the upper bases of the tentacles; in *Tomichia* the eyes are placed upon tubercles near the upper bases of the tentacles. The foot in *Blanfordia* would seem to be somewhat similar to that of *Tomichia*, being lobed on each side in front and with a posterior dorsal lobe which bears the operculum. Both my species are found on damp banks covered with vegetation, in rocky situations near the sea.

I have dedicated the genus to my friend W. T. Blanford, who has discovered many new and interesting forms of Land-Mollusks in India.

XLIII.—*Characters of new Operculate Land-Shells from the Andamans, and of Indian and Burmese Species of Pupa.* By W. H. BENSON, Esq.

1. *Helicina Scrupulum*, B.

H. testa parva, sublenticulari, crassiuscula, sublævigata, vix nitidula, minutissime oblique striatula, superne fuscescente, anfractu ultimo albido-cornea, supra peripheriam fasciis 2 rufescentibus inferiore latiore ornata; spira depresso-conoidea, apice obtuso, sutura lineari; anfractibus $4\frac{1}{2}$, superioribus vix convexiusculis, ultimo obtuse angulato; apertura obliqua, subtriangulari-lunata; peristomate expanso, reflexiusculo, marginibus callo magno incrassato subcirculari retrorsum expanso polito junctis. Operculo tenui, albido.

Diam. 5, alt. 3 mill.

Habitat in insulis Andamanicis.

This is the second species of *Helicina* which has been found in the Andamans. A single specimen, fortunately in good order, was received by Mr. W. Theobald.

2. *Omphalotropis disterrina*, B.

O. testa perforata, globoso-conica, oblique striatula, supra suturam, ad peripheriam, et circa umbilicum oblique vel radiatim costulato-striata, sub epidermide fusca non nitente albida; spira acuminato-conica, apice acutiusculo, sutura profunda; anfractibus 6, convexis, ultimo ad peripheriam et circa umbilicum subcarinato, carina umbilicali extus linea impressa notata; apertura subobliqua, angulato-ovata, spiram æquante; peristomate recto, acuto, marginibus remotioribus callo tenui junctis; columellari subincrassato. Operc. — ?

Long. 3, diam. $2\frac{1}{2}$ mill.

Habitat in insulis Andamanicis.

A single specimen, deprived of the operculum, was sent by Mr. W. Theobald as a *Cyathopoma*. The aperture, the mode of

carination, and umbilical radiate costulation at once prove its proper place.

3. *Cyathopoma*(?) *tignarium*, B.

C. testa minuta, umbilicata, turbinato-conica, liris spiralibus subtus confertioribus cincta, oblique striatula, sub epidermide luteo-fusca albida; spira conica, apice obtusiusculo, sutura profunda; anfractibus 5, valde convexis, ultimo cylindrico; apertura vix obliqua, circulari; peristomate continuo, simplici, recto, acuto, ad anfractum penultimum breviter adhærente. Operculo calcareo, medio anguste concavo, nigrescente, polito, margine lato planato, arctissime spirali.

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

Habitat in insulis Andamanicis.

A single specimen, forwarded by Mr. W. Theobald, is deficient in the double peristome observable in the typical species of Mr. W. T. Blanford's group, *Cyathopoma filocinctum*, Bens., and *C. Malabaricum*, Blanf. The operculum has not attained the singular development of the margin exhibited in the Nilgherry shells and in a new species found by Mr. Blanford on the Bhore Ghat, near Khandalla, one specimen of which, however, with an immature operculum, received from the discoverer, has a tendency to the formation presented by the operculum in the Andaman species.

My description of the operculum of *C. filocinctum*, recorded in the paper on *Opisthoporus* published in the 'Annals' for January 1855, p. 16 ("Operculo extus concavo; anfractibus paucis, margine scabre elevato"), indicates a more advanced, but not the full development of the operculum first observed by the Messrs. Blanford.

4. *Pupa bathyodon*, B.

P. testa profunde rimato-perforata, ovato-conica, oblique striatula, fusco-cornea, translucente; spira conica, apice obtuso, sutura subprofunda; anfractibus 5, convexis, ultimo antice ascendente circa umbilicum excavatum compressiusculo; apertura quadrato-ovata, marginibus expansis subreflexis concoloribus callo parietali expanso superne junctis, 4-dentata, dente parietali 1 intrante majore, palatalibus 2 minutis remotiusculis, columellari 1 profundo.

