal absent. A series of 6-12 yellow stripes radiating from the yellow areola of each scute, producing a radiated pattern which continues over the marginal to the plastron. Single axillary and inguinal scute present on each side of the bridge. Upper jaw weakly bi or tri-cuspid. Juvenile- almost entirely yellow or orange with black marks along the sutures. Hatchling lack radiating star markings. Females are larger than male.

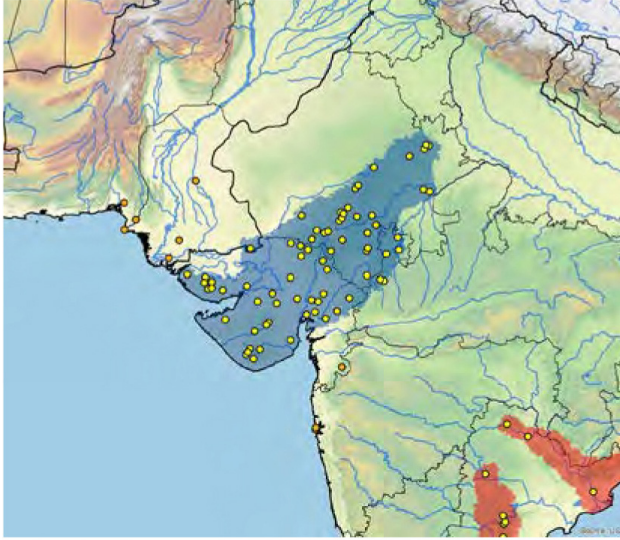
Subspecies Recognized Both have star pattern on the carapace but differs by having rays on the costals, top of the head and radiating lines on the plastral scutes.

Habit and Habitat Herbivorous but occasionally scavenge on animal matter. Terrestrial with dry vegetation including scrublands, grasslands, desert edges, agricultural fields, hedgerows and plantations. Diurnal, active in the early morning and evening.

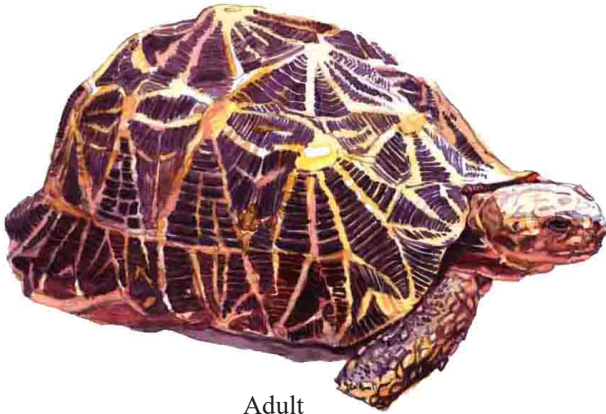
Reproduction Mating March - June and October - January. Nesting around 60-90 days after mating. Incubation period 50-180 days (recorded 257 days). Clutches 1-10 eggs (exceptionally up to 24 eggs recorded), multiple clutches per year (2-4 clutches). First laid egg has a pinkish translucent colour then after 2-3 weeks become white. Maturity 6-8 years, generation length 10 years.

Threats Exploited for food, habitat loss and pet trade.

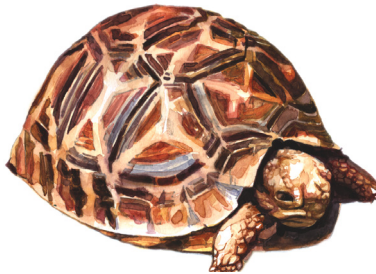
Geochelone elegans actinodes



(subspecies: *elegans* = red, *actinodes* = blue; orange dots = probable trade)

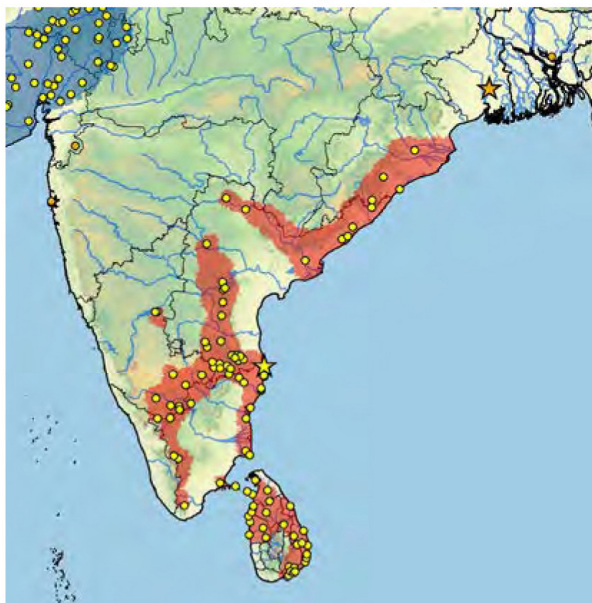


Adult

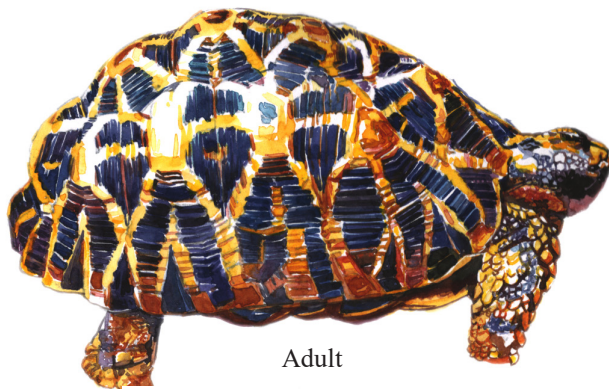


Juvenile

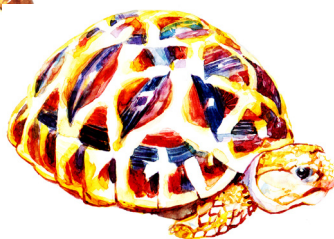
Geochelone elegans elegans



(subspecies: *elegans* = red, *actinodes* = blue;
orange dots = probable trade; stars = type localities)

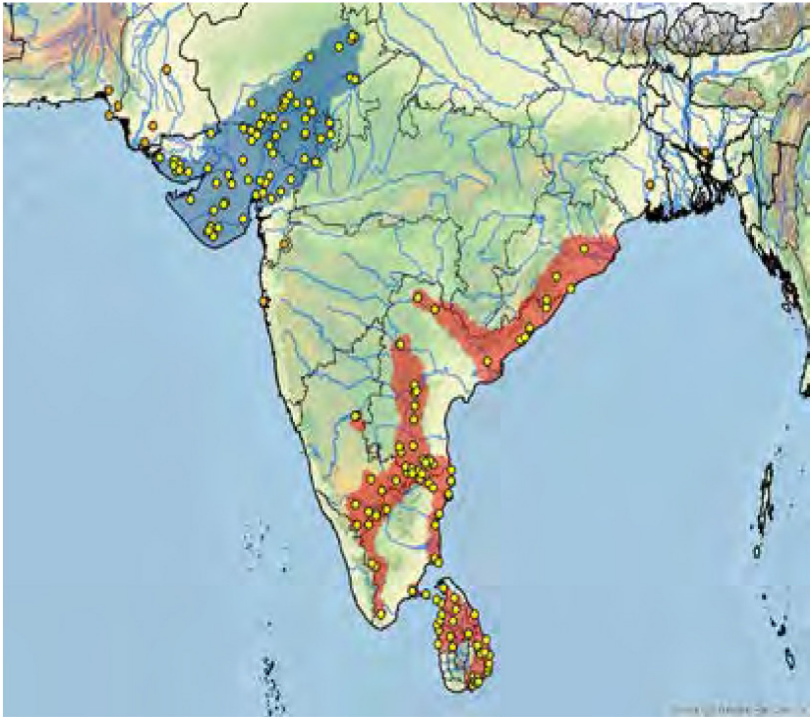


Adult



Juvenile

Geochelone elegans



(subspecies: *elegans* = red, *actinodes* = blue; orange dots = probable trade)

Indotestudo elongata / Elongated Tortoise

Geographic Range (50-600 m) Bangladesh, Bhutan, Cambodia, China (?), India, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam

Size Maximum SCL male 38 cm, female 31 cm, 3.5 kg

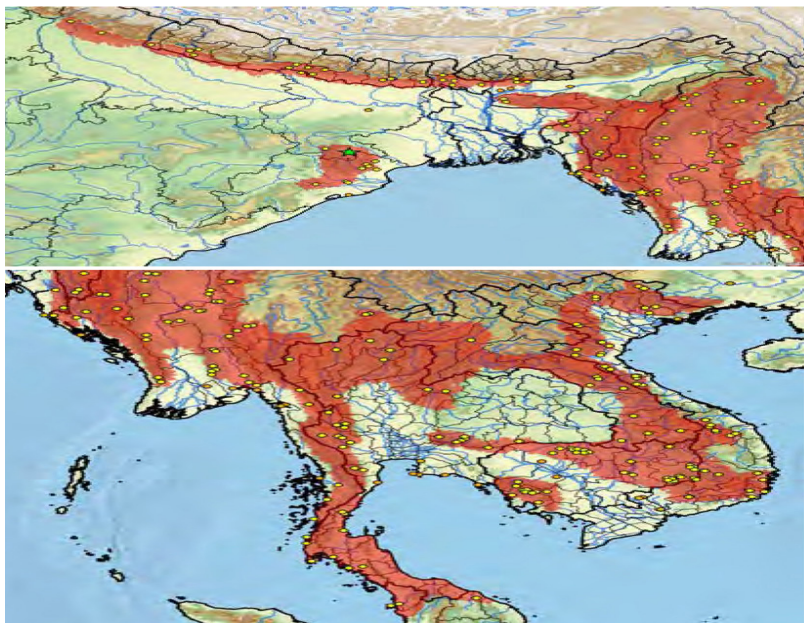
Identification Carapace elongated in the vertebral region of the adult with anterior and posterior marginal scutes turned upward, nuchal present, domed elongated shell with a yellowish colour having an irregular black pattern. During mating season the margin of the nostril and eye region becomes pinkish-red. Juvenile carapace pure yellow, with few black markings or spots on vertebralia and costalia, marginals markedly serrated and flared. Females tend to be wider than males and more rounded. Males have longer tail, with a plastron concave in males and flat in females.

