properties, but so does the white corpuscle of the human blood which is an indubitable cell.

2. It is interesting to observe that the similarity of the "columnar bodies" of the *Rhabdocœla* to the "thread-cells" of the Medusæ, Polypes, &c. is only superficial, and that therefore the value of the existence of the latter bodies, as a character, is not weakened.

We believe it to be very probable that further investigation will show that the existence of "thread-cells" in *Eolis* is only accidental, and that the genuine "thread-cell" is as characteristic of the Polypes and Acalephæ as the mammæ of the Mammifera.

3. In all probability, to this list of animals containing chlorophyll should be added *Spongilla fluviatilis*. Its occurrence in so highly organized animals as the Turbellaria is however very interesting, and removes one more of the supposed distinctions between plants and animals.

5. To this catalogue of organs of sense, we believe that the ciliated pits of the Nemertidæ might be added as either gustatory or olfactory organs; such ciliated pits in connection with the nervous centres, and very probably subserving one or other of these functions, are found in *Amphioxus*, the Tunicata, and the Rotifera.

7. The existence of chitin in the Turbellaria, in *Clepsine*, *Nephelis* (which confirms Grube's statement that it is found in the Annelida), and the Hydroid Polypes (to which, according to Grube, we must add the Nematoid worms), is a fact of great value, as its presence has been regarded as characteristic of the Arthropoda.

Finally, the demonstration with which Dr. Schulze furnishes us of the true structure of the Nemertidæ, gives a new proof, if any were wanted, of the extreme value of the microscope, as a means of checking the results of dissection among the Invertebrata. More would be done for the true knowledge of the structure of the Nematoid worms by the lucky discovery and careful examination of some very transparent species, than all the labours of the knife and forceps have hitherto effected.

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

July 9, 1850.—John Gould, Esq., F.R.S., in the Chair.

DESCRIPTION OF FIVE NEW SPECIES OF ANODONTÆ, COLLECTED BY H. CUMING, ESQ. IN THE EAST INDIES. BY ISAAC LEA.

ANODONTA GRACILIS. *A. testâ latâ, subcylindraceâ, inæquilaterali; valvulis tenuibus; natibus subprominentibus; epidermide luteâ; margaritâ vel albâ vel purpureâ.*

Hab. Dingle, Isle of Panay.

Diam. 1; length 1·7; breadth 3·4 inches.

Remarks.—This species is more cylindrical than is usual with the *Anodontæ*, and differs from the other species taken by Mr. Cuming

in this character: it is rounded anteriorly, and is subangular posteriorly. The dorsal margin is nearly straight, the basal margin is slightly emarginate, the disc being disposed to be flattish. In the specimens under examination, the beaks are all more or less eroded, but in the youngest there are slight indications of undulations. The ligament is thin and long; the marks of growth are distant and rather dark, and the epidermis in the young is yellow or greenish, in the older it is darker and brown; the anterior cicatrices are distinct; the dorsal small, and placed in the cavity of the beaks.

The five species herein described are remarkable in the character of the dorsal line, which rises immediately under the margin into a dentoid line, somewhat lamellar, and approaching in its character the more distinct tooth of the genus *Dipsas* (Leach). In the younger specimens this is much more distinctly marked, and in the older it becomes obsolete. This group of *Anodontæ*, having this dentoid character, would seem to form a natural connexion on one side with the genus *Dipsas*, and on the other with the genus *Unio*, connecting with *U. Bengalensis*, brought by Dr. Burrough from India, and described by me in the 'Trans. Am. Phil. Soc.' vol. vi. pl. 2. fig. 3. This peculiar form of tooth, if it may so be called, is peculiar to that part of the world, so far as my observation extends; for among the numerous species examined by me from Europe, Africa and America, South as well as North, I have never met with this character developed as in those alluded to above.

ANODONTA CREPERA. *A. testâ ellipticâ, subcompressâ, inæquilaterali; valvulis tenuibus; natibus subprominentibus; epidermide tenebroso-fuscâ; margaritâ vel albâ vel purpureâ.*

Hab. Bongabon, Luzon, Philippines.

Diam. 1·1; length 1·8; breadth 3·3 inches.

Remarks.—Five of the six specimens under examination are purple, the sixth whitish. The outline is nearly oval. One of the specimens is obtusely biangular posteriorly; the substance of the shell is slightly thickened anteriorly; the beaks are too much eroded to observe any undulations; the ligament is rather short and thin; anterior cicatrices distinct; dorsal cicatrices small, and placed in the centre of the cavity of the beaks. The species is closely allied to *A. tenuis*, but is not quite so thin and is more transverse. Three specimens of the young have a well-defined anterior lamellar tooth and a distinct posterior raised line, which in the left valve is slightly divided. This is so marked in these young specimens, that one would scarcely hesitate to place them among the *Uniones* if we had not the adult, which have scarcely a vestige of the elevation on the dorsal line.