Alt. 3, diam. 2 mill.

Habitat ad Teluk Sendur, prope Hoshungabad, non procul a flumine Nerbudda. Detexit W. Theobald, jun.

5. *Pupa Planguncula*, B.

P. testa perforata, elliptico-cylindrica, oblique striatula, striis anfractus ultimi et prope suturam magis conspicuis, non nitente, albida; spira oblonga, versus apicem obtusum convexa, sutura subprofunda, margine crenulato; anfractibus 6, convexis, ultimo

subtus angustato, antice leviter ascendente, medio pone aperturæ marginem foveato; apertura subaxiali, elongato-auriculari; peristomatis margine expansiusculo, subreflexo; plica parietali subtorta, intrante; dentibus 2 palatalibus, superiore magno incrassato dicruri, columellari 1 crasso, marginali subduplici, basali minuto remoto.

Long. 3, diam. $1\frac{1}{3}$ mill.

Habitat in regione Orissæ et prope fluvium Nerbuddæ. Detexit W. Theobald.

This shell has some relation to *Ennea*, but is at once distinguished by the parietal tooth.

6. *Pupa Diopsis*, B.

P. testa perforata, oblongo-ovata, oblique striatula, striis nonnullis remotis elevatiusculis, sub epidermide cornea albida; spira oblonga, versus apicem obtusiusculum cōnoidea, sutura impressiuscula; anfractibus 5, convexiusculis, ultimo antice leviter ascendente; apertura oblongo-ovata, superne angulata, bidentata, plica parietali mediana angusta oblique intrante denteque columellari obliquo remoto superne munita; peristomate tenui, margine dextro simplici recto, columellari expanso.

Long. 2, diam. 1 mill.

Habitat in valle Nerbuddæ.

A single specimen, in a worn state, was sent by Mr. W. Theobald for examination.

7. *Pupa Serrula*, B.

P. testa rimata, ovato-conica, oblonga, oblique subcostulato-striata, albida; spira elongato-conica, apice obtuso, sutura profunda crenulata; anfractibus 5, superioribus, valde convexis, ultimo antice ascendente; apertura quadrato-ovata, sexdentata, lamina parietali 1 subduplici, columellari 1 superiore denteque minuto inferiore, dente minuto basali, palatali 1 superiore laminaque inferiore profunda munita; peristomate undique expanso, marginibus tenuibus callo lato superne junctis.

Long. 2, diam. $\frac{2}{3}$ mill.

Habitat in India centrali. Detexit W. Theobald.

A single derelict specimen was received from Mr. W. Theobald, jun. It approaches the Ceylon *P. mimula*, B.

8. *Pupa Seriola*, B.

P. testa vix perforata, ovato-oblonga, subcylindrica, oblique striatula, sericina, flavescente, cornea; spira oblonga, apice obtusiusculo, sutura impressa; anfractibus 5, superioribus convexis, ultimo convexiusculo antice vix ascendente; apertura subovata, superne angulata, dente 1 parietali mediano remotiusculo induta; peristo-

matic marginibus callo tenui junctis, dextro vix, columellari superne late expanso.

Long. $2\frac{1}{2}$, diam. $1\frac{1}{3}$ mill.

Habitat in regione Orissæ (Cuttack). Detexit W. Theobald.

Mr. W. T. Blanford, in his description of the South-Indian *Ennea Salemensis*, has referred to this species as an *Ennea*. It has more affinity to *Bulimus* than to that genus. In one of the two specimens received, the parietal lamina is not apparent.

9. *Pupa Himalayana*, Hutton, MS.

P. testa rimato-perforata, ovato-oblonga, subcylindræa, oblique minutissime costulata, translucente, pallide cornea; spira oblonga, apice obtuso, sutura impressa; anfractibus 7, brevibus, convexis, ultimo antice leviter ascendente; apertura rotundato-ovata, edentata; peristomate tenui, margine expansiusculo, dextro superne leviter antice progrediente.

Alt. 2, diam. 1 mill.

