

November 25, 1845.

William Horton Lloyd, Esq., in the Chair.

A paper was read containing "Descriptions of fourteen new species of *Helix*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. *HELIX ALBOCINCTA*, Pfr. *Hel. testá umbilicatá, orbiculatoconvexá, tenuiusculá, supernè regulariter et confertim striatá, sericiná, fulvo-corned, carinatá; spirá depresso-conicá, apice obtuso; anfractibus 5½ convexis, cariná albá cinctis, ultimo basi sublævigato, lineis subtilibus, concentricis notato; umbilico mediocri, pervio; aperturá obliquá, angulato-lunari; peristomate simplice, acuto.*

Diam. 11, alt. 5 mill.

Collected by Mr. Cuming at Himamaylan, island of Negros.

2. *HELIX BOHOLENSIS*, Pfr. *Hel. testá imperforatá, depressá, lenticulari, acutè carinatá, tenui, corneo-albidá; spirá convexiusculá; anfractibus 7 planulatis, regulariter confertim striatis, juxta carinam lineis 2 acutè elevatis approximatis cinctis, ultimo basi convexiusculo, striatulo, medio vix impresso, anticè non descendente; aperturá verticali, depressissimá, latè angulato-lunari; peristomate simplice, acuto, margine supero brevissimo.*

Diam. 14, alt. 6 mill.

Var. *minor*, *anfractibus 6½*. Diam. 10, alt. 4 mill.

Collected by Mr. Cuming at Loboc, island of Bohol.

3. *HELIX CYATHUS*, Pfr. *Hel. testá umbilicatá, orbiculato-conicá, supernè arcuatim costulato-striatá, unicolore fuscá; spirá elevatá, obtusè conicá; suturá distinctá, crenulato-marginatá; anfractibus 6½ convexiusculis, ultimo carinato, basi sublævigato, planiusculo; umbilico magno, profundo, cyathiformi; aperturá subverticali, angulato-lunari; peristomate simplice, margine supero recto, basali arcuato, reflexiusculo, columellari breviter descendente.*

Diam. 8, alt. 4½ mill.

Collected by Mr. Cuming at S. Jaun, province of Cagayan, island of Luzon, on the leaves of trees.

4. *HELIX DUBIOSA*, Pfr. *Hel. testá imperforatá, depresso-globosá, tenui, obsoletè malleatá, fulvá, fasciá suturali et areá columellari nigro-rufis, fasciis plurimis angustis epidermidis hydrophanæ albidæ ornatá; spirá subsemiglobosá; anfractibus 4 convexiusculis, celeriter accrescentibus; columellá intrante, planulatá, declivi; aperturá lunato-rotundatá, intus margaritaced; peristomate tenui, albo, latè expanso, vix reflexiusculo, margine basali cum columellá angulum obsoletum formante.*

No. CLIII.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

Diam. 35, alt. 26 mill.

β. *Fasciis 2 nigricantibus ad peripheriam.*

Collected by Mr. Cuming on the island of Samar. This is the shell figured by Mr. Reeve under the name of *H. decipiens*, Sowerby (Conchologia Sytematica, vol. ii. pl. 145. fig. 16); it is nearer allied to *H. mirabilis*, Fér., but may be distinguished as a good species.

5. *HELIX FILOCINCTA*, Pfr. *Hel. testá perforatá, depressá, tenui, pellucidá, cornéa, striatá, nitidá; spirá parùm elevatá, obtusá; anfractibus 5½ convexiusculis, carinatis, ultimo basi convexo; cariná filiformi, in anfractibus superioribus conspicuá, sed non exsertá; aperturá verticali, lunato-subauriformi; peristomate simplice, recto, margine columellari perobliquo, elongato, descendente, ad dextram subitò ascendente.*

Diam. 11, alt. 5½ mill.

Collected by Mr. Cuming at Cagayan, province of Misamis, island of Mindanao.

6. *HELIX GOULDI*, Pfr. *Hel. testá umbilicatá, orbiculato-conicá, tenuiusculá, subtiliter striatá, vix nitidá, unicolore fuscá; spirá elevatá, conoided; anfractibus 6 convexiusculis, ultimo carinato, anticè subrotundato, basi planiore; umbilico mediocri, pervio; aperturá lunato-orbiculari; peristomate simplice, marginibus subconniventibus, dextro recto, columellari subdilato, patente, basali reflexiusculo.*

Diam. 9½, alt. 6 mill.

Collected by Mr. Cuming in the province of Laguna, island of Luzon, and on the island of Negros.

7. *HELIX ORTHOSTOMA*, Pfr. *Hel. testá umbilicatá, depressá, supernè confertim subarcuato-striatá, tenui, pellucidá, pallidè cornéa; spirá vix elevatá, obtusá; anfractibus 6 angustis, convexiusculis, ultimo basi sublævigato; umbilico majusculo, cylindraco; aperturá verticali, obliquè lunari; peristomate simplice, acuto, margine supero brevi, basali valdè arcuato, columellari dilatato, sinuato.*

Diam. 10, alt. 5 mill.