Habit and Habitat Omnivorous, deciduous forest (Sal) with an open broken canopy in the lowland of the Churiya range. Diurnal, mostly crepuscular, reduced activity on hot days and active during rain.

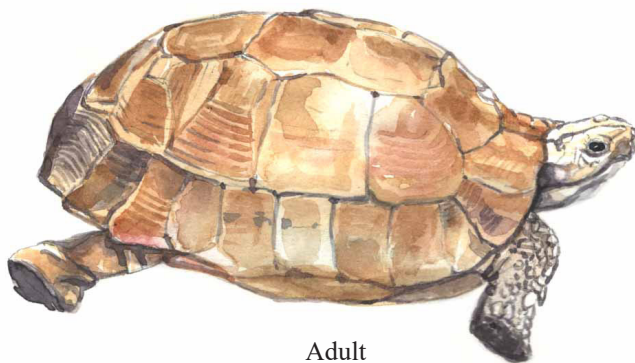
Reproduction Mating October-May. Incubation period 95-165 days, clutches 1-9 eggs, multiple clutches per year. Maturity approx. 10-14 years, generation length 30 years (over 40).

Threats Exploited for food, habitat loss and traditional medicines.

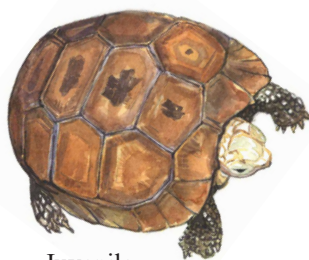
Indotestudo elongata



(orange dots = probable trade or introduced or temples; stars = type localities)



Adult



Juvenile

Indotestudo travancorica / Travancore Tortoise

Geographic Range (450-1000 m) India

Size Maximum SCL male 33.1 cm, female 29.5 cm, 3.8 kg

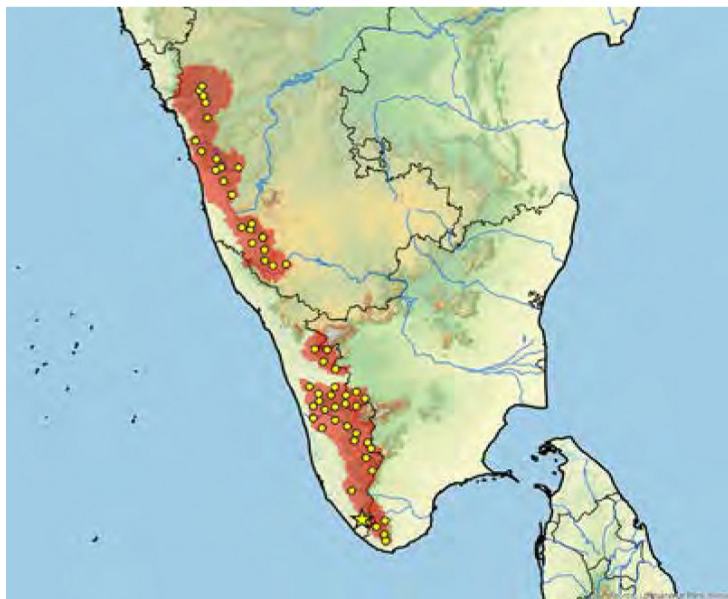
Identification Carapace elongated, convex, edged slightly serrated. Carapace and plastron are brown to chocolate brown and may have blackish blotches. Nuchal shield absent. Head yellowish or greenish-brown. In adult males, the pink coloration around the eyes and nares intensifies during the breeding season. The abdominal region of the plastron is concave in males and flat in females. Hatchlings are usually uniformly brown, the carapace or plastron may be mottled with darker spots. Males have longer tail with a plastron concave in males and flat in females.

Habit and Habitat Omnivorous, terrestrial associated with forests and rocky streams. Crepuscular and even active during mid-day.

Reproduction Mating November-March. Incubation period 141-149 days, clutches 1-5 eggs. Nesting in the ground. Maturity unknown.

Threats Exploited for food and habitat loss.

Indotestudo travancorica



(star = type locality)



Adult



Juvenile

***Manouria emys* / Asian Giant Tortoise**

Geographic Range (600-1500 m) Bangladesh, Brunei, India, Indonesia, Malaysia, Myanmar, Singapore (?), Thailand

Size Maximum SCL male 60 cm, female 58 cm, 37 kg

Subspecies

***Manouria emys phayrei* / Burmese Black Giant Tortoise**

Geographic Range Bangladesh, India, Myanmar, Thailand

Size Maximum SCL male 60 cm, female 58 cm, 37 kg

Identification Carapace convex, vertebral scutes broad, divided supracaudal scutes. Nuchal shield present. Carapace dark brown or blackish-brown. Plastron greyish-black. Head and limbs blackish. Juvenile have a yellowish-brown carapace with dark-brown markings. Fore limbs with 5 claws, hind limbs with 4 claws (6 legs rear).

Subspecies Recognised Two subspecies are known- *M.e.emys* has separated pectoral scutes, adult and hatchling light brown; *M.e.phyarei* has pectoral scutes that meet at the plastral midline, adult is darker brown to black and hatchling is nearly grey.

Habit and Habitat Herbivorous, terrestrial associated with hill wet forests inhabit close to water bodies where it forages. Juveniles are rarely observed more than 20 m from streams. During the dry season, most individuals become inactive for 2 months, buried in litter or under fallen tree.

Reproduction Nesting from April-June (captivity). Incubation period 60-90 days, clutches 20-50 eggs, 2 clutches per year. Maturity approx. 15 years (recorded 20 years), generation length 45 years. Lays eggs above ground in a nest with the female guarding nest during the first few days. An estimated pivotal temperature of 29.29°C was determined, incubation temperatures higher for female hatchlings and lower temperature for males.

Threats Exploited for food, habitat loss and pet trade.

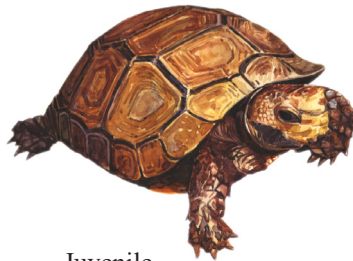
Manouria emys phayrei



(subspecies: *emys* = red, *phayrei* = blue; orange dots = probable trade;
stars = type localities)



Adult



Juvenile

Manouria impressa / Impressed Tortoise

Geographic Range (2000 m) Cambodia, China, Laos, Malaysia, Myanmar, Thailand, Vietnam

Size Maximum SCL male 29.3 cm, female 35.9 cm

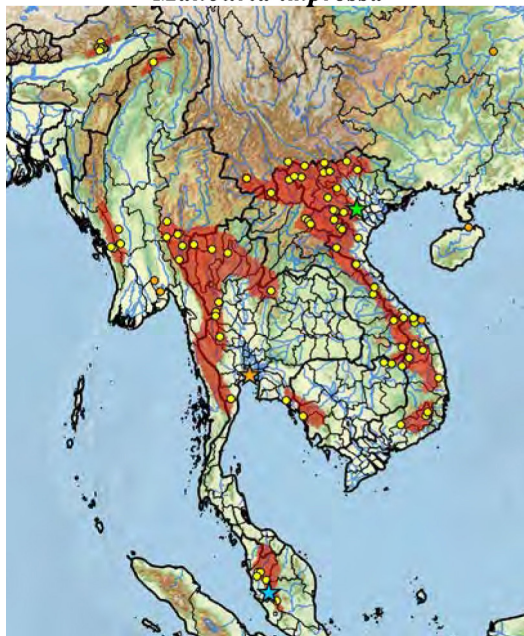
Identification Top of head with distinct symmetrical shields and colour light yellow with pink marking. Carapace much flattened on vertebral region. Vertebral shields flat or concave. Marginals posteriorly and anteriorly splayed out and deeply serrated. Plastron large, however not longer than carapace. Nuchal shield present and wide. Carapace dull brown to yellow, sometimes with some dark radiating marks or striking black edgings. Marginals lighter in colour than the rest of the shell. Plastron yellowish brown with few or some indistinct darker brown markings. Limbs dark, covered with heavy scales. Juvenile strikingly fine black specks over carapace and head. Light yellowish brown above, finely speckled with black. Fore limbs have five claws and the hind limbs have four. Females are larger than males.

Habit and Habitat Herbivorous, feed mushrooms (edible) in the rainy season and green plants during the rest of the active period. Terrestrial, inhabits humid, moist hill and montane forest. Usually spend most of their time sheltering under logs or leaves on the forest floor and aestivate for long periods throughout the year.

Reproduction Nesting early spring-summer, mating peak in rainy, lay eggs June-July. Incubation period 64-80 days, clutches 8-20 eggs, a clutch per year. The lay egg in a shallow scrape on some loose soil and is covered with leaf litter. Females are known to guard the nesting site and clutch from predators. Maturity 12 years, generation length 19 years.

Threats Exploited for food, habitat loss and pet trade.

Manouria impressa



(orange dots = probable trade; stars = type localities)



Adult



Juvenile

***Testudo horsfieldii* / Central/Steppe/Horsfield's Asian Tortoise**

Geographic Range Afghanistan, China, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, Uzbekistan

Size Maximum SCL male 23.4 cm, female 28.6 cm

Subspecies

***Testudo horsfieldii horsfieldii* / Central/Steppe/Horsfield's Asian Tortoise**

Geographic Range Afghanistan, Pakistan

Size Maximum SCL female 21.1 cm

***Testudo horsfieldii rustamovi* / Kopet-Dag Steppe Tortoise**

Geographic Range Afghanistan, Iran, Turkmenistan

Size Maximum SCL male 23.4 cm, female 23.9 cm

Identification Head and limbs are yellowish brown. Carapace rounded, flattened and undivided supracaudal. Nuchal shield present. Carapace brown to olive with back blotches on each scute. Plastron dark. Digit webbed, forelimb with 4 claws, hind limbs with 5 claws. Males are smaller than females.

