

March 13th, 1860.

Dr. Gray, V.P., in the Chair.

Mr. F. Buckland exhibited an embalmed Egyptian *Ibis*, and made some remarks upon the state of preservation of the animal as ascertained by dissection, and on the causes of the veneration of this species of bird by the ancient Egyptians.

Mr. Sclater exhibited specimens of *Oreophasis derbianus*, obtained by Mr. Osbert Salvin, Corresponding Member, on the Volcan de Fuego, Guatemala. Of the three examples, two were males and one a female. The female, which was previously unknown, differed from the male only in its slightly smaller size and the smaller development of the vertical protuberance.

Mr. Sclater also announced the arrival of two important acquisitions for the Society's Menagerie. A fine specimen of the Gigantic Salamander of Japan (*Sieboldia maxima*) had just been obtained from Capt. Charles Taylor of the ship 'Tung Yu,' by whom it had been brought to England from Japan. Capt. Taylor stated that he had purchased the animal in the market at Nagasaki on the 10th April, 1859, and had since kept it on board his vessel in a wooden tub. The second novelty was of a different class of Vertebrates. Mr. J. Petherick, H.M. Vice-Consul at Chartoum, had deposited in the Society's Gardens that day two living examples of the singular bird described by Mr. Gould before the Society in 1851\* under the name of *Balaniceps rex*. These two birds, with a young male Hippopotamus, also at present placed under the care of the Society, were the sole survivors out of a noble collection of three African Elephants, two Rhinoceroses, four Hippopotami, a Monkey (*Colobus guereza*), and eleven birds, which had been prepared by Mr. Petherick for transmission to England.

Mr. P. L. Simmonds stated that he had received that day by the West African Mail a letter from his brother-in-law at Gaboon, dated January 14th last, and begged leave to communicate to the Members some information extracted from it, relating to the habits and temper of the Gorilla in a state of confinement. A fine specimen, which his brother-in-law had obtained, had died, and the skeleton, with that of a large adult female Chimpanzee, had been shipped for England. His brother-in-law was now again in possession of a very healthy young female Gorilla (the second, he believed, that had ever been captured alive). It was tame, lively, sensible, and not near so noisy or dirty as a Chimpanzee. It had grown an inch or two since he had purchased it, and seemed to be thriving well. Many people came to

\* Sec P. Z. S. 1851, p. 1. pl. xxxv.

the factory expressly to see it, and it was one of the "lions" of Gaboon; so little was known, even on the coast, of this animal by the natives.

Dr. Crisp exhibited some specimens and drawings of the *Cœnurus cerebralis* from the brains of the Common Sheep. One cyst measured 4 inches in length, and  $2\frac{1}{2}$  inches in its short diameter. It contained about three ounces of fluid. The *Echinococci* were all of an oblong form; they varied in size in different cysts, some being about  $\frac{1}{12}$ th of an inch in length, others from  $\frac{1}{20}$ th to  $\frac{1}{30}$ th of an inch. In some instances the parent-cyst was quite covered with them; in other examples they were arranged in groups of two or three hundred in each, and five or six of these masses were present in the same cyst. For the most part, their size was tolerably uniform, but a few were one-third or a half less than the others; this diminution of bulk appearing to depend upon an arrest of growth from the pressure of the contiguous entozoa. The rostrum and hooks were seen only in a few, and occasionally two heads existed. The body in many was faintly marked with transverse lines, but no trace of generative organs or of an alimentary canal was visible. On exposure to gentle heat, they became hard and granular. Dr. Crisp said he thought it somewhat doubtful whether these *Echinococci*, as supposed by many, were the young of a tape-worm; the matter, he believed, yet required much patient investigation.

The following extracts from the 'Bermuda Royal Gazette' of Jan. 31st, 1860, relating to the recent capture of a large species of *Gymnetrus* in the Bermudas, were read to the Society:—

"To the Editor of the 'Royal Gazette.'"

"MY DEAR SIR,—As the Ichthyological specimen captured by Mr. George Trimmingham, at Hungary Bay, has attracted some public attention, perhaps a short description of the creature in question may prove interesting to your readers. I have therefore much pleasure in forwarding the following particulars.