Collected by Mr. Cuming at Dingle, island of Panay, under decayed leaves.

8. *HELIX STRIGILIS*, Pfr. *Hel. testá umbilicatá, depressá, lenticulari, tenui, pellucidá, pallidè cornéa, acutè carinatá; anfractibus 6 angustis, vix convexiusculis, supernè confertim costulato-striatis, lineis elevatis concentricis reticulatis, ultimo basi convexiore, lævigato, nitido; umbilico mediocri, cylindrico; aperturá subverticali, angulato-lunari; peristomate simplice, acuto, margine supero brevi, strictiusculo, basali valdè arcuato.*

Diam. 12, alt. 5½ mill.

Collected by Mr. Cuming at Himamaylan, island of Negros.

9. *HELIX CONSPERSULA*, Pfr. *Hel. testá imperforatá, turbinatá, striatá, opacá, tenuiusculá, stramineá vel cinnamomeá, punctis albis confertissimè conspersá; spirá conoided, apice obtusiusculo,*

*nigricante; suturâ mediocri, castaneo-marginatâ; anfractibus 6 convexiusculis, ultimo subangulato, basi planiusculo; columellâ obliquâ, subarcuatâ, subexcavatâ, albâ, castaneo-marginatâ; aperturâ amplâ, lunato-ovali; peristomate simplice, breviter expanso.*

Diam.  $23\frac{1}{2}$ , alt. 15 mill.

*Hab.* — ?

10. *HELIX HARTMANNI*, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, acutè carinatâ, arcuatim distinctè striatâ, unicolore fusca; spirâ vix elatâ; suturâ lineari; anfractibus 6 planulatis, ultimo non descendente, basi convexiusculo; umbilico magno, perspectivo; aperturâ depressâ, securiformi; peristomate recto, margine supero simplice, antrorsum arcuato, basali subincrassato.*

Diam. 26, alt. 8 mill.

*Hab.* — ?

11. *HELIX HELICOPHANTOIDES*, Pfr. *Hel. testâ perforatâ, depressâ, tenui, obliquè et confertim costulato-striatâ, stramineâ, rufo tessellatâ et strigatâ; spirâ planiusculâ; anfractibus  $3\frac{1}{2}$  vix convexiusculis, rapidè crescentibus, ultimo depresso; aperturâ perobliquâ, amplâ, subovali; peristomate simplice, acuto, marginibus approximatis, callo tenuissimo junctis.*

Diam. maj.  $4\frac{2}{3}$ , alt. 2 mill. (Spec. max. coll. Cuming.)

*Hab.* Island of Juan Fernandez.

The shape of this shell is very like that of *Helicophanta rufa*. Perhaps it may belong to the same genus.

12. *HELIX MARMORELLA*, Pfr. *Hel. testâ perforatâ, depressâ, tenuissimâ, distanter costulatâ, pellucidâ, stramineâ, strigis obliquis et maculis rufis marmoratâ; spirâ planâ; anfractibus 3 vix convexiusculis, rapidè accrescentibus, ultimo basi paulò convexiore; aperturâ perobliquâ, amplâ, lunato-ovali; peristomate simplice, acuto, marginibus callo tenui junctis, supero antrorsum arcuato.*

Diam. 7, alt. 3 mill.

*Hab.* Island of Juan Fernandez.

13. *HELIX KINGI*, Pfr. *Hel. testâ umbilicatâ, depressâ, sub lente confertissimè striatâ, tenui, diaphanâ, stramineâ, rufo-flammulatâ et 1-2-fasciatâ; spirâ depressâ; anfractibus  $5\frac{1}{2}$  convexiusculis, celeriter accrescentibus; umbilico majusculo, perspectivo; aperturâ lunato-ovali; peristomate simplice, acuto, marginibus conniventibus, columellari subdilato, patente.*

Diam. 7, alt. 3 mill. (Spec. max. coll. Cuming.)

*Hab.* Island of Juan Fernandez.—An *H. pusio*, King?

14. *HELIX RADIELLA*, Pfr. *Hel. testâ umbilicatâ, depressâ, sublenticulari, tenui, utrinque confertim costulatâ, corned, strigis crebris undatis, castaneis, ad peripheriam latioribus radiatâ; spirâ vix elevatâ; anfractibus  $5\frac{1}{2}$  convexiusculis, ultimo subangulato, basi planiusculo; umbilico mediocri, pervio; aperturâ subverticali, latè lunari; peristomate simplice, tenui.*

Diam.  $4\frac{3}{4}$ , alt.  $2\frac{1}{2}$  mill.

Collected by Mr. Cuming on the island of Opara.

