

در عهد ابوالمظفر صاحب قران ثاني شاه جهان بادشاه غازي باني اتمام يافت  
بيت الله ثاني فدوي باخلاص مرید خاص الخاص قدیم الخدمت وزیرخان  
سنه ۱۰۴۳ هجري

No. 5.—A SMALL MOSQUE NEAR MOOCHEE DURWAZA.

تاریخ مسجد چینیان والي متصل موچی دروازه  
باني مسجد ظهور بخش بسعي محمد صالح صورت اتمام يافت سنه ۱۰۷۲ هجري

No. 6.—SONEREE MUSJEED.

مسجد طلائي  
باني مسجد بخواري خان سنه ۱۱۶۳ هجري

*Notes on the distribution of some of the land and freshwater shells of  
India: Part II.*—BY W. THEOBALD, JUNR.

BIRMAH AND THE TENASSERIM PROVINCES.

(Continued from page 254).

FRESHWATER SHELLS.

Order. PROSOBRANCHIATA.

Family. MELANIADÆ.

*Melania. Lam.*

1. *M. variabilis*, Bens.—Birmah and Tenasserim provinces, passim. A very large and fine variety occurs in the Tenasserim river and is eaten by the Karens. A decollated specimen of *four whirls* measures 2.40 by 1.05.

A sharp pointed smooth variety is met with at Noug-ben-ziek, on the Irawadi near Prome which measures 2.50 by 0.86, number of whirls 10.

2. *M. lirata*, B.—Birmah and Tenasserim provinces, passim. This shell usually occurs of a small size in the Tenasserim valley. A very large variety is found in Pegu prominently studded with tubercles, length about 2.25, but I have no specimen to refer to. Usual size of the common variety 0.90 by 0.45.

3. *M. tuberculata*, Mull.—Small and poor. A specimen from Thait-mio measures 0.90 0.26. A Bombay specimen 1.40 0.41.



4. *M. spinulosa*, B.—Tenasserim river. Very small and rare.

5. *M. Jugicostis*,\* B.—Tenasserim river, rare. A doubtful species.

*Paludomus.*

6. *P. Regulata*,\* B.—Common in marshy places and streams near Prome and Thalet-mio. This is a sharp pointed shell, having little resemblance to the typical species of the genus.

7. *P. labiosa*,\* B.—A small species tolerably abundant in the Tenasserim valley in running streams and the head waters of Tavoy Province.

8. *P. ornata*,\* B.—Prome and the neighbourhood. Not a plentiful species.

Family, LITORINIDÆ.

*Stenothyra.* B.

9. *S. Monilifera*, B.—Mergui. In wet ditches.

*Assimineæ.* Leach.

10. *A. Francesiæ*, Gray.—Maulmein, common.

Family. PALUDINIDÆ.

*Paludina.*

11. *P. Bengalensis*, Lam. Prome. Rangoon. Very common, and fine. A dark ferruginous stained variety is not rare at Rangoon. The Birmese shells, however, do not equal *some* Bengal specimens. A large specimen measuring 1.44 by 1.05, whilst a specimen from Benares measures 2.05 by 1.40.

12. *P. Crassa*, Hutton.—Thalet-mio, rare and small.

13. *P. Melanostoma*.—Henzada. Rangoon. Common.

*Bithinia.* Gray.

14. *B. Cerameopoma*, B.—Ava, (procured by Mr. Oldham). Maulmein.

15. *B. pulchella* (?)—Maulmein.

*Amphellaria.* Lam.

16. *A. Globosa*, Swain.—Prome, very common. Maulmein. Tavoy.

Family. NERITIDÆ.

*Neritina.* Lam.

17. *N. Humeralis*,\* B.—Salween river, within the tideway—of the type of *N. reticularis*.

NOTE.—New species described by Benson marked thus. \*



18. *N. Cryptospira*,\* B. Tenasserim river. This little species occurs abundantly on stones in rapids just above the tideway.

19. *N. Fuliginosa*,\* n. s. mihi.—Testâ neritinæformi, subglobosâ, spirâ minimâ; colore luteo-flavescente rubro reticulatâ; intus flavescente-pallida; aliquando cærulescente; non raro fasciis duobus cincta in aperturâ facilius visis. Epidermide plerumquenigro colore, extraneo fucato; semipolita, operculo pallide aurantiaco, margine anteriore rubro. Longitudinis 0.40. Habitat in regno Burmanorum proper urbem Amrapoora sive Ava dictam. Teste, T. Oldham.