"Believe me, very truly yours,

"J. MATTHEW JONES, F.L.S.

"The Hermitage, January 26th, 1860."

"Order ACANTHOPTERYGII. Family CEPOLADÆ.

"Genus *Gymnetrus*.

" — — — ?

"Body attenuate, compressed, naked, tuberculate; cuticle a silvery covering of metallic lustre; length from facial to caudal extremities 16 feet 7 inches; depth, at 14 inches from facial extremity, 9 inches, increasing gradually to near the ventral extremity of the stomach, where it attained its greatest depth of 11 inches, and then decreased by degrees to the caudal termination; width, at the same distance

and through the spinal column,  $2\frac{1}{2}$  to 3 inches. (These dimensions are in the extreme.)

"From the frontal extremity of the caput (excepting a slight depression at the occiput) to the position at which the above dimensions of depth and width were taken, a gradual elevation of the dorsal ridge took place; and from the capital portion of this ridge arose at equal distances from each other a series of ten or eleven erect, quill-like, flexile filaments from 2 to 3 feet in extent, gradually tapering from base to apex, and possessing in the case of the three longest lanceolate points. From this series of lengthened filaments, all along the back, from head to tail, extended a series of intermittent fins so closely situate to each other as to present the appearance of a single fin, and having the spinose rays of each individual fin joined by the connecting membrane. Filaments and dorsal fin bright crimson. The ventral fins were entirely destroyed, save a portion of the *right* ventral, which is sufficient to show that it was composed of two consistent bony rays, which probably extended some distance from the body and must have formed a powerful engine of direction. The pectorals were also almost entirely destroyed, although the base of the *right* pectoral was sufficiently complete to enable me to state that it contained twelve spines. Anal and caudal fins absent.

"Head truncated, compressed; facial outline of a dark colour. Mouth so damaged as not to be positively determinable as regards form and appearance, but from the portions of jaw still remaining I should pronounce it malacostomous. Eyes, 14 lines in diameter, slightly depressed; irides,  $3\frac{1}{2}$  lines in width, of a bright silver, encircling pupils of a somewhat oval shape, and in colour a light transparent blue. Stomach: intestinal chamber extending from beneath the gills to the anal extremity, 5 feet; unfortunately this chamber had been opened and its contents partially injured before I saw the specimen, but a large portion of milt, intestine, &c. has been preserved, including the major portion of the swimming bladder, which for so large a fish may be considered small; its colour a bright scarlet; this swimming bladder contained a large amount of oily matter, and a piece thrown on the ruffled surface of the water immediately stilled the agitation. Gill-rays eight in number, four to a side, crimson, flabellate; the anterior pairs furnished with double rows of flabels, having the internals white, and armed on their inner side with minute dart-like appendages. Gill-covers bony, radiate, not entirely covering the gills. Teeth, no appearance of any.

"In concluding the above description, I must not omit to state that it was a male fish, and from the extremely fragile nature of its various parts I may venture to express an opinion that it had by no means attained maturity.

"I may also remark that my measurements were taken twenty-two hours after death, during which time the specimen had remained exposed on the rocky shore.

"*Remarks.*—This genus of Acanthopterygious fishes is of a form so thin and flat in proportion to its length as to have obtained among the ancient ichthyologists the name of Riband Fish. Although several

species are known to science, yet they are all of diminutive size in comparison with the individual now obtained. *Gymnetrus hawkenii*, *G. banksii*, and *G. glesne* are occasionally found in the British Seas.

"So little appears to be known of this singular tribe of fishes, that, even in the present advanced state of marine zoology, their habits, haunts, &c. remain blanks in the book of nature, and will probably long continue so, unless opportunities like the present should occur to enable us to add new facts to the history of these remarkable creatures.

"The most notable fact, however, in connexion with the capture of the present specimen will doubtless be the interest and attraction it will produce in the scientific world, for most assuredly we have in the specimen now before us many of the peculiarities with which the appearance of that hitherto apocryphal monster, the Great Sea Serpent, as detailed by navigators, is invested. The lengthened filaments crowning the caput, joined anteriorly by the connecting membrane and extending to the shoulders, would, viewed from a vessel's deck, present to the spectator the mane so accurately described as a singular feature in the gigantic specimen seen by Capt. M'Quhae, R.N., and officers of H.M.S. 'Dædalus.' Then, again, the rapidity with which that individual specimen moved through the water would coincide with the capabilities of a member of this genus, for the motive power produced by such an extent of tail, coupled with the extremely compressed form of body from the head throughout, must be immense.