A paper was also read containing "Descriptions of thirty-six new species of *Helix*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. *HELIX INCEI*, Pfr. *Hel. testâ umbilicatâ, depresso-globosâ, solidulâ, striatâ, sub epidermide pallidè fulvâ albâ, fasciis angustis castaneis cingulatâ; spirâ elevatâ, acutiusculâ; anfractibus 7 vix convexiusculis, ultimo circu umbilicum mediocrem, pervium subcompresso; columellâ arcuatâ; aperturâ perobliquâ, lunato-ovali; peristomate albo, tenui, intus sublabiato, margine dextro vix expanso, basali reflexo, columellari in laminam triangularem dilatatâ, umbilicum semitegente.*

Diam. 38, alt. 28 mill.

β. *Minor, epidermide castanea, fasciis indistinctis, anfractu ultimo basi flavo.*

Diam. 32, alt. 21 mill.

From North Australia, collected by Lieut. Ince, R.N.

2. *HELIX JONASI*, Pfr. *Hel. testâ imperforatâ, globoso-conoidâ, solidiusculâ, lævigatâ, non nitens, pallidè virescens; spirâ obtusè conicâ; anfractibus 5 convexiusculis, ultimo basi subplanato; columellâ albâ, obliquâ; aperturâ lunari; peristomate breviter incrassato, margine columellari subdilatato, adpresso.*

Diam. 28, alt. 24 mill.

β. *Tenuior, apice rubicundo, anfractu ultimo basi nigricante, fascia angusta, nigra ad suturam: H. dimera, Jonas.*

From the Philippine Islands, Mindoro.

3. *HELIX BUSCHI*, Pfr. *Hel. testâ imperforatâ, conico-globosâ, solidiusculâ, tenuiter striatâ, parùm nitidulâ, citrinâ; spirâ conoidâ, obtusiusculi; anfractibus 5½ convexiusculis, ultimo rotundato; columellâ subobliquâ, strictâ, dilatâ, albo-callosâ; aperturâ rotundato-lunari, intus nitidâ, concolore; peristomate tenui, albo, breviter expanso, margine basali cum columellari angulum formante.*

Diam. 23, alt. 23 mill.

From the island of Mindoro.

4. *HELIX PELODES*, Pfr. *Hel. testâ umbilicatâ, subglobosâ, tenuiusculâ, striatâ et minutè granulatâ, rubello-fuscâ; spirâ brevi, obtusiusculâ; anfractibus 6 convexiusculis, ultimo inflato, anticè breviter descendente; umbilico mediocri, pervio; aperturâ lunato-orbiculari, intus margaritacâ; peristomate expanso, saturatè carneo, margine columellari perditato, fornicatim reflexo.*

Diam. 31, alt. 20 mill.

From the north coast of Australia: found under decayed leaves (Lieut. Ince, R.N.).

5. *HELIX HARTWEGI*, Pfr. *Hel. testâ umbilicatâ, depressâ, carinatâ, solidulâ, striatulâ, fuscâ; spirâ vix elevatâ; anfractibus 5 planulatis, ultimo basi paulè convexiore, anticè non descendente; umbilico angusto, pervio; aperturâ perobliquâ, irregulariter subquadratâ; peristomate albo, incrassato, breviter reflexo, margini-*

*bus callo junctis, dextro sinuoso, basali subrecto, dilatato, introrsum calloso, dente unico interposito.*

Diam. 23, alt. 12 mill.

From El Catamajia, near Loxa, republic of the Equator (Hartweg).

6. *HELIX LEPTOGRAMMA*, Pfr. *Hel. testá umbilicatá, globosá, tenui, striatá, lineis impressis, concentricis, confertis, sculptá, carneo-albidá, supernè fasciis 3-4 angustis, rufis ornatá; anfractibus 4½ convexiusculis, ultimo inflato, anticè breviter descendente; aperturá vix obliquá, rotundato-lunari, intus concolore; peristomate albo, simplice, breviter expanso, marginibus callo tenuissimo diffuso junctis, columellari valdè dilatato, albo, nitido, reflexo, umbilicum angustum semioccultante.*

Diam. 17, alt. 13 mill.

From Cygnet Bay, North Australia (Lieut. Ince, R.N.).

7. *HELIX GILBERTI*, Pfr. *Hel. testá umbilicatá, depressá, distinctè striatá, minutissimè granulatá, tenui, pallidè corneá, lined rufá ad suturam cinctá; anfractibus 4½ convexiusculis, ultimo basi convexo; umbilico mediocri, pervio; aperturá rotundato-lunari; peristomate simplice, recto, margine columellari parùm dilatato, reflexo.*

Diam. 16, alt. 9 mill.

From Darling Downs, East Australia (Gilbert).

8. *HELIX ZONITES*, Pfr. *Hel. testá umbilicatá, depressá, tenui, diaphaná, confertim costulato-striatá, lutescenti-corneá; spirá vix elatá; anfractibus 6 convexiusculis, regulariter accrescentibus, ultimo supra medium lined rufá, ad apicem usque conspicuá ornato, basi leviori, subplanulato; umbilico mediocri, pervio; aperturá depressá, obliquè lunato-ovali; intus margaritaceá; peristomate simplice, recto, margine columellari breviter patente.*

Diam. 25, alt. 12½ mill.