Order. PULMONIFERA.

Family. LIMNÆIDÆ.

*Limnæa*. Lam.

20. *L. Succineus*, Desh.—Prome, common.

*Planorbis*. Müll.

21. *P. Coromandelicus*, Fab.—Prome and Rangoon, &c. Common but not large.

Class. CONCHIFERA.

Family. ARCADÆ.

*Scaphula*. B.

22. *S. Pinna*,\* B.—Tenasserim river within the tideway but in freshwater. This species appears to have been previously noticed and recorded as a *Dreinnia* in Mason's work on the Birmese Fauna, till I forwarded specimens to Mr. Benson, who described the species in the annals of Natural History for 1856. It adheres firmly by means of a short byssus to porous rocks (Laterite) in the cavities of which it nestles.

Family. UNIONIDÆ.

*Unio*. Retr.

23. *U. cæruleus*, Len.—Thaïet-mio in small streams and feeders of the Irawadi, not large or common.

24. *U. crispisulcatus*,\* B.—Very common in small streams near Thaïet-mio, where it is eaten by the Birmese, 1.96—1.23.

25. *U. Pugio*,\* B. Irawadi river near Ava. Procured by Mr. Oldham.

26. *U. marginalis*, Lam.?—An allied species, if not a variety of this shell occurs near Prome, 4.30—2.00.



27. *U. Parma*,\* B.—Common in the Irawadi and Tenasserim rivers, 2.56—1.90.

28. *U. scutum*,\* B.—Common in the Tenasserim river, 3.90—2.05.

Family. CYCLADIDÆ.

*Corbicula. Muhlf.*

29. *C. Arata*,\* B.—Common in the Tenasserim river.

Family. SOLENIDÆ.

*Novaculina. Benson.*

30. *N. Gangetica*, B.—Tenasserim river. This shell occurs in great quantities in mud banks within the tideway, but in freshwater, and is collected for food. My largest specimen measures 2.03—0.88.

The above is very far from being a complete list of the fluviatile shells of the Provinces, but is given in default of a better. Many species of shells are probably yet to be found, and I have a single valve of a large species from the Bangong Nulla near Thait-mio, which stream deserves attention.

*Mhow, June 9th, 1857.*

#### DARJILING AND THE KHASIA HILLS.

In endeavouring to contribute (from personal observation as far as practicable) to our knowledge of the distribution of land shells in India, I think it will prove convenient, not to say necessary, to divide India proper into three distinct regions, viz. the Himalayan, the Central and the Southern region—neither do I think these divisions will be found to be mere arbitrary ones, for though a few species may be common to all and a still larger percentage to any two, yet each is distinguished by a sufficient number of characteristic forms, to render such an arrangement not one of mere convenience, but essentially a natural one. In like manner Ceylon and the Tenasserim Provinces form two very natural divisions, and though I could wish that this subject had been taken up by one having greater experience than myself, yet, as a beginning, I venture to offer in the present paper, the results of my observations within the area which has fallen beneath my examination.



The Himalayan region has only been partly examined by me, and I shall therefore confine myself to its eastern portion, availing myself to some extent of the observations of my colleague Mr. W. Blanford, who obtained, when at Darjiling, several shells which had escaped my notice.

The central region commencing in the plains below the lower slopes of the hills, embraces the entire area outside the hills, drained by the Ganges and Máhánádi to the east, the Nurbudda and Taptee to the west, and the Indus and its tributaries to the north-west, a large and important area, but of a richness by no means commensurate with its extent.

Of the southern region, I know nothing personally, but the known shells of that quarter sufficiently support its claim to rank as an independent division.

#### KHASIA HILLS.

The shells which are here given have mostly been named and described by Mr. Benson, save in one or two instances, though many names are still merely manuscript ones, but for practical purposes I think a mere description unaccompanied by a figure of the shell is of little use in discriminating between nearly allied forms, though required by custom to establish the currency of the name applied to a new species.

#### CYCLOSTOMIDÆ.

##### *Pterocyclos*, BENSON.

No. 1. *P. Hispidus*, Pearson.—Teria ghât at the foot of the hills on the road to Cherra. This handsome species is very abundant on rocks at the limestone quarries a little above Teria ghât, where a dwarf variety also occurs sparingly. Diameter over peristome, 1.20.