ANODONTA TENUIS. *A. testâ ellipticâ, compressâ, inæquilaterali; valvulis pertenuibus; natibus subprominentibus; epidermide tenebroso-fuscâ.*

Hab. Sual, Luzon, Philippines.

Diam. 1; length 1·7; breadth 3 inches.

Remarks.—This is very closely allied to *An. crepera* herein described, and may, perhaps, when more specimens of the old and young

of both species are compared, prove only to be a variety. The specimens before me, however, differ in the *tenuis* being rather thinner and less elliptical, the outline inclining to oblong. The existence of teeth in the young, and the rudiments on the dorsal line in the adult, are very similar to the *crepera*. Of the four specimens before me, two have the nacre purple and two white. The beaks are too much eroded to observe any marks of undulations. The ligament is rather long and thin. Anterior cicatrices distinct; dorsal cicatrices small, and placed in the centre of the cavity of the beaks.

ANODONTA SUBCRASSA. *A. testâ oblongâ, subinflatâ, subæquilaterali; valvulis subcrassis; natibus prominentibus undulatisque; epidermide luteo-fuscâ; margaritâ albidâ, colore salmonis tinctâ et iridescente.*

Hab. Laguna de Bai, Luzon, Philippines.

Diam. 1·2; length 1·7; breadth 2·9 inches.

Remarks.—It is rare to meet with an *Anodonta* of the thickness of this species, but it still is not so ponderous as the *arcuata*, Fer., or as *lato-marginata* (Nobis). It cannot be confounded with either of these species, not being arcuate, and not having compressed beaks like the former, and being oblong and thinner than the latter, as well as also being destitute of the broad margin. The substance of the shell is slightly thickened anteriorly, and the basal margin is emarginate; the beaks are submedial, and when perfect are beautifully ornate with numerous small folds which form an acute angle from the point of the beaks, nearly parallel to the line of the umbonal slope; the ligament is short and rather thick; anterior cicatrices distinct; dorsal cicatrices large, and placed in the cavity of the beaks. The colour of a single young specimen before me is salmon inclining to purple, and the adults have the cavity of the beaks tinted in this manner. In the young specimen the lamellar line on the dorsal margin is very well defined, in the adults this character is nearly obliterated.

ANODONTA CUMINGII. *A. testâ ellipticâ, compressâ, inæquilaterali; valvulis subcrassis; natibus vix prominentibus; epidermide atro-fuscâ; margaritâ albâ et iridescente.*

Hab. Malacca.

Diam. 1; length 1·9; breadth 3 inches.

Remarks.—This is an interesting species, and remarkable in the form of the dorsal line, which is thickened and raised immediately under the beak, where it is slightly incurved. This disposition to form a curve tooth reminds us of that group of *Naïades* which M. D'Orbigny discovered in the rivers of South America, and which comprise his genus *Monocondylæa*. In fact, this species forms a perfect link between the *Anodontæ* and his genus, and it is allied very closely to that species of this group which I described in the 'Trans. of the Am. Phil. Soc.' vol. viii. pl. 18. fig. 39, under the name of *Margaratina Vonderbuschiana*, from Java. The form of the tooth of the *M. Bonellii* also approaches to these. The anterior margin of the *Cumingii* is rounded, the posterior is somewhat biangular; the anterior cicatrices confluent; the dorsal cicatrices form a line across

the cavity of the beaks. In all the four specimens under examination, the beaks are too much eroded to observe any undulations. An unusually dark line marks the course of the pallial impression.

Note on Tragelaphus Angasii. By Mr. Proudfoot.

The skins which I exhibit to the Society are those of an old ram and of a young female Antelope, which I shot on the banks of the Mapoota River, about sixty miles above its embouchure into Delagoa Bay. This river flows through the country of Mankazána, king of the Mathlengas (or Cutfaces), which people call this animal *Inyala*.

It is also found on another river called Umcoozi, running into St. Lucie Bay in the territory of Umpanda, king of the Zoolu, but very rarely.

On the Mapoota the Inyala are more numerous, and occur in small troops, composed of one ram and four or five females with their young. They are always found in the densest bush: they browse chiefly on shrubs, and resemble the Bush-buck in their general habits.

The average height of an adult male is within a third of an adult Koodoo, and very much above that of a Bush-buck.

The female has no horns, resembles a female Koodoo in form, and is rather smaller in size.

July 23.—W. Yarrell, Esq., V.P., in the Chair.

On new species of Birds from Australia. By J. Gould, F.R.S., F.Z.S. etc.

On the present occasion I propose to characterize seven more of the novelties sent home by Mr. MacGillivray, Naturalist to H.M.S. 'Rattlesnake.' *Vide* Ann. Nat. Hist. vol. vi. p. 137.