*Hab.* Unknown.

9. *HELIX GRIFFITHI*, Pfr. *Hel. testá umbilicatá, globoso-depressá, solidiusculá, levigatá, supernè leviter striatá, corneo-lutescente; spirá breviter elevatá, conoided; anfractibus 6 convexiusculis, ultimo ad suturam castaneo-marginato, ventroso; umbilico mediocri, pervio; aperturá vix obliquá, amplá, rotundato-lunari, intus margaritaceá; peristomate simplice, acuto, marginibus callo tenuissimo junctis, columellari breviter patente.*

Diam. 26, alt. 14 mill.

Locality unknown.

10. *HELIX KOCHI*, Pfr. *Hel. testá umbilicatá, globoso-depressá, solidulá, obliquè distinctè striatá, albidá, fasciis pluribus rufis ad peripheriam ornatá; spirá parùm elevatá, obtusiusculá; anfractibus 6 convexis, sensim accrescentibus, ultimo subcylindrico; umbilico magno, pervio; aperturá lunato-orbiculari, intus concolore, nitidá; peristomate simplice, acuto, marginibus conniventibus dextro antrorsum arcuato, columellari dilatato, patente.*

Diam. 30, alt. 16 mill.

Locality unknown.

11. *HELIX VARIOLOSA*, Pfr. *Hel. testá perforatá, depressá, acuté carinatá, solidá, opacá, lutescente, supernè confertissimè plicatá, lineisque concentricis irregulariter decussatá, pustulis albis subfasciatim obsitá; spirá planiusculá; anfractibus 3½ vix convexiusculis, rapidè crescentibus, ultimo basi convexo, infra carinam compresso; columellá brevi, verticali; aperturá latè securiformi; peristomate simplice, acuto, margine columellari breviter reflexo.*

Diam. 23, alt. 10 mill.

Locality unknown.

12. *HELIX INDUTA*, Pfr. *Hel. testá perforatá, lenticulari, acuté carinatá, solidá, supernè confertim plicato-striatá, lineis confertis concentricis decussatá, subtùs striatá, spadiceá, basi pallescente, circa perforationem castaneo-areolatá, epidermide tenuissimá corneo-grised undique indutá; anfractibus 5 planis, sensim accrescentibus; aperturá subrhombé; peristomate simplice, margine columellari vix reflexiusculo.*

Diam. 21, alt. 11 mill.

Locality unknown.

13. *HELIX BILINEATA*, Pfr. *Hel. testá umbilicatá, depressá, tenui, nitidá, pellucidá, lævigatá, lutescenti-corned; spirá planiusculá; suturá striolatá; anfractibus 5 vix convexiusculis, regulariter crescentibus, ultimo subdepresso, lineis 2 castaneis, alterá supra peripheriam, alterá suturali ad apicem usque conspicuè ornato; umbilico angusto; aperturá obliquè lunari; peristomate simplice, acuto, margine columellari brevissimè reflexo.*

Diam. 15, alt. 7 mill.

Locality unknown.

14. *HELIX BELCHERI*, Pfr. *Hel. testá latè umbilicatá, depressá, tenui, diaphaná, supernè confertim costulato-striatá, subtùs sublævigatá, nitidá, concolore corneo-cered; spirá vix convexá; anfractibus 5 vix convexiusculis, ultimo basi subplanulato; aperturá obliquá, lunato-ovali; peristomate simplice.*

Diam. 8½, alt. 4 mill.

Locality unknown. Brought by the 'Sulphur,' Capt. Belcher.

15. *HELIX CERATODES*, Pfr. *Hel. testá subperforatá, globoso-depressá, tenui, minutè striatá, nitidulá, pellucidá, corned; spirá parùm elevatá; anfractibus 5 subplanulatis, celeriter crescentibus, ultimo subdepresso; aperturá amplá, obliquè lunari; peristomate simplice, acuto, margine columellari breviter reflexiusculo, perforationem ferè occultante.*

Diam. 16½, alt. 9 mill.

Collected on the islands of Luzon and Mindoro, by H. Cuming, Esq.

16. *HELIX SPLENDIDULA*, Pfr. *Hel. testá latè umbilicatá, depres-*

*missimâ, pallidè olivaceo-cornèâ, nitidâ, striatâ, lineis concentricis, magis minusve distinctis obsolete reticulatâ; spirâ planâ; suturâ profundâ; anfractibus 3½ subplanulatis, celeriter crescentibus, ultimo lato; umbilico lato, perspectivo; aperturâ obliquâ, lunato-ovali; peristomate simplice, acuto, marginibus conniventibus, dextro obliquè descendente, antrorsum subarcuato.*

Diam. 8½, alt. 3¼ mill.