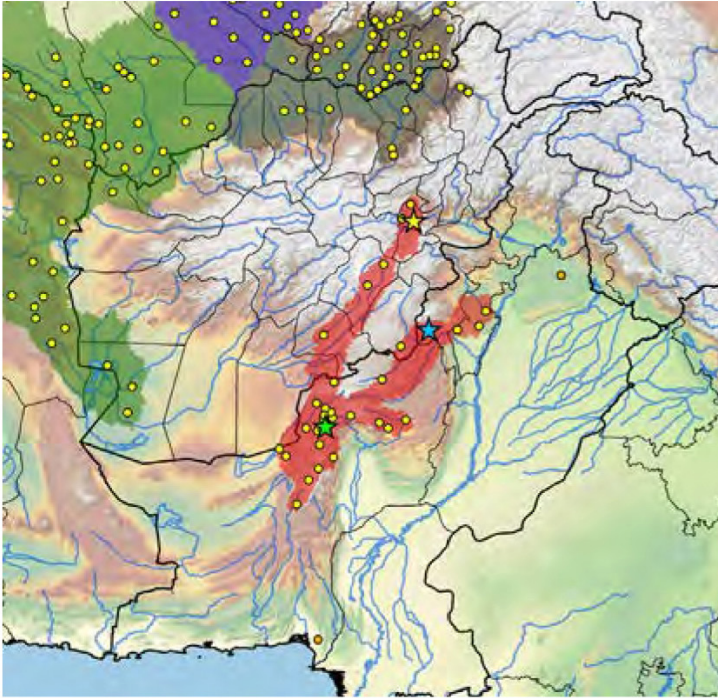
Subspecies Recognised Five subspecies are known where *T.h. horsfieldii* and *T.h. rustamovi* are recorded in South Asia.

Habit and Habitat Predominantly herbivorous. A terrestrial adaptable to dry conditions. Burrows retreat during the midday heat and at night, only emerging to forage at dawn or dusk when the temperature drops, quite social and spend the night in one burrow. Hibernate for about 8 weeks to 5 months throughout the year and can spend as much as 9 months of the year in dormancy.

Reproduction Incubation period 60-128 days, clutches 2-9 eggs. Maturity approx. 10-15 years.

Threats Exploited for food and pet trade.

Testudo horsfieldii horsfieldii

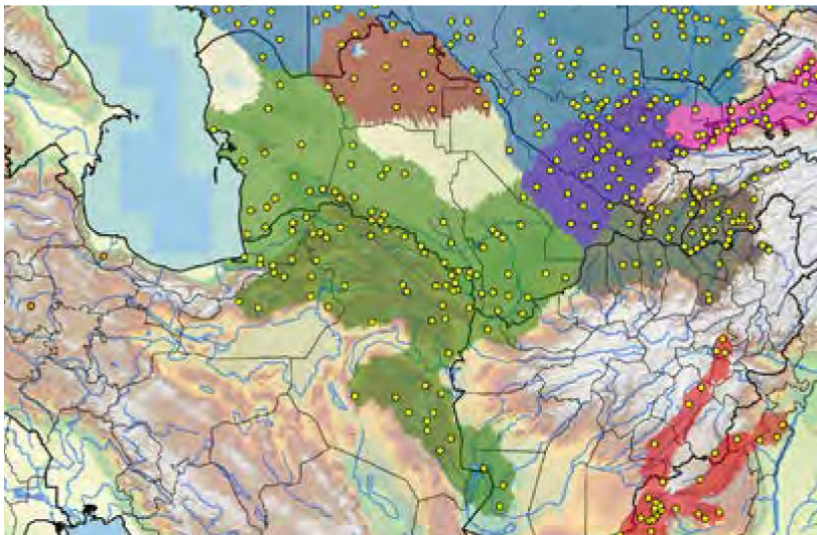


(subspecies: *horsfieldii* = red, *rustamovi* = green,
taxonomically unspecified population of *T. (A.) horsfieldii* sensu lato = gray;
orange dots = probable trade or translocated;
overlap [purple] = intergrades; stars = type localities)

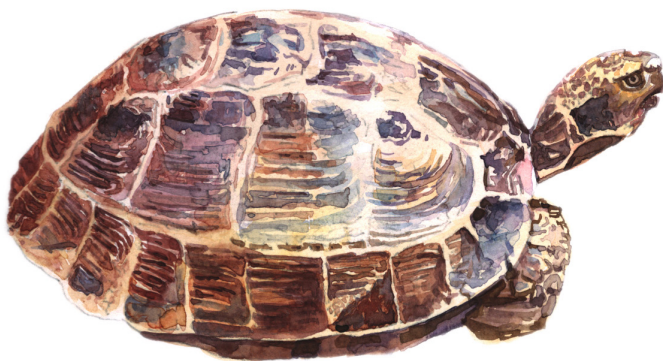


Adult

Testudo horsfieldii rustamovi

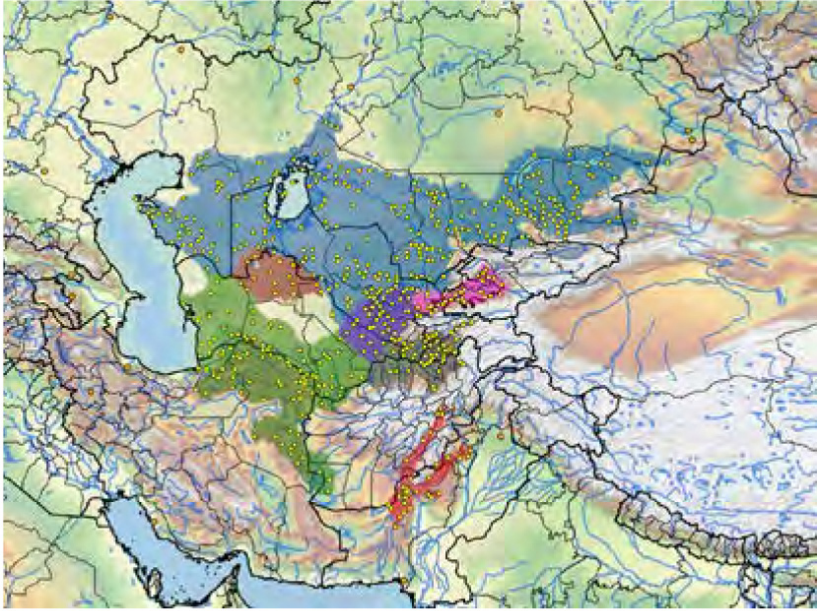


(subspecies: *horsfieldii* = red, *bogdanovi* = pink, *kazakhstanica* = blue, *kuznetzovi* = brown, *rustamovi* = green, taxonomically unspecified population of *T. (A.) horsfieldii sensu lato* = gray, overlap [purple] = intergrades; orange dots = probable trade or translocated; star = type locality)



Adult

Testudo horsfieldii



(subspecies: *horsfieldii* = red, *bogdanovi* = pink, *kazachstanica* = blue, *kuznetzovi* = brown, *rustamovi* = green, taxonomically unspecified population of *T. (A.) horsfieldii* sensu lato = gray, overlap [purple] = intergrades; orange dots = probable trade or translocated)

3.3 Softshell Turtle

Family: Trionychidae

Page Number: 86-109

***Amyda ornata* / Southeast Asian Softshell Turtle**

Geographic Range Bangladesh, Cambodia, India, Laos, Myanmar, Thailand, Vietnam

Size Maximum SCL male 83 cm, female 54 cm, 100 kg

Subspecies

***Amyda ornata jongli* / Northwest Asian Softshell Turtle**

Geographic Range Bangladesh, India, Myanmar

Size Maximum SCL male 41.4 cm, female 42 cm

***Amyda ornata phayrei* / Myanmar/Burmese Softshell Turtle**

Geographic Range India, Myanmar, Thailand

Size Maximum SCL male 83 cm, female 54 cm

Identification Head long and arrow form, dark, with a more diffuse yellow spotting, usually restricted to the cheeks. There are no ocelli but black dots may be present on the carapace. Nuchal tubercles are always weakly developed and always show three (or rarely two) converging black lines on the head. Neck long and the mouth is narrow and tubular. Carapace olive or brown to black with tan and yellow spots.

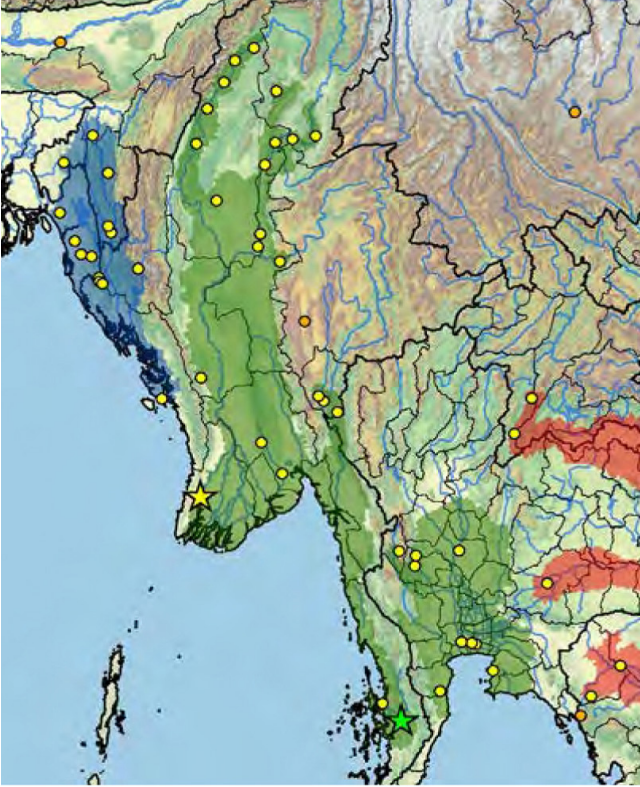
Subspecies Recognised Three subspecies are known where *A.o. jongli* and *A.o. phayrei* are recorded in South Asia. *A.o. jongli* yellow-greyish dots and vermiculation on the head and neck are faded and not distinctly marked, ochre-coloured irises, ring-shaped skin around the eyes with indistinct light dots. Nuchal and back region are distinct tubercles; Nuchal tubercles protrude in a round or pointed shape along the front edge of the carapace in subadult and adult; Carapace olive greyish, bright yellow pigmentation missing, with or without but less common distinct black strokes and blotches or irregular saddle-shaped dark colouration; Black pigmentation mostly in the form of square spots on the rear edge of the carapace and 2 or 3 stripes running sideways from the center line of the carapace; Juveniles with tubercles on the carapace run concentric, not longitudinal; Plastron white (in juveniles) changing to yellowish-grey during growth, mottled with black pigments. *A. o. phayrei* dull brown carapace, yellow pigments present forming distinct yellow dots on the head and neck; carapace with or without distinct saddle-shaped dark colour with eyes open, the eyelids have distinct yellow spots alternating with grey zebra striped colour, tubercles in the nuchal and back region of the carapace.