"Here, then, we have a partial elucidation of the various statements which have at intervals appeared in the columns of the united presses of England and America, emanating from the pens of travellers, and usually headed 'Occurrence of the Great Sea Serpent,' criticised, however, in an ungenerous manner, and always exposed to an unmerited ridicule at the hands of the many, but nevertheless firmly believed in by the few, who have patiently waited to see the day when the mystic cloud which has hitherto veiled the existence of the maned denizen of the deep should vanish with the suspicion of the sceptic, and exhibit more clearly the truth of the assertions of those ill-used men, who, endeavouring like useful members of society to extend the cause of natural knowledge by publishing candid accounts of what their eyes have seen, have always met with an amount of contempt and reproach sufficient to silence for ever the pen of many a truthful writer.

"I am sorry I have not the number of the 'Illustrated London News' at hand in which Capt. M'Quhae's graphic statement appeared, as it would have afforded me an opportunity of particularizing other features in connexion with his specimen and the present one. The facts, however, regarding the mane-like appendage, and the rapidity of motion to which I have alluded, are still fresh in my memory.

"My best thanks are due to Mr. George Trimmingham, the capturer, for the generous manner in which he placed the fish at my disposal."

The following papers were read :—

1. DESCRIPTION OF A NEW SPECIES OF *ESTHERIA* FROM  
NAGPOOR, CENTRAL INDIA. BY W. BAIRD, M.D., F.L.S.

(Annulosa, Pl. LXXI.)

Since my paper containing a description of a species of *Estheria* (*E. hislopi*) in the Proceedings of 1859, p. 231, was printed, I have received a short communication from Mr. Hislop, enclosing a second species of the same genus from the same locality. This species is considerably larger than *E. hislopi*, and differs from it entirely in shape and markings. The carapace is oval, flat, and compressed, rounded in front, where it is most convex, and considerably attenuated posteriorly. The umbo is situated near the anterior extremity; the ventral margin of the shell is rounded, and the dorsal margin, from the umbo to the posterior extremity, slopes downwards and is nearly straight. The carapace is encircled with prominent ribs, which are few in number (about seven or eight) and of considerable size. The intervening spaces are smooth, rather broad, generally convex in the centre, and do not present any of that elaborate sculpture which the other species from India (described and figured in the Proceedings of the Zoological Society, 1849)—*Estheria polita*, *E. similis*, and *E. boysii*—exhibit so distinctly; neither do they show the excavated punctations of *E. hislopi*. They are merely very slightly punctate. The specimens sent being preserved dry, the animal has not been observed.

“The specimens now sent,” says Mr. Hislop in his letter to me, “were obtained in shallow pools at Nagpür, Central India, about the middle of July, *i. e.* a month after the commencement of the rainy season there. If the pools dry up, as they frequently do, about the end of July, when there is a break in the Monsoon, the creatures perish, not to reappear that season, however copious may be the showers; but they are found in abundance at the beginning of the Monsoon in the following year. The orbicular species (*E. hislopi*) is not obtained along with the one above referred to, but occurs about the end of August in a stream which communicates with the large tank on the west of the city of Nagpür.”

The name I propose for this new species, the specimens of which unfortunately are not in a very good condition, is *Estheria compressa*.

*ESTHERIA COMPRESSA*. (Pl. LXXI. figs. 6, 6 a, 6 b.)

*Carapax compressus, ovalis, convex et rotundatus ad extremitatem anteriorem, ad extremitatem posteriorem attenuatus.*

*Margo ventralis rotundatus, margo dorsalis obliquus, fere rectus. Testa costata, superficie vix punctata.*

Length about 5 lines, breadth  $2\frac{1}{2}$ .

*Hab.* Pools of fresh water at Nagpoor, Central India.

*Mus.* Brit.