*Hab.* East Australia, near Torres Strait (Lieut. Ince, R.N.).

17. *HELIX PAPILLATA*, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, solidiusculâ, irregulariter striatâ, opacâ, albidâ, spadiceo nebulosâ, saturatiusque strigatâ et maculatâ; spirâ planâ, apice papillatim prominente; anfractibus 5 planiusculis, ultimo descendente, depresso-rotundato; umbilico angusto, pervio; aperturâ obliquâ, lunato-orbiculari; peristomate simplice, acuto, margine columellari vix dilatato.*

Diam. 23, alt. 11 mill.

Locality unknown.

18. *HELIX SPIRULATA*, Pfr. *Hel. testâ imperforatâ, depressâ, lenticulari, subtilissimè striatâ, lineis elevatis concentricis utrinque notatâ, tenui, fulvâ, carinatâ; carinâ compressâ, subexsertâ; spirâ parùm elevatâ; anfractibus 5 lentè crescentibus, supra carinam convexiusculis, ultimo basi vix convexo, medio impresso; aperturâ depressâ, subrhomboidè; peristomate simplice, acuto.*

Diam. 9, alt. 4 mill.

*Hab.* Real Llejós, Central America; found on trunks of trees (Cuming).

19. *HELIX INSCULPTA*, Pfr. *Hel. testâ imperforatâ, depressâ, utrinque convexiusculâ, acutè carinatâ, solidulâ, castaneâ, supernè costulis confertis et lineâ spirali, carinæ parallelè, insculptâ; anfractibus 5 planulatis, ultimo basi levigato, juxta carinam lineâ impressâ notato; columellâ dente unico brevi, acuto, albo munitâ; aperturâ depressâ, securiformi; peristomate simplice.*

Diam. 8, alt. 4 mill.

Locality unknown.

20. *HELIX SINAITENSIS*, Pfr. *Hel. testâ umbilicatâ, orbiculatoconvexâ, tenui, confertim striatâ, cornèâ; spirâ convexâ, obtusâ; anfractibus 7 angustis, vix convexiusculis, carinâ filiformi cinctis, ultimo basi convexiore; umbilico lato, perspectivo; aperturâ rotundato-lunari; peristomate simplice, margine supero brevi, recto, basali valdè arcuato, breviter reflexo.*

Diam. 10, alt. 4 mill.

From Sinait, province of North Ilocos, isle of Luzon (Cuming).

21. *HELIX ANDICOLA*, Pfr. *Hel. testâ umbilicatâ, depressâ, tenui, undique granulatâ, opacâ, corneo-albidâ, fuscis pluribus rufts interruptis, denticulatis vel maculoso-tessellatis læniatâ, interstitiis rufo-flammulatis; spirâ planâ; anfractibus 4 convexis, ultimo dilatato, rotundato; aperturâ rotundato-lunari; peristomate tenui,*

*marginibus callo tenui junctis, supero breviter expanso, basali reflexiusculo, columellari dilatato, reflexo, umbilicum angustum semitegente.*

Diam. 20, alt. 11 mill.

From the Eastern Cordilleras.

22. *HELIX HIANIS*, Pfr. *Hel. testá subobtectè perforatá, depressá, tenui, pellucidá, nitidiusculá, undique regulariter et confertim granulata, pallidè corneá, strigis angustis, rufis, approximatis, undulatis, interdum ramosis, et ad suturam fasciá pallidá, maculis irregularibus rufis tessellatá ornata; spirá pland; anfractibus 4½ convexis, ultimo inflato, subcompresso, anticè vix descendente; aperturá subobliquá, amplá, lunato-rotundatá, intus concolore; peristomate tenui, expanso, marginibus distantibus, supero expanso, basali breviter reflexo, columellari membranacco-dilatato, fornicatim reflexo, perforationem tegente.*

Diam. 25, alt. 12 mill.

Locality unknown.

23. *HELIX RECTANGULA*, Pfr. *Hel. testá imperforatá, orbiculato-conicá, solidá, striatula, griseo-stramineá, arcé basali, lineá suturali et fasciis, latis castaneis ornata; spirá elevatá, obtusá; anfractibus 6-6½ convexiusculis, ultimo subrectangulè carinato, basi planiusculo, medio subexcavato; aperturá depressá, subtrapeziá, margine columellari incrassato, calloso-subunidentato.*

Diam. 13, alt. 10 mill.

From the Marquesas islands (M. Rohr).

24. *HELIX NYSTIANA*, Pfr. *Hel. testá latè umbilicatá, depressá, subdiscoideá, tenui, sub lente minutissimè granulato-striatá, haud nitente, pallidè corneá, fasciis angustis, rufis 3-4 circumdatá; spirá vix elevatá; anfractibus 4 convexis, ultimo anticè subdeflexo, basi vix latiore; umbilico latissimo; aperturá perobliquá, suborbiculari; peristomate simplice, marginibus ferè contiguís, supero recto, basali breviter reflexo.*

Diam. 11, alt. 4 mill.

