

## A Profile of Indian Crocodiles

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THERE ARE 21 SPECIES OF crocodilians distributed in the warm sub-tropical and tropical waters of the world. They are grouped in three families. They are basically similar and differ from one another in minor physical characters such as shape of snout, arrangement of snouts and dental features, etc. Their distribution and distinguishing features are given in Table 1.

In the Indian sub-continent, three species of crocodilians occur - Gharial (*Gavialis gangeticus*), which

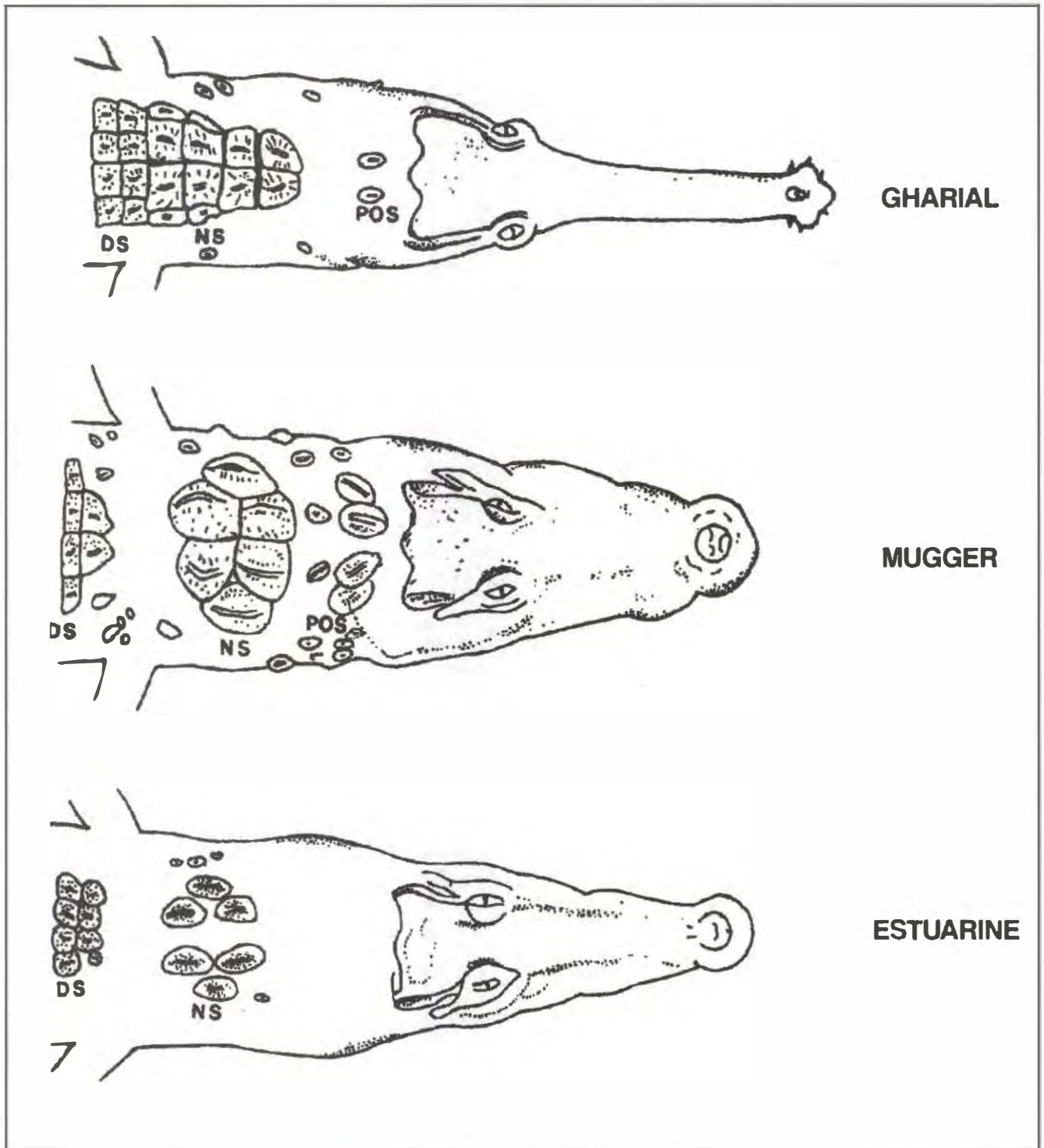
Table 1

Character	Family <i>Alligatoridae</i>	Family <i>Crocodylidae</i>	Family <i>Gavialidae</i>
Popular Name	Alligators and Caimans	True crocodiles	Gharial
Head & Snout	More oval than triangular	Broad, triangular head with a short snout	Beak-like extension of the snout
4 <sup>th</sup> lower tooth (when the mouth is closed)	Not visible from outside	Visible from outside	Visible from outside
Mandibular symphysis (joint between two halves of lower jaw)	Extends to a level less than 23 <sup>rd</sup> tooth	Extends to a level less than 23 <sup>rd</sup> tooth	Extends to a level of 23 <sup>rd</sup> or 24 <sup>th</sup> tooth
Distribution	S. America, China, USA	Asia, Africa, Australia & Pacific Islands & USA	Asia (India & Nepal)
No. of Genera (No. of species given in brackets)	Alligator(2) Caiman(2) Paleosuchus(1) Melanosuchus (2)	Crocodylus (11) Osteolaemus (1) Tomistoma (1)	Gavialis (1)

Note : Alligators are not found in India; gharial is not an alligator.

belongs to the family Gavialidae, saltwater crocodile (*Crocodylus porosus*) and mugger crocodile (*Crocodylus palustris*) belonging to the family Crocodylidae. (See figure below.)

The distinguishing features and distribution of the sub-species found in the Indian sub-continent is given in Table 2.



POS - Post-occipital scutes; NS - Nuchal scutes; DS - Dorsal scutes

**Table 2**

Important features	Gharial	Mugger	Saltwater crocodile
Popular name	Gharial	Indian mugger	Estuarine crocodile
Incorrect names	Indian Gavial, Indian Alligator	Marsh Crocodile, Swamp crocodile	
Zoological name	<i>Gavialis gangeticus</i>	<i>Crocodylus palustris</i>	<i>Crocodylus porosus</i>