Ditto in dwarf, 0.70.

2. *P. Albersi*, Pf.—Teria ghât. A dwarf variety.

##### *Cyclophorus*, MONTFORT.

3. *C. Siamensis*, Sow.—Teria ghât (the quarries). This very handsome species occurs abundantly. The apex is generally imperfect, probably from falling among rocks; as it is a heavy shell.

4. *C. Pearsoni*, B.—Lacat. Very common. Varies in size

1.90      1.20

from ——— to ———

1.50      0.90



5. *C. Zebrinus*, B.—Nanclai Poonji on the northern water-shed of the Khasia hills,  $92^{\circ} 30'$  east;  $25^{\circ} 15'$  north. It is by no means an abundant species.

6.\* *C. Tomotrema*, B. Teria ghât, rare. This shell is of the same type as the Birmese *C. scissimargo*.

7.\* *C. Pinnulifer*, B.—Teria ghât. Not rare, varies from 0.60 to 0.30.

*Leptopoma*, PFR.

8.\* *L. Cybeus*, B.—Teria ghât, rare. Nanclai, rare. A thin shell of arboreal habits.

*Alycæus*, GRAY.

9.\* *A. Prosectus*, B.—Teria ghât; very common on rocks.

10.\* *A. Hebes*, B.—Teria ghât, not rare.

*Diplommattina*, BENSON.

11.\* *D. Polypleuris*, B.—Nanclai. Not rare on rocks.

12.\* *D. Diplocheilus*, B.—Teria ghât. A short species common on rocks.

*Pupina*, VIGNARD.

13. *P. Imbricifera*, B.—Teria ghât, rare. Found on rocks and decayed trees, but mostly on the latter. The operculum exhibits the spiral structure observable in *Cataulus*.

*Hydrocena*, PARRYESS.

14. *H. Sarrita*, B.—Teria ghât. Cherra, Nanclai, common on rocks and amongst moss on trees.

HELICIDÆ.

*Helix*, L.

15. *H. Plectostoma*, B.—Teria ghât, very common, a large variety is found on limestone rocks, a smaller one on trees, juvenile shells of this species are remarkably hirsute.

16. *H. Serrula*, B.—Teria ghât. Common. A beautiful diaphanous species with sharply chisselled striæ causing a toothed periphery. Reeve's figure conveys a poor idea of the shell.

17. *H. Delibrata*, B.—Teria ghât. Very rare. This shell extends to Birmah and when fine has a hirsute epidermis.

18. *H. Tapeina*, B.—Teria ghât and along the foot of the hills. This shell chiefly affects Areca palm trees. It is very closely allied to the Birmese *H. rotatoria*.



19. *H. Climacterica*, B.—Teria ghât. Not rare. A dwarf variety occurs at Cherra.

20. *H. Cestus*, B.—Beneath Cherra. Not very common.

21. *H. Decussata*, B.—Teria ghât, rare.

22.\* *H. Bascunda*, B.—Teria ghât, rare.

23.\* *H. Galea*, B.—Teria ghât, rare.

24.\* *H. Diplodon*, B.—Teria ghât, rare.

25.\* *H. Castra*, B.—Teria ghât, rare. A Darjiling species.

26. *H. Planiuscula*, Hutton.—Cherra, rare.

27.\* *H. Puellula*, B.—Teria ghât, rare.

28. *H. Oxytes*, B.—Nanclai poonji,\* rather common among limestone rocks.

29.\* *H. Castor*, n. s. mihi.—Testâ lenticulari, subdepressâ, vix umbilicata, acute carinata, confertim striatâ ferrugine—fuscâ anfractibus  $5\frac{1}{2}$ —6, magnitudinis 1.40—0.60. Habitat apud Nanclai, in montibus "Khasia" dictis.

This shell is not common, and I have only a barely adult specimen in good condition. It closely resembles *H. oxytes* which it accompanies, and from which it differs in its nearly closed umbilicus, and less ornate sculpture. The keel too is a trifle more acute and divides the body whorl in a symmetrical manner, from the shell not being so flattened down as *H. oxytes*. The shell is rather stout and the peristome probably thickened more or less.