From Real Llejos, Central America (Cuming).

25. *HELIX NILAGIRICA*, Pfr. *Hel. testá latè umbilicatá, depressá, discoideá, striatá, corneo-albidá, lineá unicá rufá supra peripheriam cinctá; spirá planiusculá; anfractibus 5 convexiusculis, lentè accrescentibus, ultimo anticè abruptè deflexo; umbilico latissimo, anfractum penultimum latè monstrante, medio angusto, pervio; aperturá parvú, horizontali, rotundato-ovali; peristomate albo, sublabiato, reflexo, marginibus contiguís.*

Diam. 14½, alt. 5½ mill.

From the Neelgherries, East Indies.

26. *HELIX TUMIDA*, Pfr. *Hel. testá imperforatá, globosá, solidá, rugoso-striatá, nitidiusculá, sub epidermide sordidè viridí, saturatius radiatá albú; spirá parvulá, elevatá; anfractibus 5 tumidís, ultimo permagno; columellá subverticali, elongatá, basi subtortá,*



*albo-callosá ; aperturá amplá, lunato-rotundatá, intus cærulescente ; peristomate simplice, recto, margine dextro arcuato, basali cum columelli angulum formante.*

Diam. 27, alt. 21 mill.

Locality unknown.

27. *HELIX CAUCASICA*, Pfr. *Hel. testá umbilicatá, globoso-depressá, tenui, subtiliter rugoso-striatá, sub lente granulátá, corneo-albídâ, pellucidá, fasciá latá, subopacá ad suturam, angustiore albá ad peripheriam ornatá ; anfractibus 6 convexiusculis, ultimo anticè subdeflexo ; aperturá lunato-rotundatá ; peristomate acuto, expanso, intus callo albo, acuto labiato, margine columellari dilatato, umbilicum angustum, pervium semitegente.*

Diam. 16, alt. 10 mill.

From the Caucasus.

28. *HELIX KNYSNAENSIS*, Pfr. *Hel. testá umbilicatá, globosá, solidiusculá, costulato-striatá, sericiná, corneo-olivaceá ; spirá brevi, obtusá ; anfractibus 4 convexiusculis, ultimo inflato, basi sublavigato, nitidissimo ; umbilico angusto, pervio ; aperturá rotundato-lunari, intus margaritaced ; peristomate simplice, acuto, margine columellari supernè dilatato, patente.*

Diam. 24, alt. 16 mill.

From Knysna, Cape of Good Hope.

29. *HELIX JENYNSI*, Pfr. *Hel. testá subperforatá, turbiniformi, striatá, tenui, nitidá, carinatá, lacted, supra carinam fusco-unifasciatá ; spirá brevi, conicá, acutá ; anfractibus 5½ vix convexiusculis, ultimo basi convexiore ; aperturá angulato-lunari ; peristomate simplice, acuto, margine columellari supernè reflexiusculo, perforationem ferè claudente.*

Diam. 12, alt. 7½ mill.

Locality unknown.

30. *HELIX BRONNI*, Pfr. *Hel. testá imperforatá, semiglobosá, striatá, sub lente punctatá, nilidá, castaned, apice obtuso pallidá ; anfractibus 5 convexiusculis, ultimo obsolete carinato, basi planiusculo, granulato, cærulescenti-albido, infra carinam fascia 1 castaned ornato, anticè deflexo, profundè scrobiculato ; aperturá subhorizontali, elliptico-oblongá ; peristomate latè incrassato, marginibus callo tenui junctis, basali dilatato, reflexo, fusco-maculato, intus 4 dentato ; dentibus 2 anticis majoribus, compressis, à margine remotis.*

Diam. 25, alt. 15 mill.

From Jamaica ; sent by Mr. Adams with *H. sinuata*, Born, to which it is nearly allied.

31. *HELIX VENTROSULA*, Pfr. *Hel. testá rimato-perforatá, depresso-globosá, tenui, subtiliter striatá, pellucidá, corneo-albídâ ; spirá vix elevatá ; anfractibus 5½ vix convexiusculis, ultimo subitè deflexo, supernè subangulato, basi inflato, anticè gibbo et valdè constricto ; aperturá perobliquá, ringente ; peristomate acuto, latè*

*reflexo, marginibus vix conniventibus, laminas elevatas, in ventre anfractus penultimi angulatim junctas emittentibus, dextro lamina subperpendiculari dilatata, basali dentibus 2 acutis munito.*

Diam. 13, alt.  $7\frac{1}{2}$  mill.

From Mexico (Hinds), and Texas (Sowerby).