Tanysiptera Sylvia.

Bill and feet sealing-wax red; crown of the head, wings, and five lateral tail-feathers on each side blue; ear-coverts, back of the neck and mantle black; in the centre of the latter a triangular mark of white; rump and two middle tail-feathers pure white; all the under surface cinnamon-red.

Total length, 15 inches; bill, $1\frac{1}{2}$; wing, $3\frac{5}{8}$; lateral tail-feathers, 3; middle tail-feathers, $9\frac{1}{8}$; tarsi, $\frac{1}{2}$.

Hab. Cape York, Northern Australia.

Remark.—About the size of *T. Dea*. Fine specimens are contained in the British Museum collection.

Halcyon (Syma?) flavirostris.

Bill fine yellow, passing into brown at the tip; crown of the head, back of the neck, ear-coverts and flanks cinnamon-red; at the back of the neck a narrow, broken collar of black; throat and lower part of the abdomen tawny white; back and wings sordid green; rump and tail greenish blue.

Total length, 7 inches; bill, $1\frac{7}{8}$; wing, 3; tail, $2\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Cape York, Northern Australia.

Remark.—Smaller, but nearly allied to the *Syma Tirotoro* of M.

Lesson. Some specimens have the crown of the head black. Fine specimens are contained in the collection at the British Museum.

DRYMODES SUPERCILIARIS.

Lores white; immediately above and below the eye a black mark, forming a conspicuous moustache; crown of the head and upper surface reddish brown, passing into chestnut-red on the rump and six middle tail-feathers; remainder of the tail-feathers black, tipped with white; wings black, with the base of the primaries and the tips of the coverts white, forming two bands across the wing; throat and centre of the abdomen fawn-white; chest and flanks washed with tawny; bill black; legs fleshy brown.

Total length, $8\frac{1}{4}$ inches; bill, $\frac{7}{8}$; wing, $3\frac{3}{4}$; tail, 4; tarsi, $1\frac{5}{8}$.

Hab. Cape York, Northern Australia.

Remark.—About the size of *D. brunneopygia*. Fine specimens in the British Museum collection.

CARPOPHAGA ASSIMILIS.

Head, throat and ear-coverts grey; all the upper surface, wings and tail golden green; wing-coverts with a spot of rich yellow at the tip, forming an oblique band across the shoulder; line down the centre of the throat, chest and abdomen rich purple; under wing-coverts, vent, thighs and under tail-coverts rich orange-yellow; basal portion of the inner webs of the primaries and secondaries purplish cinnamon.

Total length, 14 inches; bill, 1; wing, 7; tail, 6; tarsi, $\frac{3}{4}$.

Hab. Cape York, Northern Australia.

Remark.—Very similar to *C. magnifica*, but considerably less in all its admeasurements. Specimens in the British Museum.

CHLAMYDERA CERVINIVENTRIS.

Upper surface brown, each feather narrowly margined, and marked at the tip with buffy white; throat striated with greyish brown and buff; under surface of the shoulder, abdomen, thighs and under tail-coverts light pure fawn colour.

Total length, $11\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; wing, $5\frac{3}{4}$; tail, 5; tarsi, $1\frac{5}{8}$.

Hab. Cape York, Northern Australia.

Remark.—Intermediate in size between *C. nuchalis* and *C. maculata*, and distinguished from both by the fine fawn colouring of the under surface. A specimen in the British Museum of the male, apparently somewhat immature.

NECTARINIA AUSTRALIS.

Crown of the head and upper surface olive-green; over and under the eye two very indistinct marks of yellow; throat and chest steel-blue; remainder of the under surface fine yellow; bill and feet black.

Total length, $4\frac{3}{4}$ inches; bill, $\frac{7}{8}$; wing, $2\frac{1}{8}$; tail, $1\frac{1}{2}$; tarsi, $\frac{5}{8}$.

Hab. Eastern coast of Australia.

Remark.—Differs from *N. frænata* in its larger size, in its straighter bill, and in the stripe of yellow over the eye being almost obsolete. Specimens in the British Museum.

MONARCHA LEUCOTIS.

Crown of the head, back of the neck, back, primaries and six middle tail-feathers black; the three lateral tail-feathers on each side black with white tips; lores, a broad mark over the eye, ear-coverts, sides of the neck, scapularies and upper tail-coverts white; throat white, bounded below with black, the feathers lengthened and protuberant; chest and abdomen light grey; bill and feet lead-colour.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{3}{4}$; tail, $2\frac{3}{4}$; tarsi, $\frac{5}{8}$.

Hab. Cape York, Northern Australia.

Remark.—About the size of *M. trivirgata*. Specimens in the British Museum.