Habit and Habitat Omnivorous, rivers, lakes, swamp, canals and ponds. Burrow in the mud and have a long neck quickly grab prey in the water.

Reproduction *A. ornata* are limited and believed to share similar breeding habits with *A.cartilaginea*. Mating hot-dry season April-September. Incubation period 60-135 days. Clutches 3-28 eggs, multiple clutches per year. Nests in damp, sandy areas, often near mud banks and deposit eggs at night. Maturity 4-8 years.

Threats Exploited for food, habitat loss and illegal trade.

Amyda ornata jongli

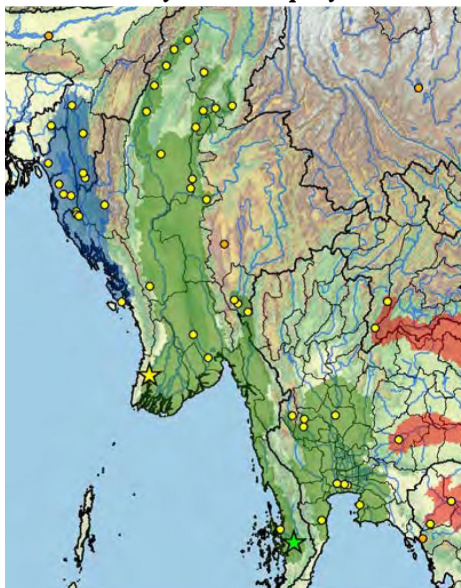


(subspecies: *ornata* = red, *jongli* = blue, *phayrei* = green,
orange dots = probable trade; stars = type localities)

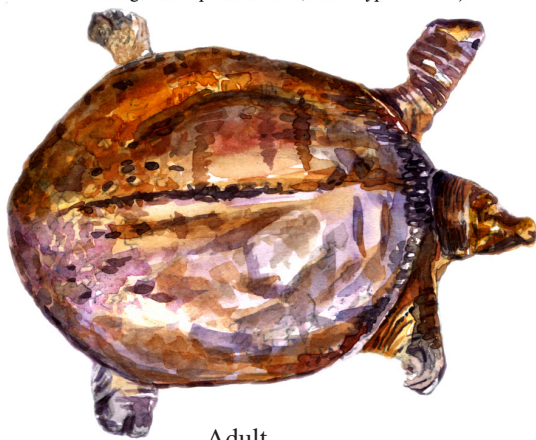


Adult

Amyda ornata phayrei



(subspecies: *ornata* = red, *jongli* = blue, *phayrei* = green,
orange dots = probable trade; stars = type localities)



Adult



Juvenile

***Chitra indica* / Narrow-headed Softshell Turtle**

Geographic Range Bangladesh, India, Nepal, Pakistan

Size Maximum SCL male 61.5 cm, female 115 cm, 250 kg

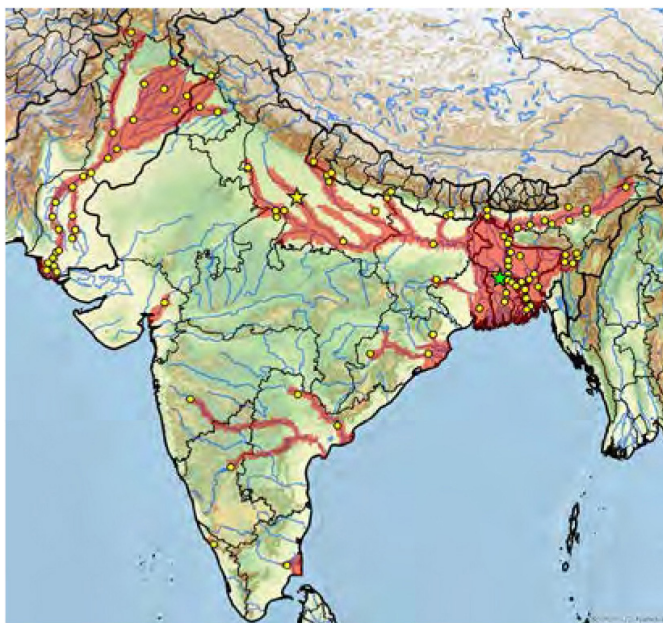
Identification Head small and narrow, eyes situated close to the tip of the snout. Lines on the sides of the neck are not continuous with those on the carapace. V-shaped mark on the neck. Carapace dull olive grey to yellowish olive with irregular wavy reticulations. Juveniles have numerous tubercles, sometimes with 4 large ocelli or black elongated spots on the carapace. Plastron plain white. Toes are fully webbed.

Habit and Habitat Carnivorous sometime prefer plant matter, ambush feeding. Large rivers with low turbidity and a sandy bottom. Active day and night.

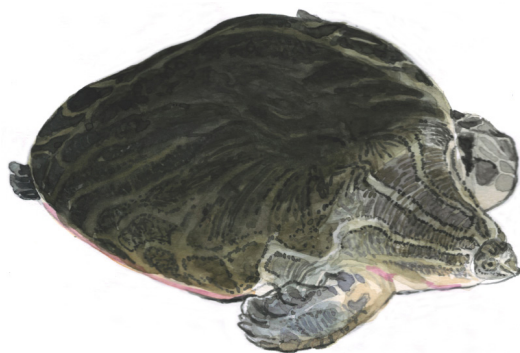
Reproduction Nesting August-September. Incubation period 40-70 days, clutches 60-178 eggs, multiple clutches per year. Nesting sites on the riverbank near a water body. Generation length 70 years (captivity).

Threats Exploited for food and habitat loss.

Chitra indica



(stars = type localities)



Adult



Juvenile

Lissemys ceylonensis / Sri Lankan Flapshell Turtle

Geographic Range (600 m) Sri Lanka

Size Maximum SCL 37 cm

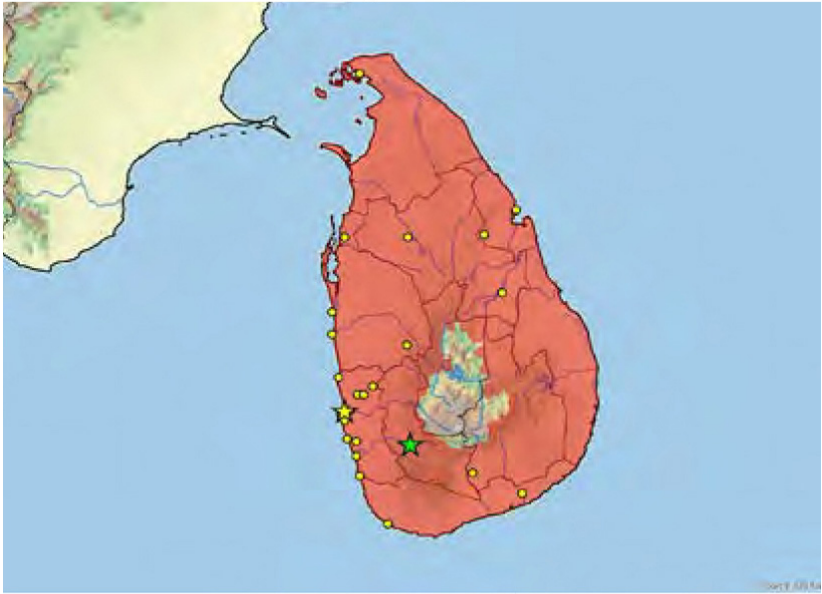
Identification Female almost no spots in adults, plastron light coloured with typical femoral fins. *L. ceylonensis* separated from *L. punctata* based on molecular evidence (genes were 12S rRNA, Cytochrome b, ND4+). Based on molecular data of Sri Lanka flapshell is differentiated from that of Indian flapshell and assigned the name *L. ceylonensis*. The occurrence of *L. ceylonensis* is sympatric with *Melanochelys trijuga thermalis* and *M.t. parkeri*.

Habit and Habitat Omnivorous. It occurs in stagnant and slow flowing freshwater habitat and in brackish waters as well ox-bows lakes, streams, rice fields with water and canals. Basking during the day time on fallen dead trunks. During the dry season they aestivate in the mud or sand in dried streams.

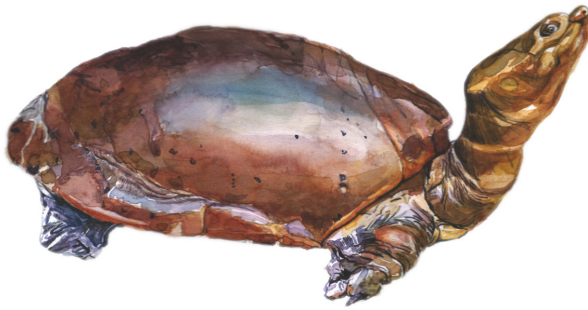
Reproduction Clutches 2-8 eggs. During the January to March buried on bunds in a pit. A generation length 20 years.

Threats Exploited for food.

Lissemys ceylonensis



(stars = type localities)



Adult



Juvenile

***Lissemys punctata* / Indian Flapshell Turtle**

Geographic Range (1000 m) Bangladesh, India, Myanmar, Nepal, Pakistan

Size Maximum SCL male 23 cm, female 37 cm, 7 kg

Subspecies

***Lissemys punctata andersoni* / Spotted North Indian Flapshell Turtle**

Geographic Range (<500 m>) Bangladesh, India, Myanmar, Nepal, Pakistan

Size Maximum SCL male 23 cm, female 37 cm, 7 kg

***Lissemys punctata punctata* / Southern Indian Flapshell Turtle**

Geographic Range India

Size Maximum SCL 24 cm

***Lissemys punctata vittata* / Central Indian Flapshell Turtle**

Geographic Range (1000 m) Bangladesh, India, Pakistan (?)

Size No data available

Identification Carapace oval, dome-shaped with yellow or brown blotches and a pale coloured margin. Plastron is white to yellowish white and seven plastral callosities are present in adults. One pair of movable semi-circular femoral flaps in plastron. Juvenile dark-striped pattern on the rear of the head tends to disappear with age and blotches tend to disappear in old individuals and reported albino (yellow carapace and plastron with pink callosities). Digits are strongly webbed with well develop.