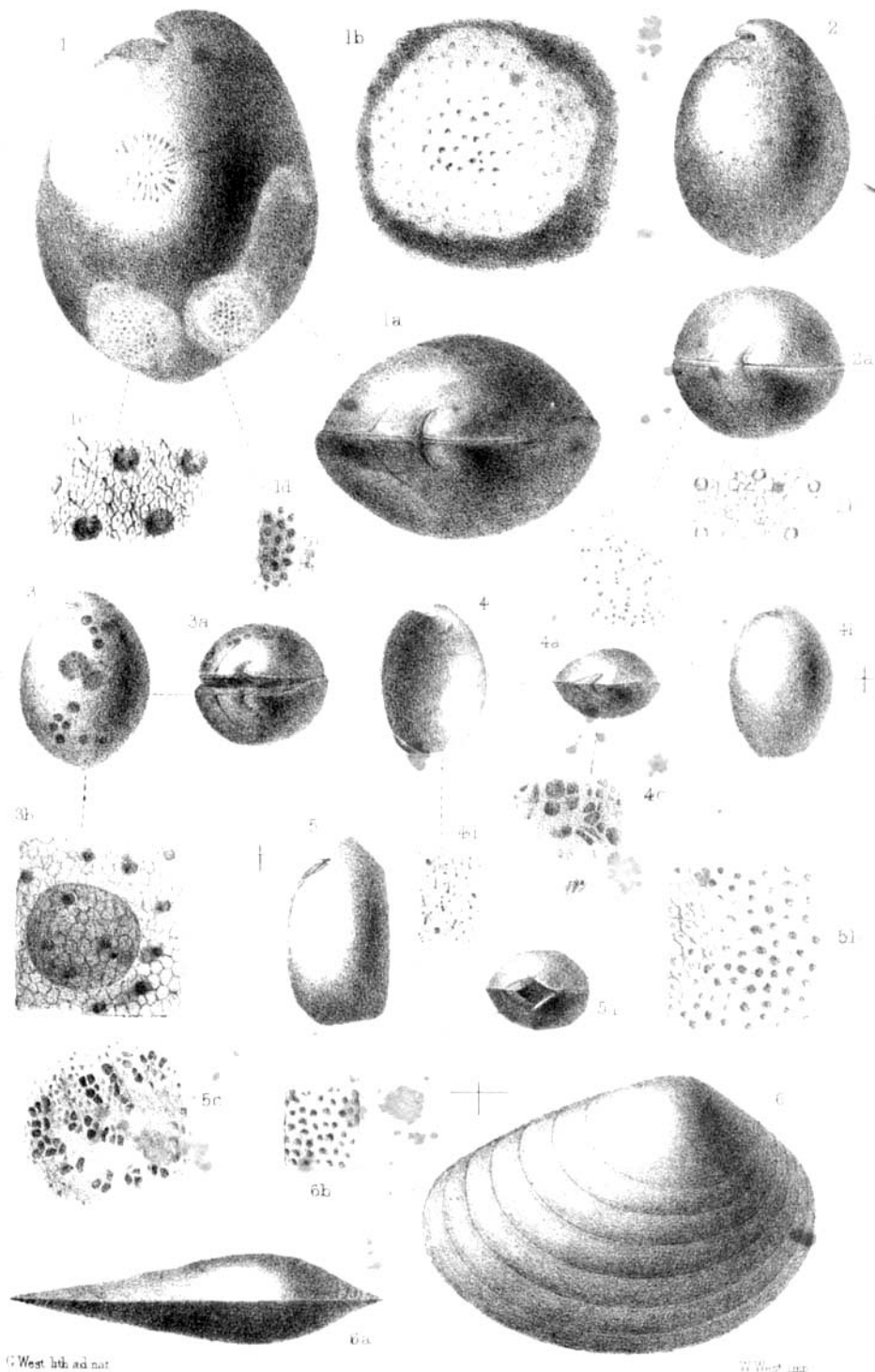


Fig 1, 1a, 1d, *Cypridina albo-maculata*. 2, 2a-2c, *C. Godehevi*. 3, 3a, 3b, *C. ovum*.  
4, 4a-4d, *C. Norvegica*. 5, 5a-5c, *Philomedes longicornis*. 6, 6a-6b, *Estheria compressa*.