Distribution	<u>India</u> : rivers Chambal, Girwa, Mahanadi and Gangetic system, Brahmaputra. <u>Nepal</u> : Karnali, Kali, Kosi and Narayani rivers. <u>Pakistan</u> : Indus	India, Bangladesh, Nepal and Iran (In Sri Lanka the mugger is similar but in recent years called Ceylonese Mugger, <i>C. palustris kimbula</i> separate from the Indian sub-species, <i>C. palustris</i> )	India to South China, Indonesia, Philippines, Papua New Guinea-N.Australia
Habitat	Perennial and deep rivers	River, marsh, swamp, lake and large pond, any freshwater habitat	Estuarine rivers and creeks where mangroves are present. Migration: Seldom in upstream of rivers, but often in open seas.
Colour - dorsal	Olive with dark cross bands	Ashy to dark or yellowish brown or dark brown cross bands distinct in young.	Young: Yellow with dark blotches. Adult: dark
Colour - ventral	Light yellow to white	White	White
Size: Hatchling (Maximum) on record	34-37 cm 6.6m	25-27 cm 4.0m	30 - 35 cm 7.5m
Snout	Longest, beak-like, sharply demarcated from head.	Short	Longer than mugger, not as long as in gharial.
Post-occipital scutes (see Figure pg2)	May be present	Present in a single row of 4 scutes; all large and distinct	Absent or very indistinct
Nesting season	March/April	Feb./April	May-June
Nest type	In holes on ground (hole nester)	'hole nester'	In a mound of leaves, twigs and soil. (Mound nester)
Nest site/banks	Highly slopy sand-banks with fine sand	Sand-banks, mud-banks	Open areas amid mangroves

Contd.

<i>Important features</i>	<i>Gharial</i>	<i>Mugger</i>	<i>Saltwater crocodile</i>
Egg colour	White	White	White
Egg size (mm. length and breadth)	84x56	75 x 53	80 x 55
No. of eggs per clutch	10 - 97	8-45	10-75
(range) average	30-35	20.35	30-35
Incubation period (days) (average)	75-80	55-75	75-80
Growth rates (app. during first 5 years)	45 cm/year	35 cm/year	40 cm/year
Food			
Hatchlings	Fish	Fish, insect meat, worms	As in mugger
Adults	Fish	Molluses, prawn	
Age at sexual maturity (app.years)	Male 15+ years Female 10-12 years	Male : 5-6 years Female : 5 years	Male: 10+ years Female: 8 years
Life span	100 years	70 years	100+years
Breeding life	50 years	50 years	Not known
Temperament	Timid	Aggressive	Aggressive

**Note :** *Adapted and revised from an article published in "Captive Rearing and Management of Crocodile in India" : A field guide; published by Central Crocodile Breeding and Management Training Institute (Government of India), Hyderabad. Andhra Pradesh, August 1982, pp 80.*