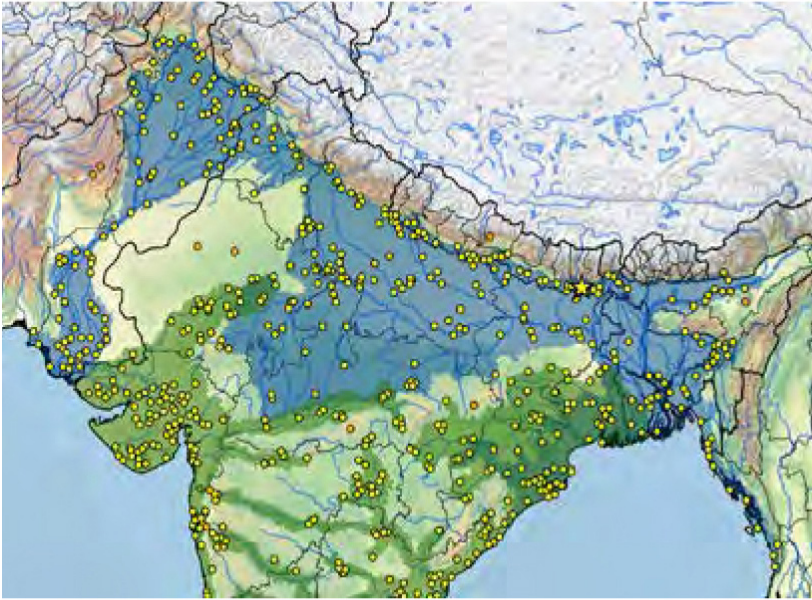
Subspecies Recognized *L. p. andersoni* differences in head and carapace pattern from the other two species. *L.p. andersoni* carapace olive with yellow spots/blotches V shaped mark present behind eyes on the dorsal surface of head, plastron white. The other two subspecies carapace lacks spots. *L.p.punctata* and *L.p.vittata* are olive-green to brownish, but greener in young specimens.

Habit and Habitat Omnivorous, rivers, lakes, ponds, ricefields and urban canals. Active day and night, aestivate in soil or mud during the cold season and dry period. Basks on rocks of bank of rivers and ponds, floating vegetation, rarer on logs.

Reproduction Mating April and nesting July-November (late summer to monsoon season). Incubation period is lengthy (more than 9 months), clutches 2-15 eggs and multiple clutches per year. Maturity approx. 4-5 years, generation length 15 years.

Threats Exploited for food, illegal trade and traditional medicines.

Lissemys punctata andersoni



(subspecies: *andersoni* = blue, *vittata* = green; overlap = intergrades;
orange dots = probably introduced, translocated, or trade, star = type locality)

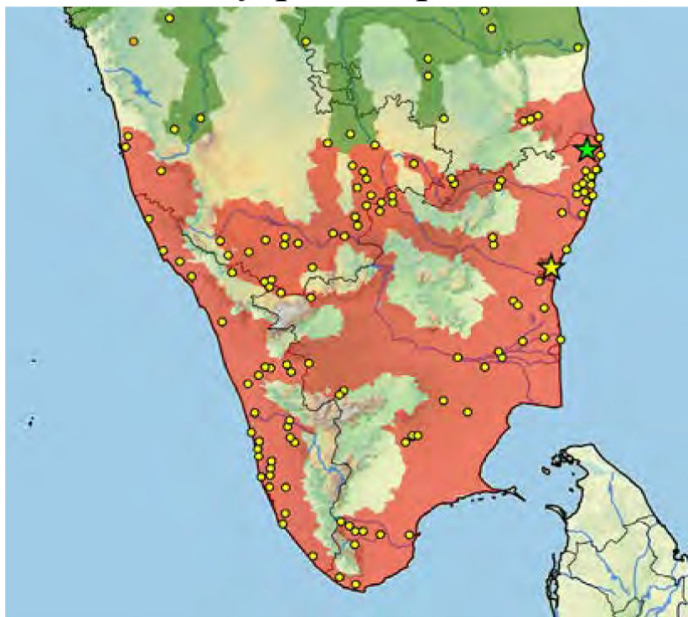


Adult



Juvenile

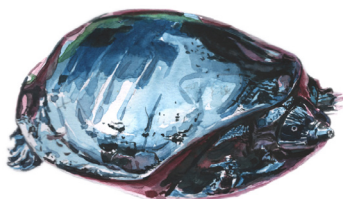
Lissemys punctata punctata



(subspecies: *punctata* = red, *vittata* = green;
orange dot = probably introduced, translocated, or trade, stars = type localities)

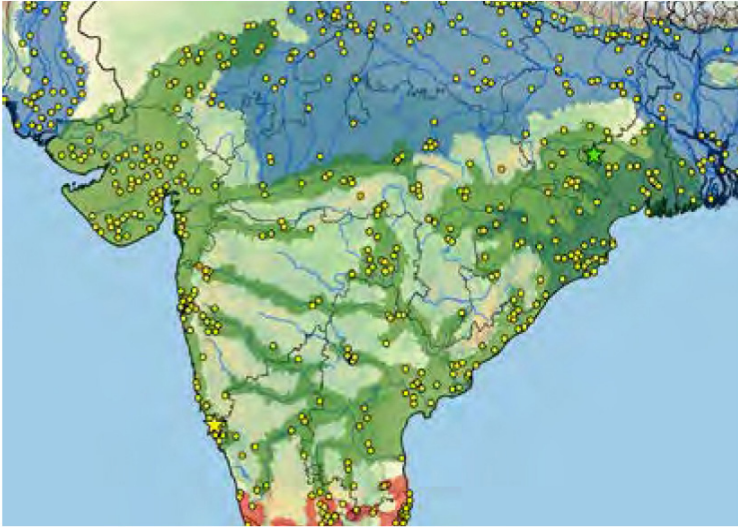


Adult

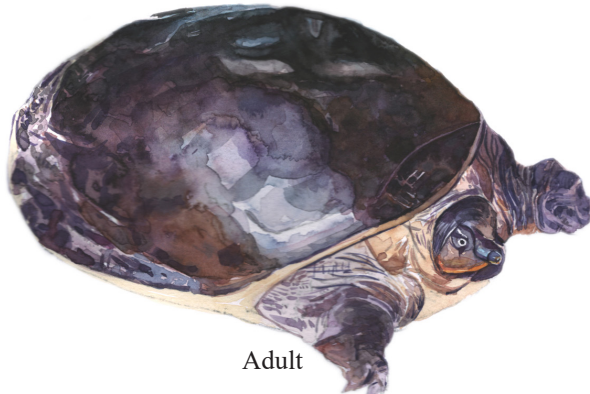


Juvenile

Lissemys punctata vittata



(subspecies: *punctata* = red, *andersoni* = blue, *vittata* = green;
overlap = intergrades; orange stars =
probably introduced, translocated, or trade, stars = type localities)



Adult



Juvenile

Nilssonia formosa / Burmese/Myanmar Softshell Turtle

Geographic Range India, Myanmar

Size Maximum SCL 57 cm

Identification Head, neck and legs are olive-green with numerous yellowish spots with dark margins; on each side of the head is an elongated spot which disappear in older individuals, while other light spots are present on the temples, around the corners of the mouth, and on the chin. The ventral portion of the chin and neck is cream colour. Round carapace is olive-green or olive-brown in color with blackish reticulations and in young specimens, four dark ocelli with light margins that disappear with age. The plastron is white. More than 4 ocelli are present (especially visible in young) and two rows of large tubercles are present along the anterior margin. Limbs and tail are similar colour pattern as that of the head and neck.

Habit and Habitat Carnivorous, highly aquatic, large rivers with a sandy substrate.

Reproduction Laying November-March, hatchlings emerged late May-June. Clutches 20 eggs. Nesting sites sandbanks close to water body (river). Maturity 10 years, generation length 30 years.

Threats Exploited for food and habitat loss.

Nilssonia formosa



(orange dot = probable trade or introduced; stars = type localities)



Adult



Juvenile

Nilssonia gangetica / Indian/Ganges Softshell Turtle

Geographic Range (20-1000 m) Afghanistan (?), Bangladesh, India, Nepal, Pakistan

Size Maximum SCL male 77 cm, female 94 cm, 100 kg

Identification Head dull olive or greenish with black reticulations or yellow spots. Forehead with black lines and fading in old specimens. Juveniles have ocelli on the carapace, which disappear at maturity. Carapace oval, dull olive or greenish with irregular dark reticulation. Plastron is ivory white.

Habit and Habitat Omnivorous, rivers and large canals with turbid water. Active day and night. Breathe every 6 minutes on the water surface. Bask extensively on shores and sand banks, often in groups.

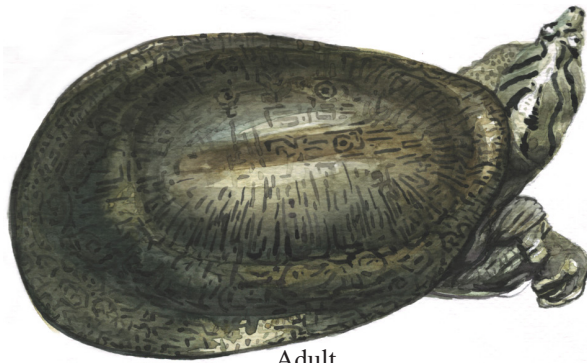
Reproduction Mating in April and nesting in May. Incubation period 217-287 days, clutches 8-35 eggs, multiple clutches per year. Nesting sites sand or soil close to water bodies. Maturity approx. 8-9 years, generation length 25-27 years.

Threats Exploited for food and traditional medicines.

