

denticulated, nearly as long as the head. Ventral 6, does not reach the anal. Anal 12. Caudal 17, deeply lobed, the lower lobe being much longer than the upper and ends in a filamentous prolongation. Adipose dorsal is high and pointed, length of the base being slightly shorter than the base of the anterior dorsal fin. Colour in spirit superiorly greyish brown and inferiorly dull white. Fins stained with black.

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## REPTILES.

AQUATIC TORTOISES OF THE MIDDLE GANGES AND BRAHMAPUTRA.—From enquiries from the actual catchers it appears that there are at least nine distinct species of water-tortises recognized by them in the beds of the Ganges up to Sahebgunge, the Kosi up to Jogbani (Anchra Ghat), the Mahanada in Maldah District and the Brahmaputra up to Goalpara. Of these six species\* were secured during a trip to Rajmehal undertaken in March, 1912. For the identification of the tortoises I am indebted to Dr. N. Annandale.

Among the hard-shelled species four are distinguished :—

1. The *Sál* or *Sail* (*Kachuga lineata* (Gray)) grows to three feet by twenty inches, weighs 20 to 30 seers and is easily distinguished by its larger size and very smooth and oily back from the *Dhoor* which is the common medium-sized species with rough back. The *Sál* does not breed and is not found with eggs until it reaches a much bigger size than the adult *Dhoor*. Two specimens of *Sál* were secured. Dr. Annandale thinks that *Batagur baska* (Gray) is probably confounded with this species by the tortoise-catchers.

2. The *Dhoor* (*Kachuga dhongoka* (Gray)) is a smaller species than the *Sál*. It grows to sixteen inches by twelve inches and weighs eight to ten seers. It has a slightly rough back with pointed knobs in the middle line; the males are said to be very much smaller, not growing more than ten inches in length. The eggs are oval and very long, measuring 5.5 × 3.3 cm., and 30 to 35 are deposited at a time. Twenty-eight specimens of *Dhoor* were secured together with several eggs dug out of sand banks. Some individuals brought forth eggs while being packed. The shell of the egg is very brittle and there is a large air-space inside it, the external surface is obscurely pitted.

Both the *Sál* and *Dhoor* breed in March and deposit eggs on the sand bank of the Ganges but as they leave trailing marks behind, the hiding places of the eggs are easily discovered. Both *Sál* and *Dhoor* have long (oval) eggs, the *Sál*'s being much bigger than those of the *Dhoor*. The young ones come out in May or June. They are occasionally caught in the fine nets in the month of June or July.

3. The *Chapaut* or *Chaupta* (*Kachuga smithii* (Gray)) is the smallest species but otherwise very similar to the *Dhoor*. It

does not grow to more than eight or ten inches in length and not more than a seer in weight. It deposits 5 to 8 eggs at a time and buries them in sand. Three specimens were secured.

4. The *Panchuria* (? *Kachuga tectum* (Gray)) similar to the *Chapaut*, is an intermediate species between the *Dhoor* and the *Chapaut*, growing to one foot in length and two seers in weight. No specimens of this species could be found on my trip.

5. The *Kala* or *Kali Kaunttha* of the Bengalis (*Hardella thurgii* (Gray)), is known as *Gaira* among the Gondris who are the expert catchers of tortoises. This species grows to two feet by fourteen inches and weighs 19 to 20 seers. The eggs of the species are not found in the sand bank on the Ganges, but are occasionally met with in the months of August and September, when the water subsides. The eggs are said to be oval. This species is also known as *Kariha* (or *Kariyaon*) among the Teors and Binds on the Kosi side. One specimen was secured.

Of the soft-shelled water-tortoises four species are recognized by the catchers.

6. The *Kataha* or *Kattha* of the Gondris and *Palaiya* of the Binds (*Trionyx gangeticus*, Cuvier) is a roundish low species growing to four feet by three feet and weighing two to three maunds. It brings forth round eggs which are found in the mud after the subsidence of the floods. The eggs are perfectly spherical, measuring 2.3 cm. in diameter. Some eggs were secured on a previous trip. This species is said to be good to eat. One specimen was obtained.

7. The *Keora* of the Gondris (*Trionyx hurum*, Gray) is a smaller species than the *Kataha*. It weighs twelve to fourteen seers, grows to sixteen inches by twelve inches in the disk, and brings forth round eggs. It is said to be very bad eating owing to its rank smell. One specimen was secured on this trip, and another on a former occasion near Rajmahal. Both are unusually pale in colour, lacking to a large extent the characteristic markings of the species. Dr. Annandale thinks it probable that they represent a local race distinguished from the typical one by a more uniform coloration and possibly by being smaller. In any case no structural difference likely to be constant can be detected.

8. The biggest of these soft kinds is the *Sim* (*Chitra indica* (Gray)) which grows to five feet in length of disk and weighs six to seven maunds. Like the *Kataha* it is to be found in the Kosi and also at Kustea and occasionally at Chilmari. It does not bite but disables its victim by blows, often injuring fishing boats by the impact thereof. It is bad and coarse eating. No specimen was secured, but there can be little doubt from the fishermen's description that *C. indica* is the species referred to under the above name.

9. The *Abhua* (*Emyda granosa* (Schoepff)), which is also known as *Matia* because it is supposed to subsist on earth, is a smaller species than the *Kataha*. In winter they are found peeping out of mud holes in the banks. It is said to be numerous

near Kánsàt (Maldah) and in the Gumani River (Murshidabad). It grows to one foot in length. No specimen was secured but there can be little doubt that the identification is correct.

The Santals, the great patrons of tortoise-consumption, recognize only two kinds. One is called *Lepra*, under which name falls *Kattha*, *Keora*, *Sim* and *Abhua* of the Gondris and the other *Hurum*, under which Santali name fall the *Dhoor*, *Sál*, *Goira*, *Panchuria* and *Chapaut* of the catchers. Thus the distinction made by the Santali is a general one, whereas those of the catchers are evidently specific. It may be remarked here that the name *Hurumí* is not applied to any of the soft species of water-tortoises in the Santali language.

The following fishing tribes were found catching tortoises in the bed of the Ganges near Rajmahal:—The Binds and Banpars catch them by *bansis* (hook and line), the Teors harpoon them, but the Gondris make a speciality of catching them in nets manufactured for the purpose. Tortoises, great and small, are often caught in the *Bara jal* along with all kinds of fish, but this is an accident and tortoises so caught are often thrown back into the river, as the Malas and Myfarases do not take any interest in them. It is forbidden to the latter people to eat them, while the former consider them unclean.

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