## 2. DESCRIPTIONS OF THREE SPECIES OF MARINE SHELLS FROM THE PACIFIC OCEAN. BY W. HARPER PEASE.

### 1. NEPTUNEA FUSCO-LINEATA.

Shell fusiformly turreted, rather thin, shortly twisted at the base; epidermis thin, light, corneous; spire rather slender. Whorls nine, convexly angulated, ribbed longitudinally, and crossed by numerous transverse raised lines; ribs close, swollen, and becoming gradually obsolete on the back of the body-whorl; sutures well impressed; body-whorl convexly depressed above; canal short, slightly twisted to the left, and furnished with a slight umbilical fissure; labrum thin, simple; aperture oblong-oval, half the length of the shell; columella arched, smooth, glossy, slightly callous above. Colour whitish fawn, sparingly streaked longitudinally with brown, and ornamented with subequidistant revolving dark-brown lines.

*Hab.* Corea Sea. Dredged from sandy bottom, in 70 fathoms water.

### 2. TURCICA COREENSIS.

Shell conoidal, rather thin, subdiaphanous, of a light greyish fawn-colour, cinereous at the base, and sparingly marked with oblique stripes and small spots of a deep brown. Whorls flattened; body-whorl large, rounded at its periphery, all ornamented with transverse rows of close, irregular-sized papillæ or granules, which become almost obsolete near the base. Apex acute; suture canaliculated; base convex, imperforate; outer lip sharp. Aperture large, breadth and height equal, and pearly within. Columella oblique, with two obtuse tubercles on its edge.

*Hab.* Corea Sea. Dredged in company with the preceding species.

This species is closely allied to *T. monilifera* (A. Adams). It differs in the aperture being smooth within, and the whorls flat. The figure of *T. monilifera* also represents the sutural canal as being continued round the body-whorl. In the present species it terminates with the suture. The columella is also quite different, descending obliquely to the right.

There was dredged with the two preceding species a single right valve of a *Nucula*, which may possibly prove to be the *N. divaricata*, Hinds. It differs, however, from Mr. Hinds's description in being of an oval form, and in having the anterior teeth nine in number, posterior twenty-one. The epidermis is brown. Length 14, height 10 lines. Should this prove to be distinct from *N. divaricata*, we would propose for it the specific name of "*sculpta*."

### 3. CYPRÆA COMPTA.

Shell oblongo-ovate, rather solid; colour pale fawn-yellow, ornamented with somewhat remote, round, white spots of irregular size, and a flexuous dorsal line of same colour; sides and base white, the former conspicuously dotted with dark brown; extremities produced, the posterior curving to the left; umbilical region concave; right side margined; aperture narrow, flexuose; teeth small, even, twenty-



eight on the outer lip, not extending over the middle; columella teeth twenty-three, not so stout as those on the outer lip, forming an even line on the inner edge of the aperture; columella smooth, sulcated longitudinally, gibbous above and dentated on the extreme inner edge.

*Hab.* Jarvis Island.

The above species differs from *C. esontropia* in colour, being paler, and the spots, though similar in shape, are much more remote, the extremities more produced, and the flat depression on the middle of the outer lip is wanting in *C. esontropia*. The character of the teeth is quite dissimilar, as they are much smaller, greater in number, and do not run over the face of the columella. The absence of brown rings distinguishes it from *C. cumingii* and *C. gaskoinii*.

### 3. ON THE CAUSES OF DEATH OF THE ANIMALS IN THE SOCIETY'S GARDENS, FROM 1851 TO THE PRESENT TIME, 1860. BY EDWARDS CRISP, M.D.—(Part II.)

In addition to the remarks I made in my last communication on the diseases of the Mammalia, I may mention that biliary concretions in the gall-bladder have not been met with, although they are not uncommon in stall-fed oxen and in sheep fed upon much saccharine matter. Derangements and alterations in the colour and consistence of the bile, as shown by the specimens exhibited, are very common: this fluid was often found thick and treacle-like, and in one instance in an old *Leucoryx* (*Antelope leucoryx*) the gall-bladder was much enlarged, and contained 4 oz. by measure of dark-coloured bile. Calculi in the urinary bladder I have not met with, although this viscus has generally been examined. Eye-diseases are not uncommon,—cataract is often present. Of diseases of the ear I believe nothing is known in the lower animals; but it is probable that many cases of deafness and of disorganization of the auditory apparatus would be found, if the subject were inquired into.