A MONOGRAPH OF MODULUS, A GENUS OF GASTEROPODOUS MOLLUSCA, OF THE FAMILY LITTORINIDÆ. BY ARTHUR ADAMS, R.N., F.L.S.

MODULUS, Gray.

Animal with the head proboscidiform, the tentacles tapering, with the eyes near their distal ends. Foot small, the sides simple, without lobes or filaments. Operculum thin, horny, orbicular, paucispiral. Shell globose or conical, whorls nodulous; aperture round, or quadrangular, not pearly within; columella anteriorly with a prominent lamelliform tooth; umbilicus more or less open.

Modulus, *Gray*.—Turbo, sp. *Adanson*—Monodonta, sp. *Lamck.*—Monodonta, *Swains.*—Morulus, *Reeve*.

The aperture of the shell not being pearly within, and the animal being destitute of eye-peduncles, head- and foot-lobes or filaments, at once distinguishes this genus from *Monodonta*, and removes it from the family *Trochidæ*.

1. MODULUS LENTICULARIS, Chemnitz.

Trochus lenticularis, *Chem. Conch.* 5. t. 171. f. 1665.
Trochus modulus, *Linn. Gmel.*
Hab. Mexico. (Mus. Cuming.)

2. MODULUS TECTUM, Gmel.

Trochus tectum, *Gmel.* p. 3569. no. 16.
Monodonta retusa, *Lamck. Encyclop.*
Hab. Siquejar, Philippines; *H. C.* (Mus. Cuming.)

3. MODULUS CARCHEDONICUS, Lamck.

Monodonta carchedonicus, *Lamck. Hist. An. s. Vert.* tom. vii. p. 33; *Chem. Conch.* 10. t. 165. f. 1583, 1584.
Monodonta Sayii, *Nuttall.*
Hab. Atooi, California; *Nuttall.* (Mus. Cuming.)

4. MODULUS CIDARIS, Reeve.

Morulus cidaris, *Reeve, Elements of Conch.* p. 141. pl. 13. f. 63.
Hab. St. Estivan; *H. C.* (Mus. Cuming.)

5. MODULUS CERODES, A. Adams. *M. testâ turbinatâ, umbilicatâ, albidâ, fusco sparsim inquinatâ, lævigatâ; anfractibus*

rotundatis, supra planulatis, in medio cingulâ bituberculatâ, infernè cingulis nodulosis ornatis; aperturâ rotundâ; labio purpureo tincto, labro intus lævigato; umbilico profundo, callo columellari subobtecto.

Hab. ad Fretum Mosambicum. (Mus. Cuming.)

6. Modulus duplicatus, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, cærulescenti, fusco variegatâ, spirâ prominulâ, acutâ; anfractibus planulatis, transversim sulcatis, ad peripheriam cingulis duabus tuberculorum compressorum ornatis, tuberculis rufo-fusco maculatis, infimâ fasciâ convexâ, concentricè sulcatâ; aperturâ intus violascenti; labro margine angulato, intus lirato; umbilico mediocri.*

Hab. ——? (Mus. Cuming.)

7. Modulus obliquus, A. Adams. *M. testâ orbiculato-conicâ, perobliquâ, albâ, umbilicatâ, spirâ depressâ; anfractibus subplanulatis, liris transversis, elevatis, supra radiatim nodoso-plicatis, ultimo in medio angulato, carinâ prominulâ instructo, infra cingulis transversis elevatis numerosis ornato; aperturâ rotundâ; columellâ roseo tinctâ; labro intus lirato.*

Hab. Mare Rubrum. (Mus. Cuming.)

Eglisia Cumingii, A. Adams. *E. testâ turritâ, solidâ, albidâ, longitudinaliter fusco-flammulatâ; anfractibus rotundatis, cingulis acutis, transversis (in anfractu ultimo sex), lineisque elevatis, transversis, interpositis, ornatis, interstitiis longitudinaliter tenuissimè striatis, varicibus tenuibus, longitudinalibus, inæquidistantibus, instructis; aperturâ rotundatâ, peristomate continuo, labio incrassato, anticè producto, calloso, et reflexo; labro simplici, acuto.*

Hab. Japonia. (Mus. Cuming.)

The obscure longitudinal varices show the true position of this genus to be between *Turritella* and *Scalaria*.

MISCELLANEOUS.

A Description of some of the Objects which cause the Luminosity of the Sea. By Charles William Peach, of Peterhead, N.B.*

[With a Plate.]

There is pleasure in knowing, even when far distant from a spot where so many bright days of our existence have been spent, and where so many valued friends reside, that institutions with which we are connected are still in existence, and to feel that a link of that chain which has so long held us together is still in our possession, and that the time is fast approaching when those kindred spirits will be assembled at one of their annual gatherings, to whom that link,

* Communicated by the Author; having been read at the last Annual Meeting of the Royal Institution of Cornwall in 1850.