

March 26, 1844.

The Right Hon. William Sturges Bourne in the Chair.

A letter was read from Anthony White, Esq., describing the morbid appearances which presented themselves on examining the body of the Lion (*Felis Leo*) which died in the Society's Gardens on the 15th inst.

A communication was made by Dr. Falconer, conveying the substance of a paper by Capt. Cautley and himself on the osteological characters and palæontological history of the *Colossochelys Atlas*, a fossil tortoise of enormous size, from the tertiary strata of the Sewalik hills in the north of India—a tertiary chain apparently formed by the detritus of the Himalaya mountains.

A great number of huge fragments, derived from all parts of the skeleton except the neck and tail, were exhibited on the table, illustrative of a diagram by Mr. Scharf of the animal restored to the natural size.

The communication opened with a reference to the reptilian forms discovered in the fossil slate, among which colossal representatives have been found of all the known tribes, such as the *Iguanodon*, *Megalosaurus*, *Labyrinthodon*, &c., besides numerous forms of which no living analogues exist, such as the *Enaliosaurian* reptiles and *Pterodactyles*. No fossil *Testudinata* remarkable either for size or deviation from existing forms, have hitherto been found in the fossil state. The *Colossochelys* supplies the blank in the first respect, while it differs so little from the land-tortoises in the general construction of its osseous frame, as hardly to constitute more than a subgenus of *Testudo*.

The plastron or sternal portion of the shell affords the chief distinctive character. The episternal portion in the adult is six and a half inches thick, and contracted into a diameter of eight inches, bifid at the apex, and supplied with a thick cuneiform keel on its inferior side: this keel constitutes one of the principal features in the fossil. The entosternal portion exhibits exactly the form of *Testudo*, the same being the case with the xiphisternal or posterior portion. The plastron in the adult animal was estimated to be nine feet four inches long.

The carapace or buckler of the shell coincides exactly with the general form of the large land-tortoises, of which it exhibits only a magnified representation, flattened at the top and vertical at the sides, with the same outline and recurved margin. The shell was estimated to have been twelve feet three inches long, eight feet in diameter, and six feet high.

The extremities were described as constructed exactly as in the land-tortoises, in which the form of the femur and humerus is marked by peculiar characters. These bones in the fossil were of a huge size, corresponding to the dimensions of the shell. The ungueal bones indicated a foot as large as that of the largest *Rhinoceros*. The humerus was more curved, and the articulating head more globular and deeper in the fossil, from which it was inferred that it had a stronger articulation, greater rotation, and that the *Colossochelys* was enabled to bring its anterior extremities more under its weight than is the case with existing tortoises.

The affinities with *Testudo* shown in the shell and extremities were found to hold equally good in the construction of the head, of which a comparatively small-sized specimen, inferred to have belonged to a young or half-grown *Colossochelys*, was exhibited. The head of the adult to correspond with the dimensions of the shell, and according to the proportions furnished by a large *Testudo Indica*, was deduced to have been two feet long.

There were no ascertained cervical vertebræ to afford direct evidence as to the length of the neck, which was constructed in the diagram relatively to the proportions of *Testudo Indica*. The entire length of the *Colossochelys Atlas* was inferred to have been about eighteen feet, and that it stood upwards of seven feet high.

The generic name given by the discoverers has reference to the colossal size of the fossil (*κολοσσὸς* et *χέλυσ*), and the specific one to its fitting representation of the mythological tortoise that sustained the world, according to the systems of Indian cosmogony.

The anatomical details occupied so much of the evening, that space was not left for Dr. Falconer to enter on general points connected with the fossil, such as its possible connexion with the mythological fables of the Hindoos and the æra of its extinction, which will form the subject of another communication.

The results of a chemical analysis of the bones by Mr. Middleton were communicated, showing that they contained a very large quantity of fluorine. Some rough sketches of the *Colossochelys* were exhibited, etched on glass by means of the fluorine yielded by its own bones. The analysis indicated the presence of 11 per cent. of fluoride of calcium.

Mr. Gould exhibited a series of Birds from Australia, collected partly by himself and partly by Mr. Gilbert, viz. :—

Fam. COLUMBIDÆ.

GEOPELIA PLACIDA. *Geop. facie et gutture cinereis; occipite, dorso alisque e cinereo-fuscis; singulis plumis ad apicem nigerrimo fasciatis, alulis spuris primariisque saturatè fuscis, humeris subtus castaneis, pectore, lateribus, et nuchâ cinereis lineis angustis nigris crebrè fasciatis, et lateribus vinaceis.*

Face and throat grey; occiput, back and wings ashy brown; each feather with a band of deep velvety black at the extremity; spurious wings and primaries dark brown; under surface of the shoulders



Falconer, Dr. and Cautley, Capt. 1844. "Communication on the Colossochelys Atlas." *Proceedings of the Zoological Society of London* 12(03-26), 54–55.

View This Item Online: <https://www.biodiversitylibrary.org/item/46217>

Permalink: <https://www.biodiversitylibrary.org/partpdf/387846>

Holding Institution

Natural History Museum Library, London

Sponsored by

Natural History Museum Library, London

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.