Blood-diseases in mammals, birds, and reptiles, form one of the most interesting and instructive part of the inquiry; but my space will not allow me to enter fully into this matter. The blood is often found thick and treacle-like, the colour mottled, some of it often of a pinky hue; large concretions of fibrine often form in the cavity of the heart, and sometimes, I believe, are the means of prolonging life, by accommodating the size of the cavity to the diminished power of the circulating organ.

Since our last meeting, the death of the Red River-hog (*Potamochoerus penicillatus*) has afforded another example of the difficulty of arriving at a correct inference respecting the cause of death. The stomach of this animal was filled with a mass of short, tough straw, which probably the organ was unable to get rid of; the blood\*,

\* Dr. Halford, who took the heart home for investigation, confirmed this statement respecting the appearance of the blood; he found also some amount of inflammation of the living membrane of the heart.

however, presented the mottled, pinky appearance before described ; under the microscope many of the corpuscles were irregular in shape, and some apparently disintegrated.

#### BIRDS.

Of these I have dissected many hundreds, but I need not enter minutely into the nature of their diseases. Affections of the liver and of the alimentary canal are the most common, and those of a tubercular character greatly preponderate. Tubercle in birds, I believe, is often very rapidly deposited, especially one form of it, viz. the nodular or albuminous. The liver, spleen, and intestinal tube often contain large masses of tubercular deposit, as shown in the specimens and drawings. This deposit in the lungs of birds is comparatively rare. In some of the *Raptores* I have found large tumours in the chest closely adherent to the ribs, and of a hard, fibro-tuberculous character. The viscera of some Wading birds (*Grallæ*), especially the Storks and Cranes, have offered the most remarkable deviations from normal structure in the shape of tuberculous and inflammatory products. In some instances I have been led to attribute the cause of death to the presence of a quantity of tough grass in the gizzard, which so interfered with the grinding process of the organ as to prevent a proper supply of chyle ; hence the diseased state of blood and other derangements that followed. Nails, buttons, pieces of wood, and other extraneous bodies in the gizzard, are very common, but I have not been able to discover any ill effects from them. In a Great Black-backed Gull (*Larus marinus*) that had been some time in the Gardens, a large fish-hook (by which probably the bird had been captured) was imbedded in the proventriculus.

Diseases of the kidneys are very common in birds, the weight of these organs in proportion to the body being greater than in any other class of animals,—*a fact, I believe, never stated before* ; but it serves to explain, in some degree, the prevalence of morbid changes in these viscera. The renal organs in birds in confinement are often enlarged, softened, fatty, and granular ; in some cases tubercular : but one of the most remarkable changes in connexion with the kidneys of birds is obstruction of the ureters, and occasionally a blocking up of the *cloaca* with *urate of ammonia* in a hardened state. This I have often met with, and I believe, combined with diseased blood, it is a frequent cause of death. Pericarditis (inflammation of the heart-bag) I have observed more frequently in this class than in any other ; frequently complete adhesion of the pericardium to the heart from old or recent inflammation is found crippling the action of the circulating organ. The internal cavities of the heart, too, often bear evidence of inflammation and its consequences.

Dropsy of the pericardium and of the thoracic air-cells, I have several times seen ; and the legs and feet of the long-legged birds, such as the Cranes, Storks, and Herons, are often œdematous.

Hydatids (*Echinococci*) of the liver and other viscera are of fre-

quent occurrence, and sometimes are of large size. Thus in the Crowned Pigeon (*Goura coronata*) one of these cysts in the liver contained more than 3 oz. of serous fluid. Some of them were occasionally filled with concrete biliary matter after the death of the *hydatids*. A good specimen of this was lately seen in the old Honduras Turkey (*Meleagris ocellata*) which died at the Gardens. Diseases of the feet, as in caged birds, are of frequent occurrence, especially among the perchers. The toes get stiff and contracted, the nails are sometimes lost, and occasionally the feet are affected with a kind of dry gangrene. Excrescences from the abnormal production of cuticle are likewise very common.