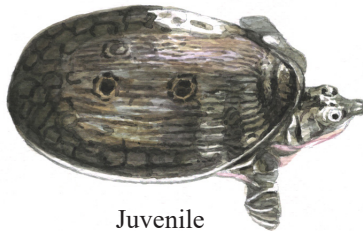
Nilssonia gangetica



(orange dots = probable trade or introduced; stars = type localities)



Adult



Juvenile

Nilssonia hurum / Indian Peacock Softshell Turtle

Geographic Range (>200 m) Bangladesh, India, Myanmar (?), Nepal, Pakistan

Size Maximum SCL male 45.5 cm, female 60 cm, 15-20 kg

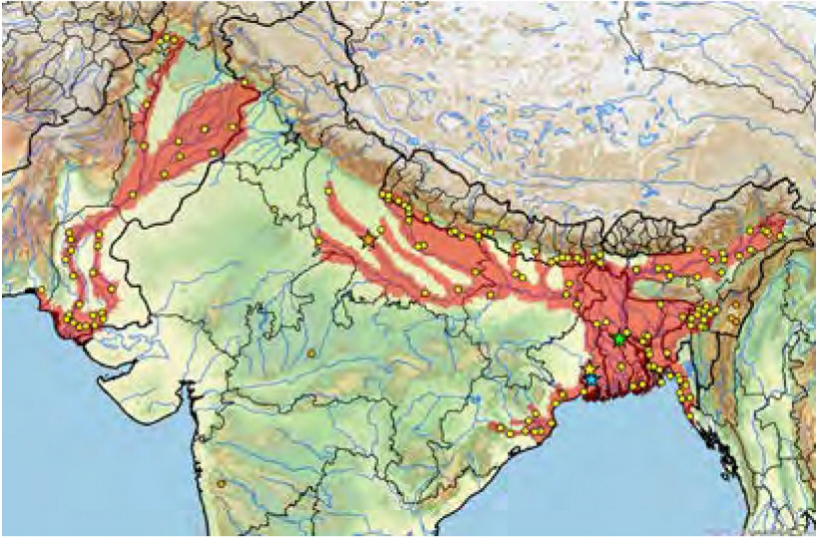
Identification Head and neck are yellow-green and densely covered with yellow spots, with one large yellow patch behind each eye and colour markings fade in older individuals. Carapace 4 ocelli (rarely 5 or 6), indistinct with age and several rows of tubercles on the soft carapace and outer margin densely covered with yellow dots and colour patterns are replaced by dull reticulations in older species. Plastron brownish grey, pale with age. Juveniles have ocelli on the carapace which disappear at maturity.

Habit and Habitat Omnivorous, rivers, lakes and ponds. Active mostly nocturnal. Observe the water surface every 20-30 minutes. Bask on banks, most of the time in water and also floating. Bury themselves in mud and sand.

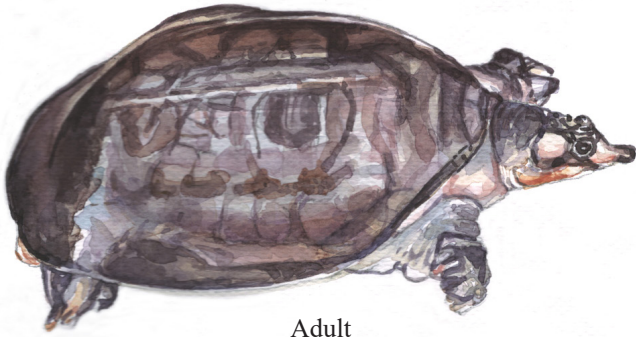
Reproduction Nesting August-December. Clutches 10-30 eggs and up to 90 eggs per season (possible), multiple clutches per year. Nesting sites sand and soil close to a water body. Maturity approx. 7-8 years, generation length 20-25 years.

Threats Exploited for food and traditional medicines.

Nilssonia hurum



(orange dots = possible trade or introduced or questionable;
stars = type localities)



Adult



Juvenile

Nilssonia leithii / Leith's/Deccan Softshell Turtle

Geographic Range India

Size Maximum SCL male 63.5 cm, female 54.8 cm

Identification Head with black lines running from behind the eyes to the nape, two or three pairs of dark lines extend toward the side of the head and another extends backwards from the eye. Yellow or orange spots present at the edge of the jaw. Carapace oval, flat, olive green. Pleural in eight pairs, a preneural one of two neural plates present between the first pair of pleurals. The triturating surface of the upper jaw is flat with a median groove. Tubercles are often present on the anterior mesial edge of the carapace. Plastron cream or white. Five plastral callosities present in adults. Juveniles have 4 to 6 dark circular spots bordered by yellow or orange on the carapace. Digits are strongly webbed with 3 claws.

Habit and Habitat Carnivorous, sometimes feed on small aquatic vegetation. It occurs in river, canals, marshes, ponds, lakes and occasionally reservoirs.

Reproduction Nesting from mid-June (possible January). Two clutches per year. Nesting sites sand and soil close to water body. Maturity approx. 7-8 years, generation length 21-24 years.

Threats Exploited for food, habitat loss and traditional medicines.

Nilssonia leithii



(orange dots = questionable; stars = type localities)



Adult



Juvenile

Nilssonia nigricans / Black/Bostami Softshell Turtle

Geographic Range Bangladesh, India, Nepal

Size Maximum SCL male 81 cm, female 74 cm, 57 kg

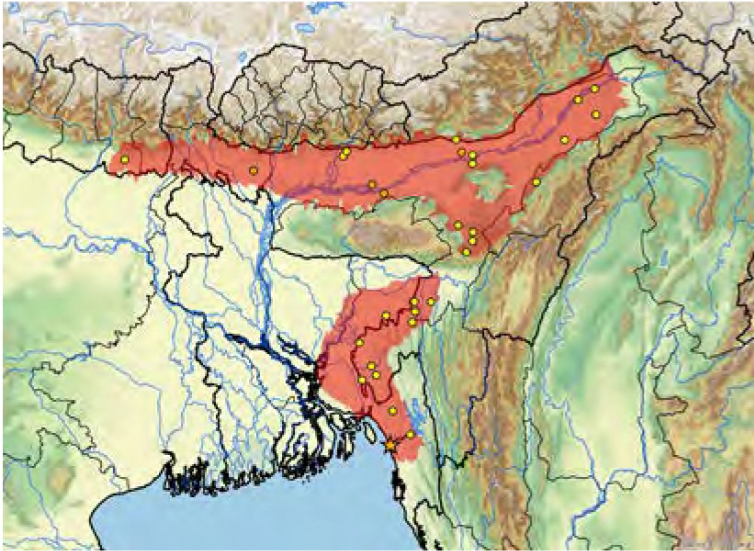
Identification Head is larger and the black reticulation on the head is less distinct. Yellow or orange patches behind the eye and across the snout are lacking. A distinct grey to dirty-yellow band runs diagonally over the base of the proboscis and thick proboscis. Carapace olive or dark gray or copper brown, oval shell, slightly rough in appearance, irregularly scattered tubercles occur in moderate amounts on the posterior carapace rim, on the nuchal area where a row of 15 to 20 very large fully developed longitudinal tubercles exists. Plastron white or light grey with four large callosities. Juveniles have four to six dark yellow-orange ocellus.

Habit and Habitat Omnivorous, medium to very large riverine situation in the wild and captive in temples or shrine pond. Active at day. Occasionally bask in winter on undisturbed sand bars. Hibernates, bury themselves at the bottom of a river or lake in the mud.

Reproduction Nesting in April. Incubation period 92-108 days, clutches 10-38 eggs, multiple clutches per year. Nesting sites sand and soil close to a water body. Maturity 7-10 years, generation length 15 years.

Threats Exploited for food, habitat loss and illegal trade.

Nilssonia nigricans



(orange dots and star = temple pond populations; star = type locality)



Adult



Juvenile

***Pelochelys cantorii* / Asian/Cantor's Giant Softshell Turtle**

Geographic Range Bangladesh, Brunei, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam

Size Maximum SCL 100 cm, 100 kg

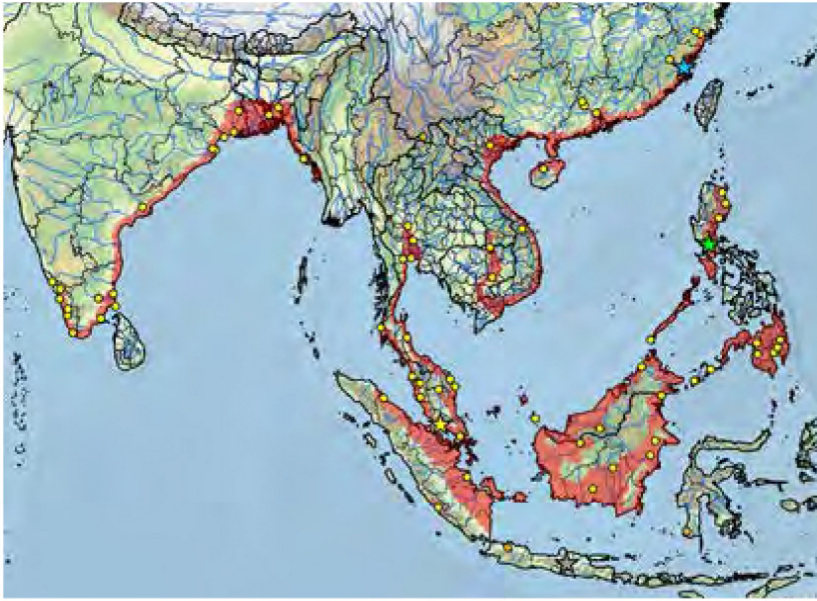
Identification Head broad, olive with small eyes close to the tips of its snout. Neck is olive and tubular proboscis is shorter than the eye diameter. Carapace oval, flattened, olive, greenish-brown with black reticulation pattern. Plastron is cream or white. Pleurals in eight pairs, one or two neural plates present between the first pair of pleurals. Four plastral callosities present. Carapace of juveniles have numerous tubercles and a low vertebral keel that disappears during growth. Digits are strongly webbed with 3 claws.

Habit and Habitat Carnivorous sometimes feed on aquatic vegetation. It occurs in large lowland rivers, lakes, reservoirs and estuaries. It spends 95% of its life buried and motionless, with only its eyes and mouth protruding from the sand, come on surfaces only twice a day to take a breath and ambush feeder with striking behavior.

Reproduction Mating from May-June, nesting from July-September. Incubation period 60 days, clutches 20-70 eggs, multiple clutches is possible but not confirmed. Nesting sites sand soil close to a water body. Share nesting ocean or sea beaches with marine turtles. Maturity has not been recorded, generation length 10 years.

Threats Exploited for food, habitat loss and illegal trade.