Habitat in montibus Himalayanis occidentalibus, ad Simla et Mussoorie. Detexit Capt. T. Hutton.

In form and general appearance, as well as in the toothless aperture, it approaches the Swiss *Pupa inornata*, Michaud. Capt. Hutton found three specimens near Waverley at Mussoorie.

10. *Pupa Avanica*, B.

P. testa umbilicata, ovato-oblonga, subcylindrica, vix striatula, nitida, fusco-cornea, translucente; spira oblonga, versus apicem obtusiusculum conica, sutura valde impressa; anfractibus $5\frac{1}{2}$, subconvexis, ultimo antice ascendente; apertura ovata, superne obtusa sexdentata, plica parietali 1 duplicata intrante, dentibus columellaribus 2 profundis et palatalibus 3 profundis munita; peristomate undique expanso, marginibus tenuibus callo parietali lato junctis.

Long. $2\frac{1}{2}$, diam. $1\frac{1}{3}$ mill.

Habitat in regione Avæ. Detexit W. T. Blanford.

This shell is related to the Western Himalayan *P. Huttoniana*, Bens., but differs in surface, in having an additional upper palatal tooth and a more distinctly double parietal plica.

Cheltenham, Nov. 3, 1863.

Note.—In the 'Annals' for last May I described *Clausilia Bulbus*, a singular form from Moulmein. I find that, in the 'Proc. Boston Soc. Nat. Hist.' for July 1856, Dr. Gould described an allied species from Tavoy. With reference to the dimensions recorded, it would appear that Gould's species is longer as well as narrower than *C. Bulbus*. It scarcely exceeds *C. Philippiana* in breadth, while the length attains to that of

specimens of *C. insignis*,—approaching, therefore, in nowise to the stout bulbous form of the Moulmein shell.

In order to allow a comparison, I add Gould's published description, in which several material characters are omitted:—

“*Clausilia Vespa*. Testa solida, sinistrorsa, vespæformis, deflecta, lævis, intense rufa; anfr. 6, anteriori raptim attenuata, proxima corpulenta, apicalibus cito decrescentibus; sutura impressa, vix marginata: apertura ovata; columella biplicata; peritremate late reflexo, rufo.

“Long. 1, lat. $\frac{3}{10}$ poll. Inhabits Tavoy. Rev. F. Mason.

“This very singular wasp-like shell is allied to *C. insignis*, Philippii, *C. Cochinchinensis*, &c., but distinguished from all by its peculiar form.”

XLIV.—On the Nomenclature of the Foraminifera.

By W. K. PARKER, Esq., and Prof. T. R. JONES, F.G.S.

Part X.—*The Species enumerated by D'Orbigny in the 'Annales des Sciences Naturelles,' vol. vii. 1826.*

WE have now to take in hand a critical review of the many species and varieties of Foraminifera enumerated by D'Orbigny in his “Tableau Méthodique des Céphalopodes,” published in the 7th volume of the ‘Annales des Sciences Naturelles,’ 1826. The principles on which D'Orbigny grouped these Microzoa as “Cephalopoda Foraminifera” were long since known to himself to be erroneous; and the errors in his classification have been fully pointed out by Dr. Carpenter*. But we must never forget that D'Orbigny laboriously and conscientiously worked out an enormous mass of material, and reduced it to such order that naturalists could recognize hundreds of organic forms previously either quite hidden or vaguely known, and could advantageously add the results of their own research to his classified material, although his plan of arrangement† was artificial and defective. By his careful, though imperfect, elaboration of what earlier observers had done towards the elucidation of specific forms of Foraminifera, and his illustration of many of the most important species by means of a hundred large plaster models, and by the eight plates accompanying the ‘Tableau Méthodique,’ he opened the way towards a knowledge of these little creatures, thousands of which he had himself collected from sea-sands of every region and from many fossil strata. He adopted many already published specific determinations, often correcting the generic rela-

* Introduction to the Study of the Foraminifera, 1861, Ray Soc.

† Based on the arrangement of the chambers of the shell.

Benson, W. H. 1863. "XLIII.—Characters of new operculate Land-Shells from the Andamans, and of Indian and Burmese species of Pupa." *The Annals and magazine of natural history; zoology, botany, and geology* 12, 425–429.

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