*Entozoa* and *Epizoa* are very numerous, in diseased animals especially: but, as I intend to bring this matter before the Society in a separate paper, I need only mention it here. *Pediculi* in birds are often very abundant—these parasites, like some in human shape, appearing to flourish best where corruption is most rife; but in the viscera of birds I have often found a lower form of life, existing I believe long before death, viz. the presence of *fungi*. I have not only met with the sporules of mould in the tubercular lungs (as others have described before me), but I have seen them also upon deposits of lymph in the abdomen.

#### REPTILES.

In the *Chelonians* it is often difficult to ascertain the cause of death, many of them apparently being a long time dying, and frequently death not being detected until some days after dissolution; so that I have not been able to arrive at any satisfactory evidence as to the morbid changes. In a few instances I have seen small tubercles of the liver.

*Saurians*.—The same remark respecting the morbid changes will apply to *Loricata*; in these, however, I have found more satisfactory evidence of disease, the tubercular being the most frequent lesion. As I stated some time since at the Society, in ten Alligators and Crocodiles that I examined, the stomachs of all contained stones and pieces of wood, and in two others since inspected I have found the same substances.

In some of the Lizards I have seen the intestines obstructed with hard feculent matter. In a large Iguana the intestinal tube was blocked up with grape-stones. The death of one of the Lizards (*Uromastix spinipes*) arose partly from bleeding from the lungs. The reptile in question, the lungs and liver of which were studded with tubercles, was put into a warm bath—rather a strange mode of treatment for a cold-blooded animal—and hæmorrhage was the result. Let me make one observation about the temperature of the Reptile-house. None of the reptiles here are cold-blooded, their bodies being of a like temperature with that of the surrounding atmosphere; and the same remark will apply to those living in hot climates. The time some reptiles will go without food, and without any apparent diminution of bulk, is also a circumstance worthy of note. I dissected a Python (*Python molurus*) that had not fed for ten months;

and even more extraordinary examples than this could be adduced. To return to the diseases of the Lizards, I may add, that the tubercular are the most common.

*Ophidians*.—In this division one of the most remarkable and peculiar diseases is found. It will be remembered that a few years since a great mortality occurred among the serpents; nearly all of them died, and I had an opportunity of examining a great many of them. The disease, which I believe is highly contagious, consists of ulceration of the lining membrane of the mouth, and the deposit of masses of semitubercular matter in different parts of the intestinal tube, but chiefly in the rectum, blocking up the canal, and producing obstruction. With this form of disease there is also a peculiar condition of the blood. Some of the reptiles dying of this affection were very fat, especially the Puff Adders (*Crotho arietans*).

Tubercles in the liver, lungs, and other parts in the Ophidians, are very frequently met with. In the Boa which some years ago was said to have swallowed a blanket, it will be seen by the drawings now exhibited that the lungs and liver were thickly studded with small miliary tubercles; but the immediate cause of death was inflammation of the pericardium (heart-bag): upon this, and hanging from it, were large flakes of lymph partly organized.

*Batrachians*.—I have had but few opportunities of examining specimens of this order soon after death, and therefore cannot speak of their diseases.

I may make one observation respecting the reparative power in the reptiles. In many of them it is very rapid. In a Boa that had its tail accidentally jammed off, the part was very quickly repaired; and I have seen many instances of the same kind in reptiles; and, if the accounts are to be believed, the large Salamander (*Sieboldia maxima*) just obtained by the Society will reproduce its extremities—bone, muscle, integument, and other parts.

In bringing this imperfect sketch to a conclusion, I may observe that my time and space have been too limited to do justice to the subject; but I trust that the information conveyed will not prove altogether unprofitable.

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March 27, 1860.

Professor Busk, F.R.S., F.Z.S., &c., in the Chair.

Mr. John Petherick exhibited the head and horns of a rare Antelope from Central Africa (*Antilope leucotis*, Licht., Mem. Acad. Berol. 1854, p. 99).

The Secretary exhibited an egg of the King Vulture (*Gyparchus* No. 429.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.