32. *HELIX HINDSI*, Pfr. *Hel. testâ umbilicatâ, depressâ, subtiliter striatâ, corneo-lutescente, diaphanâ, nitidâ; spirâ parùm elevatâ; anfractibus 5 planiusculis, ultimo basi convexiore, anticè supernè deflexo, subtùs constricto; umbilico angusto, pervio; aperturâ perobliquâ, lunari, ringente; peristomate breviter reflexo, marginibus conniventibus, callo triangulâri, dentiformi, bicurâ dentibus, dextro lamellâ subverticali, basali dentibus 2 acutis munito.*

Diam. 8, alt.  $4\frac{1}{2}$  mill.

From Mexico (Hinds), and Texas (Sowerby).

33. *HELIX HEDENBORGI*, Pfr. *Hel. testâ subperforatâ, depressissimâ, subdiscoideâ, acutè carinatâ, tenuiusculâ, confertim rugoso-striatâ, supernè albido et fusco-variegatâ, basi subunicolore fuscescente; spirâ vix elevatâ; anfractibus  $5\frac{1}{2}$  planis, non exsertis, ultimo basi vix ventrosiore, anticè non descendente; aperturâ depressâ, angulato-lunari; peristomate tenui, marginibus subparallelis, supero recto, basali breviter reflexo, columellari vix dilatato, reflexo, adpresso.*

Diam. 18, alt. 6 mill.

On cliffs at the river Baher el Killo, at the Road of Marc Aurel, Egypt (Dr. Hedenborg).

34. *HELIX PLATYDODON*, Pfr. *Hel. testâ imperforatâ, depressoturbinatâ, minutissimè granulato-striatâ, albâ, fasciis fuscis, albuguttatis ornatâ; spirâ elevatâ, obtusiusculâ; anfractibus 6 vix convexiusculis, ultimo basi subplanulato, anticè deflexo; aperturâ perobliquâ, lunato-ovali, intus albâ; peristomate latè expanso, reflexo, marginibus callo albo junctis, columellari per dilatato, adpresso, dente lato compresso munito.*

Diam. 30, alt. 19 mill.

Locality unknown.

35. *HELIX RETUSA*, Pfr. *Hel. testâ imperforatâ, subglobosâ, apice retuso, tenui, lævigato, basi concentricè striolatâ, castaneo-fulvâ, albo latè strigatâ et flammulatâ, epidermide hydrophanâ, albidâ, deciduâ partim indutâ, sursùm pallescente, castaneo-fusciatâ; spirâ brevî; anfractibus 4 convexiusculis, ultimo subangulato, vix descendente; columellâ intrante, albâ, supernè dentato-dilatatâ; aperturâ rotundato-lunari, intus margaritacâ; peristomate latè expanso.*

Diam. 28, alt. 20 mill.

From the island of Samar; found on leaves of trees (H. Cuming).

36. *HELIX PRATENSIS*, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, ruguloso-striatâ, albidâ, fasciis 2 castaneis cinctâ vel subunicolore; spirâ subelevatâ; anfractibus 6 convexiusculis, ultimo*

*anticè vix descendente ; umbilico mediocri, pervio ; apertura rotundato-lunari ; peristomate expanso, intus remotè albo-labiato, marginibus conniventibus, columellari subdilato, patente.*

Diam. 17, alt.  $9\frac{1}{2}$  mill.

From the banks of the river Tortoom (As. Russ.) ; found in damp meadows.

“ On the Growth and Re-calcification of the Shell in *Cypræa*, a genus of Pectinibranchiate Mollusca ” :—

The *Cypræa* is a mollusk of very peculiar character : first, on account of the different phases presented by its shell at different periods of growth ; and, secondly, on account of the curious property which the animal possesses of dissolving and renewing its shell. The original growth of the Cowry is, undoubtedly, a process of time ; but the re-calcification of a shell at maturer age appears to be the work of a few days only.

The first stage of advancement produces a simple convolution of shell around a columella axis in the form of a long drawn-out Bulla, the columella being smooth, the outer lip thin, and the colour usually diffused in bands of waves. In the second epoch of growth the shell solidifies, the lip and columella begin to thicken, and present gradual indications of teeth, the teeth become more and more perfectly developed, and the dorsal surface is overlaid with a strong coat of livid colouring matter also diffused in obscure bands or waves. The calcifying energies of the mantle, which, extending in two unequal lobes, one from either side of the shell's aperture, have been chiefly exercised during the second epoch of growth upon the dorsal surface, are now more particularly directed to the base and sides. The teeth are strengthened, the sides become thickened with a rich coating of enamel, and the growth of the shell is completed by a light fabric of colouring matter deposited in lines, blotches, waves, or reticulations, of various hues and patterns.

The re-calcification of a shell at maturer age has been a subject of some difference of opinion amongst naturalists. Bruguière first introduced the fact, and Lamarck says, “ I possess observations which tend to prove that the Cowry, arrived at the power of forming a complete shell, has still the faculty of enlarging its habitation, and is then obliged to quit the shell in order to form a new one. It results from this that the same individual has the power of forming a successive number of shells during both the second and third stages of growth, and which accounts for our often meeting with so many different sizes of the same species ” !