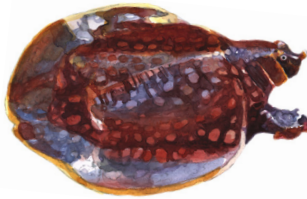
Pelochelys cantorii



(orange dots = possible trade or uncertain; stars = type localities)



Adult



Juvenile

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Annex 1: Checklist of Turtles of South Asia

Annexes

LC=Least Concern, NT=Near Threatened, VU=Vulnerable, EN=Endangered, CR=Critically Endangered, NE=Not Evaluated

SN	Scientific Name	Common Name	Size (SCL) M= Male F= Female	IUCN Status	CITES Appendix	Distribution
Order: Testudines/ Chelonia ; Family: Geomydidae --- 10 Genera 27 Species; Freshwater Turtle						
1	<i>Batagur baska</i> Gray 1830	Northern Terrapin	M 49 cm F 60.9 cm 18 kg	CR	1	Bangladesh, India, Myanmar, Pakistan (?), Thailand (?)
2	<i>Batagur dhongoka</i> Gray 1834	Three-striped Roofed Turtle	M 26 cm F 48 cm 25 kg	CR	2	Bangladesh, India, Nepal
3	<i>Batagur kachuga</i> Gray 1831	Red-crowned Roofed Turtle	M 30 cm F 56 cm 25 kg	CR	1	Bangladesh, India, Nepal
4	<i>Cuora amboinensis kamaroma</i> Rummler & Fritz 1991	Southeast Asian Box Turtle	M 21.5 cm F 27.8 cm	EN	2	Cambodia, India, Laos, Myanmar, Thailand, Vietnam
5	<i>Cuora amboinensis lineata</i> McCord & Philippen 1998	Myanmar/Burmese Box Turtle	M 22.1 cm F 25.7 cm	EN	2	India, Myanmar
6	<i>Cuora prashagi</i> Blanc, Gaillard, Protiva, Wheatley, Shi, Liu, Ray & Anders 2023	Assam Box Turtle	M 23.3 cm F 25 cm	EN	2	Bangladesh, Bhutan, India, Myanmar
7	<i>Cuora mouhotii mouhotii</i> Gray 1826	Northern Keelred Box Turtle	M 25.7 cm F 23.7 cm	EN	2	Bangladesh, Bhutan, China, Laos, India, Myanmar, Thailand (?), Vietnam
8	<i>Cyclemys fusca</i> Fritz, Guicking, Auer, Sommer, Wink & Hundsdoerfer 2008	Myanmar Brown Leaf Turtle	M 22.5 cm F 26.9 cm	LC	2	India, Myanmar
9	<i>Cyclemys gemeli</i> Fritz 2008	Assam Leaf Turtle	M 19 cm F 23.2 cm	NT	2	Bangladesh, Bhutan, India, Myanmar, Nepal
10	<i>Geoclemys hamiltonii</i> Gray 1830	Spotted/Black Pond Turtle	M 39.2 cm F 40.5 cm 7 kg	EN	1	Bangladesh, India, Nepal, Pakistan
11	<i>Hardella thurjii</i> Gray 1831	Eastern-crowned River Turtle	M 20.5 cm F 65.3 cm 10.5 kg	EN	2	Bangladesh, India, Nepal, Pakistan

SN	Scientific Name	Common Name	Size (SCL) M= Male F= Female	IUCN Status	CITES Appendix	Distribution
12	<i>Heosemys depressa</i> Anderson 1875	Arakan Forest Turtle	M 29.6 cm F 25.9 cm 1.3 kg	CR	2	Bangladesh, Myanmar
13	<i>Melanocheilus tricarinata</i> Blyth 1856	Tricarinata Hill Turtle	M 19.6 cm F 18.5 cm 461.5 gm	EN	1	Bangladesh, Bhutan, India, Nepal
14	<i>Melanocheilus trijuga coronata</i> Anderson 1879	Cochin Black Turtle	M 26 cm F 23 cm 746.2	LC	2	India
15	<i>Melanocheilus trijuga indopeninsularis</i> Annadale 1913	Bengal Black Turtle	M 34.2 cm F 26.2 cm Max 38 cm 760 gm	LC	2	Bangladesh, India, Nepal
16	<i>Melanocheilus trijuga parkeri</i> Deraniyagala 1939	Parker's Black Turtle	38.3 cm	LC	2	Sri Lanka
17	<i>Melanocheilus trijuga thermalis</i> Lesson 1830 2023	Sri Lanka Black Turtle	M 25.6 cm F 22.9 cm	LC	2	India, Maldives, Sri Lanka
18	<i>Melanocheilus trijuga trijuga</i> Schweigger 1812	Indian Black Turtle	M 25 cm F 32 cm	LC	2	India
19	<i>Morenia petersi</i> Anderson 1879	Indian Eyed/Ocellated Turtle	M 19.4 cm F 26 cm 1.15 kg	EN	2	Bangladesh, India, Nepal
20	<i>Pangshura smithii pallidipes</i> Moll 1987	Pale-footed Roofed Turtle	M 10.8 cm F 22.3 cm 2 kg	NT	2	India, Nepal
21	<i>Pangshura smithii smithii</i> Gray 1863	Brown/Pale footed Roofed Turtle	M 12.8 cm F 24 cm 2 kg	NT	2	Bangladesh, India, Nepal, Pakistan
22	<i>Pangshura sylhetensis</i> Jerdon 1870	Assam/Sylhet Roofed Turtle	M 10 cm F 21 cm	CR	2	Bangladesh, Bhutan (?), India, Myanmar(?)
23	<i>Pangshura tentoria circumdata</i> Mertens 1969	Pink-ringed Terrapin	M 14 cm F 27.1 cm	LC	2	India, Nepal
24	<i>Pangshura tentoria flaviventer</i> Günther 1864	Yellow-bellied Tent Turtle	M 17.9 cm F 27 cm 1.4 kg	LC	2	Bangladesh, India, Nepal

SN	Scientific Name	Common Name	Size (SCL) M= Male F= Female	IUCN Status	CITES Appendix	Distribution
25	<i>Pangshura tentoria tentoria</i> Gray 1834	Indian Tent Turtle	M 14.9 cm F 22.8 cm	LC	2	India
26	<i>Pangshura recta</i> Gray 1831	Indian Roofed/Sawback Turtle	M 27.6 cm F 33.9 cm 1.1 kg	VU	1	Bangladesh, India, Nepal, Pakistan
27	<i>Vijayachelys silvatica</i> Henderson 1912	Cochin Forest Cane Turtle	M 14 cm F 17 cm 340 gm	EN	2	India
Family: Testudinidae --- 4 Genera 8 Species; Tortoise						
28	<i>Geochelone elegans actinodes</i> Bell 1828	Northwestern Indian Star Tortoise	M 25.7 cm F 32.2 cm 2.2-14 kg	VU	1	India, Nepal, Pakistan
29	<i>Geochelone elegans elegans</i> Schoepff 1795	Southern Indian Star Tortoise	F 41 cm 2.2-14 kg	VU	1	India, Sri Lanka
30	<i>Indotestudo elongata</i> Blyth 1853	Elongated/Yellow-headed Tortoise	M 38 cm F 31 cm 3.5 kg	CR	2	Bangladesh, Bhutan, Cambodia, China (?), India, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam
31	<i>Indotestudo travancorica</i> Boulenger 1907	Travancore Tortoise	M 33.1 cm F 29.5 cm 3.8 kg	VU	2	India
32	<i>Manouria emys phayrei</i> Blyth 1854	Burmese Black Giant Tortoise	M 60 cm F 58 cm 37 kg	CR	2	Bangladesh, India, Myanmar, Thailand
33	<i>Manouria impressa</i> Günther 1882	Impressed Tortoise	M 29.3 cm F 35.9 cm	EN	2	Cambodia, China, India, Laos, Malaysia, Myanmar, Thailand, Vietnam
34	<i>Testudo horsfieldii horsfieldii</i> Gray 1844	Central/Steppe/Horsfield's Asian Tortoise	F 21.1 cm	VU	2	Afghanistan, Pakistan
35	<i>Testudo horsfieldii rustamovi</i> Chikhvadze, Amiranashvili & Ataev 1990	Kopet-Dag Steppe Tortoise	M 23.4 cm F 23.9 cm	VU	2	Afghanistan, Iran, Turkmenistan
Family: Trionychidae --- 5 Genera 13 Species; Softshell Turtle						
36	<i>Apomyda ornata jingli</i> Praschag & Gemel 2022	Northwest Asian Softshell Turtle	M 41.4 cm F 42 cm	VU	2	Bangladesh, India, Myanmar

SN	Scientific Name	Common Name	Size (SCL) M= Male F= Female	IUCN Status	CITES Appendix	Distribution
37	<i>Amalda ornata phayrei</i> Theobald 1868	Myanmar/Burmese Softshell Turtle	M 83 cm F 54 cm	VU	2	India, Myanmar, Thailand
38	<i>Chitra indica</i> Gray 1831	Narrow-headed Softshell turtle	M 61.5 cm F 115 cm 250 kg	EN	2	Bangladesh, India, Nepal, Pakistan
39	<i>Lissemys ceylonensis</i> Gray 1856	Sri Lankan Flapshell Turtle	37 cm	VU	2	Sri Lanka
40	<i>Lissemys punctata andersoni</i> Webb 1980	Spotted North Indian Flapshell Turtle	M 23 cm F 37 cm 7 kg	VU	2	Bangladesh, India, Myanmar, Nepal, Pakistan
41	<i>Lissemys punctata punctata</i> Bonnaterre 1789	Southern Indian Flapshell Turtle	24 cm	VU	2	India
42	<i>Lissemys punctata vittata</i> Peters 1854	Central Indian Flapshell Turtle	•	VU	2	Bangladesh, India, Pakistan (?)
43	<i>Niksonia Formosa</i> Gray 1869	Burmese / Myanmar Peacock Softshell Turtle	57 m	CR	2	India, Myanmar
44	<i>Niksonia gangetica</i> Cuvier 1825	Indian/Ganges Softshell Turtle	M 77 cm F 94 cm 100 kg	EN	1	Afghanistan (?), Bangladesh, India, Nepal, Pakistan
45	<i>Niksonia hurum</i> Gray 1831	Indian Peacock Softshell Turtle	M 45.5 cm F 60 cm 15-20 kg	EN	1	Bangladesh, India, Myanmar (?), Nepal, Pakistan
46	<i>Niksonia leithii</i> Gray 1872	Leith's/Deccan Softshell Turtle	M 63.5 cm F 54.8 cm	CR	1	India
47	<i>Niksonia nigricans</i> Anderson 1875	Black/Bostami Softshell Turtle	M 81 cm F 74 cm Max 90 cm 57 kg	CR	1	Bangladesh, India, Nepal
48	<i>Pelochelys cantorii</i> Gray 1864	Asian/Cantor's Giant Softshell Turtle	100 cm 100 kg	CR	2	Bangladesh, Brunei, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam

Source: TTAG 2025, www.iucnredlist.org (IUCN 2026) and <https://checklist.cites.org/#/en> (CITES 2026)

Annex 2: Turtle Monitoring Survey

Observer Name:				Start Time:				End Time:			
Start GPS:		End GPS:		AL Start :		AL End:					
SN (Date)	Species Name (Male/Female)	Stage	No.	Coordinate	Location	Habit	Habitat	Activity Pattern	Time	Weather	Note
1											
2											
Stage: 1.Egg 2.Hatchling 3.Juvenile 4.Sub Adult 5.Adult	Habit: 1.Bask 2.Feeding 3.Mating 4.Nesting 5.Swimming 6.Resting 7.Walking	Habitat: 1.River 2.Pond 3.Lake 4.Forest 5.Agriculture Land 6.Water Channel		Activity Time: 1.Dawn 2.Morning 3. Mid-Day 4. Afternoon 5. Dusk 6. Night				Weather: 1.Sunny 2.Part Cloudy 3. Rainy			Threats: 1.Habitat Loss 2.Hunting 3.Pollution 4.Fishing 5. Forest Fire 6.Predator

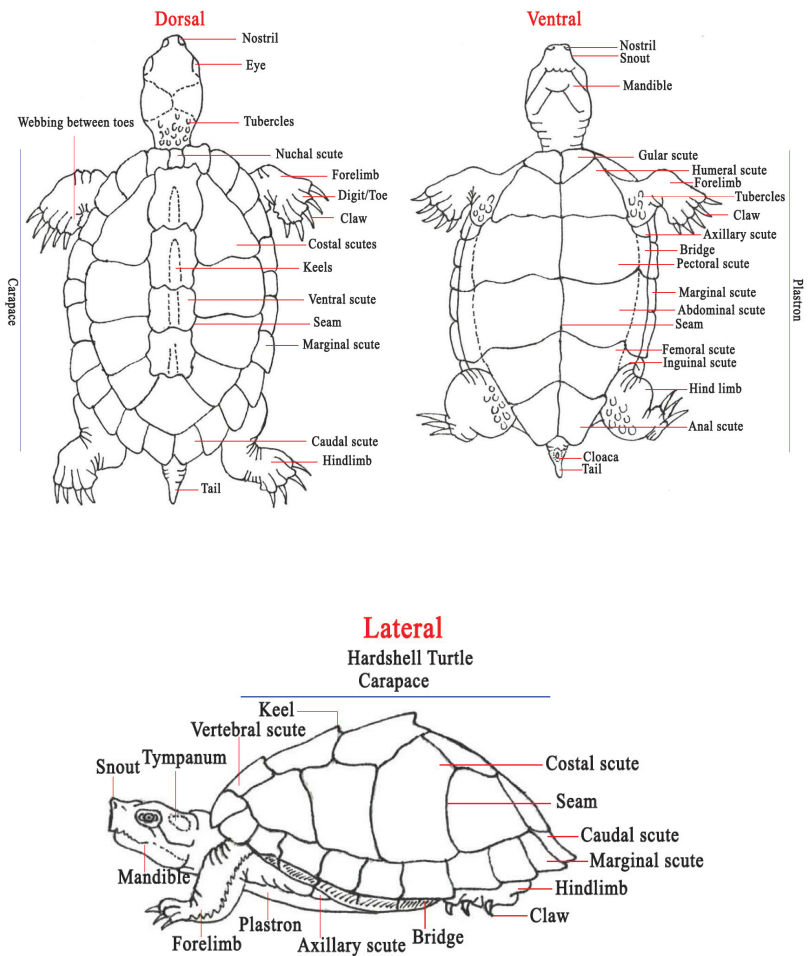
Annex 3: Turtle Nesting Survey

Observer Name:				Start Time:				End Time:			
Start GPS:		End GPS:		AL Start :		AL End:					
S.N. (Date)	Species Name Location Name	Coordinate	Altitude	No.	Nest Character-Shape-Status	Distance to river bank (m)	Distance to vegetation (m)	Day	Time	Weather	Note
1											
2											
Nest Character: 1.Small 2. Medium 3. Large	Nest Shape 1. Regular 2. Irregular Nest Status 1. Old 2. New		Day 1.Dawn 2. Morning 3. Afternoon 4. Evening 5. Dusk 6. Night				Weather 1.Sunny 2.Part Cloudy 3. Rainy			Threats 1.Habitat Loss 2. Collecting 3.Pollution 4.Fishing 5.Forest Fire 6.Predator	

Annex 4: Turtle Morphometric Survey

Site Name:		Address:			Date:				
Time: to		Weather:							
GPS:		Altitude (m):			Habitat:				
S.N.	Species	SCL/ CuCL	SCW/ CuCW	SPL/ CuPL	SPW/ CuPW	Scute form on skin (Count)			Weight
						Co	M	Im	
1									
2									

C=Carapace, P=Plastron. S=Straight, Cu=Curve, V=Vertebral, Co=Costral, M=Marginal, Im=Inframarginal



Annex 5 : Index

S.N.	Scientific Name	Common Name	Plate No.
		Freshwater Turtle (n= 27)	
1	<i>Batagur baska</i>	Northern River Terrapin	18-19
2	<i>Batagur dhongoka</i>	Three striped Roofed Turtle	20-21
3	<i>Batagur kachuga</i>	Red-crowned Roofed Turtle	22-23
4	<i>Cuora amboinensis kamaroma</i>	Southeast Asian Box Turtle	24-25
5	<i>Cuora amboinensis lineata</i>	Myanmar/Burmese Box Turtle	24,26
6	<i>Cuora praschagi</i>	Assam Box Turtle	24,27
7	<i>Cuora mouhotii mouhotii</i>	Northern Keeled Box Turtle	28-29
8	<i>Cyclemys fusca</i>	Myanmar Brown Leaf Turtle	30-31
9	<i>Cyclemys gemeli</i>	Assam Leaf Turtle	32-33
10	<i>Geoclemys hamiltonii</i>	Spotted/Black Pond Turtle	34-35
11	<i>Hardella thurjii</i>	Eastern crowned River Turtle	36-37
12	<i>Heosemys depressa</i>	Arakan Forest Turtle	38-39
13	<i>Melanochelys tricarinata</i>	Tricarinate Hill Turtle	40-41
14	<i>Melanochelys trijuga coronata</i>	Cochin Black Turtle	42-43
15	<i>Melanochelys trijuga indopeninsularis</i>	Bengal Black Turtle	42,44
16	<i>Melanochelys trijuga parkeri</i>	Parker's Black Turtle	42,45
17	<i>Melanochelys trijuga thermalis</i>	Sri Lanka Black Turtle	42,46
18	<i>Melanochelys trijuga trijuga</i>	Indian Black Turtle	42,47
19	<i>Morenia petersi</i>	Indian Eyed/ Ocellated Turtle	48-49
20	<i>Pangshura smithii pallidipes</i>	Pale-footed Roofed Turtle	50-51
21	<i>Pangshura smithii smithii</i>	Brown-footed Roofed Turtle	52-53
22	<i>Pangshura sylhetensis</i>	Assam/Sylhet Roofed Turtle	54-55
23	<i>Pangshura tentoria circumdata</i>	Pink-ringed Tent Turtle	56-57
24	<i>Pangshura tentoria flaviventer</i>	Yellow-bellied Tent Turtle	58-59
25	<i>Pangshura tentoria tentoria</i>	Indian Tent Turtle	60-61
26	<i>Pangshura tecta</i>	Indian Roofed/Sawback Turtle	62-63
27	<i>Vijayachelys silvatica</i>	Cochin Forest Cane Turtle	64-65
		Tortoise (n= 8)	
28	<i>Geochelone elegans actinodes</i>	Northwestern Indian Star Tortoise	68-69
29	<i>Geochelone elegans elegans</i>	Southern Indian Star Tortoise	68,70
30	<i>Indotestudo elongata</i>	Elongated Tortoise	72-73
31	<i>Indotestudo travancorica</i>	Travancore Tortoise	74-75
32	<i>Manouria emys phayrei</i>	Burmese Black Giant Tortoise	76-77
33	<i>Manouria impressa</i>	Impressed Tortoise	78-79
34	<i>Testudo horsfieldii horsfieldii</i>	Central/Steppe/Horsfield's Asian Tortoise	80-81
35	<i>Testudo horsfieldii rustamovi</i>	Kopet-Dag Steppe Tortoise	80,82
		Softshell Turtle (n= 13)	
36	<i>Amyda ornata jongli</i>	Northwest Asian Softshell Turtle	86,87
37	<i>Amyda ornata phayrei</i>	Myanmar/Burmese Softshell Turtle	86,88
38	<i>Chitra indica</i>	Narrow headed Softshell Turtle	90-91
39	<i>Lissemys ceylonensis</i>	Sri Lankan Flapshell Turtle	92-93
40	<i>Lissemys punctata andersoni</i>	Spotted North Indian Flapshell Turtle	94-95
41	<i>Lissemys punctata punctata</i>	Southern Indian Flapshell Turtle	94,96
42	<i>Lissemys punctata vittata</i>	Central Indian Flapshell Turtle	94,97
43	<i>Nilssonina formosa</i>	Burmese/Myanmar Peacock Softshell Turtle	98-99
44	<i>Nilssonina gangetica</i>	Indian/Ganges Softshell Turtle	100-101
45	<i>Nilssonina hurum</i>	Indian Peacock Softshell Turtle	102-103
46	<i>Nilssonina leithii</i>	Leith's/Deccan Softshell Turtle	104-105
47	<i>Nilssonina nigricans</i>	Black/Bostami Softshell Turtle	106-107
48	<i>Pelochelys cantorii</i>	Asian/Cantor's Giant Softshell Turtle	108-109

Pictorial Field Guide

Turtles of South Asia

Pictorial Field Guide- Turtles of South Asia is a comprehensive guide to the freshwater turtles and tortoises of the area. The texts have been completely written and includes the illustrations and maps.

- Covers species recorded in South Asia and includes distribution maps for the species.
- 48 colour plates illustrating 48 species, with text on facing pages for quick and easy reference.
- Concise text covering geographical range, size, identification keys, habits, habitats, reproduction and threats.
- In addition, freshwater turtle and tortoise survey technique with field sheets.