M. Deshayes, after furnishing us with an excellent account of the zoological characters of *Cypræa*, derived mainly from the observations of MM. Quoy and Gaimard, argues against the possibility of any remodelling of the shell taking place, and regards the statement of Lamarck as a theory opposed to the common laws of organization. To the supposition of Bruguière that the Cowries cast their shells after the manner of Crabs, M. Deshayes very properly replies that there can be no analogy between them. The new shell of the

*Crustacea* is formed by a secretion of equal consistency from every part of the body, whereas the *Mollusca* have a muscular attachment to the columella, and increase the growth of their shell by an exudation, not from the whole body, but from a particular organ; the mantle being the sole agent charged with that faculty. It is further argued by the same distinguished naturalist that the Cowry must lose the power of forming the inner chambers of the columella anew, after having once passed that early process of development which induces their formation. "How is it possible," asks M. Deshayes, "that the animal can, under the circumstances of its nature, secrete a new shell from all parts of the body at once, and with all the different phases of colour exhibited in the original, when it has reached to an advanced condition of its existence?"

It is, however, certain that the Cowry is enabled to effect a very important change in the shell during one or more periods of its life; and I think the fact may be fully established without prejudice to the excellent arguments of my illustrious contemporary. From the testimony of a gentleman who worthily employs the opportunities afforded him as a Naval Officer to the advancement of science, whose veracity is beyond all question, and whose communication (given verbatim)\* contains nothing more than a simple narrative of the phenomena of which he was himself an eye-witness, it may, I think, be deduced that it is the outer wall of the shell only which is reconstructed, the columella, with its spiral compartments, remaining undisturbed. The animal does not quit the shell, as Lamarck supposed, but dissolves the outer portion with its acetose juices. All visible trace of the shell may be thus removed without weakening M. Deshayes' proposition, founded on the circumstance of the mantle being the only organ charged with the secretive fluid. The mantle is always capable of extension over the shell, and the same power

\* Lieut. J. B. Hankey, R.N., to Lovell Reeve.

My dear Sir, H.M.S. Collingwood, August 6th, 1844.

Will you allow me to offer you a few remarks on the habits of the *Cypræa* as regards the fact of its making a new shell, at an advanced age, of which process I have been myself in more than one instance an eye-witness? I have seen the Cowry crawl into some hollow or sheltered place, evidently for some predetermined purpose. The growth of the animal appears to increase too large for its cell; it gradually swells and cracks the shell, and I think that some powerful solvent or decomposing fluid is distributed over the outer surface by the mantle of the fish, for it gets thinner in substance, and the colours duller in appearance. The shell then entirely disappears, the Cowry becomes, to all appearance, a naked mollusk, with no other covering than its membranous mantle, and in a short time secretes a thin layer of glutinous matter which in a few days obtains the fragile consistency of shell-lac. From this step its growth is more rapid, and it becomes more and more consolidated into the adult shell. When in the first stage of renewal it has the appearance of shell-lac it is always of the *Cymba* form, but I have never succeeded in preserving any specimens in this state on account of their extreme fragility.

Trusting that you may make some use of these notes, and that (as I have a good dredge with me) I may, like Mr. Cuming, succeed in bringing home something worthy of notice, I shall conclude myself, my dear sir,

Yours very truly,

JOHN B. HANKEY.

which furnishes the adult with its last coating of enamel can be exerted to the formation of as many superincumbent layers as may be necessary to replace all that has been decomposed. That a dissolution takes place there can be no doubt: "the shell gradually swells," says Lieut. Hankey, "and cracks, becomes thinner, and duller in colour, and finally disappears;" a circumstance which may be easily credited when it is remembered that the *Murex* possesses the faculty of removing spines or any similar obstacles to its advancement of growth, and that the *Pholades* and other terebrating mollusks exercise a power of absorbing which enables them to penetrate the hardest limestone rock. The microscopical structure of the Cowry shell is, moreover, of a nature peculiarly tenacious of absorption; it is composed of a large quantity of carbonate of lime in proportion to the amount of membranous substance; and this accounts for its surface becoming vitrified, as it were, to such a highly polished state of enamel when in contact with the acidity of the soft parts.

There is another circumstance in Lieut. Hankey's narrative to which attention should be given, respecting the formation of the new shell. The glutinous matter, which has the appearance of shell-lac, and is so fragile that it yields to the touch, does not assume the narrow cylindrical *Bulla* form; it does not follow the original plan of revolving round a columellar axis, but is of the wide ventricose shape of a *Cymba*, and rapidly consolidates into the adult shell.

With these generalizations I think it may be assumed that the Cowry possesses the faculty of decomposing, during one or more periods of its existence, any portion of the shell that is liable to resist its advancement of growth; that the renewal of the shell is accomplished within a comparatively short space of time; and that the columella with its internal spiral partitions remains undisturbed. It may, however, be inferred that it is an operation of extremely rare occurrence, and one which only happens under peculiar conditions.