30.\* *H. Pollux*, n. s.—Testâ lenticulari, subdepressa vix umbilicata, acute carinata, tenue striatâ, translucente, colore stramineo, polita, peristomate acuto anpactibus  $5\frac{1}{2}$ —6, magnitudini 1.40—0.55. Habitat prope Teria ghât, ad pedem montium Khasia dictarum.

This shell is a very distinct species of the same form as the above, from which it differs in sculpture, want of solidity and colour. As far too as I can judge, its habits are arboreal, whilst the last species affects rocks in company with *H. oxytes*.

A few more helices occurred, of the naninoid type, but not in a satisfactory state for determination, but the hills below the Cherra plateau offer a tempting ground for future exploration as the richness of the few spots examined near Teria ghât proves.

\* Poonji = village.



*Streptaxis*, GRAY.

- 31.\* *S. Theobaldi*, B.—Nanclai. Rare; amongst limestone rocks.

*Vitrina*, DRAPARNAUD.

32. *V. Gigas*, B.—Near Teria ghât, but at some elevation, and also at Cherrapunji, length of a large shell 1.45.

- 33.\* *V. Scutella*, B.—Teria ghât, rare.

- 34.\* *V. Salius*, B.—Teria ghât, rare. The animal is a livid plumbeous colour, addicted to limestone rock in the sinous cavities of which it is chiefly to be found. It is very active and when touched, leaps several inches by rapidly twisting and whirling its tail in a very vermiform manner, indeed till this habit is known, it is not easy to secure in the rough places it mostly frequents.

*Bulimus*, SCOPOLI.

- 35.\* *B. Polypleuris*, B.—A pretty little scalariform species, of which a single specimen only was found at Teria ghât.

36. *B. Sylheticus*, B.—Not met with by me but included in Mr. Benson's list of Sylhet shells. It is found in the orange tree plantations at Lacat.

*Achatina*, LAMARCK.

- 37.\* *A. Pyramis*, B.—Teria ghât. Abundant under leaves and rubbish.

38. *A. Crassilabris*, B.—Teria ghât, rare.

39. *A. Cassiaca*, B.—Not found by me but included in Mr. Benson's list.

40. *A.* ——— sp. In too poor a state for description.

41. *A.* ——— sp. Ditto ditto.

*Pupa*, LAMARCK.

- 42.\* *P. Vara*, B.—Nanclai. Very rare.

43. *P. Plicidens*, B.—Cherra.—Very common on limestone rocks This is a Western Himalayan species.

*Clausilia*, DRAPARNAUD.

44. *C. Loxostoma*, B.—Teria ghât. Very common, attached to rocks or stones. This shell differs much in appearance, being sometimes found entire and with clean epidermis, in others covered with green matter and decollated. This difference is the result of situation, those specimens taken from rotten trees and beneath the loose bark being perfect, whilst those attached in exposed situations



to rocks and boughs, being constantly moist for months together and generally with a drop of water pendent from the apex become decollated and covered with a green confervoid coat.

45.\* *C. Ignota*, n. s.—*Teria ghât*. Rare, my two specimens at present in Mr. Benson's hands for description, so that the name here given is merely provisional. It is allied to *C. cylindrica*.

46. *C. Bacillum*, B.—*Nanclai*. Very rare. A new species but unfit for description, of the type of *C. Insignis*.

The freshwater shells may be dismissed in a few words, the most remarkable of them not being found by me. I allude to *Scapula celox*, which inhabits some of the streams in Sylhet.

*Paludomus Stephanus*, B. and *P. Conica*, Gray, occur at *Teria ghât*, the former in immense abundance.

*Ampullaria* also reaches a large size at Sylhet, one specimen of *A. Globosa*, measuring 3.45 by 3.18, the mouth being 2.41 by 1.40.

A very heavy *Calcutta* specimen being only 2.43 by 2.28, and the mouth 1.65 by 1.03.

A dwarf var. not rare about *Calcutta*, measures only 1.20 by 1.07.

#### DARJILING.

My present list of Darjiling shells, will, I regret to say, be found very meagre, owing to more than one cause over which I have no control. Since my visit to Darjiling, a large addition to previously known species, was made by Mr. W. Blanford, who has sent his unique specimens to England. Of the others, he has liberally furnished me with specimens, some of the most interesting of which I had described for insertion in the present paper, but at the last hour failed to obtain the donor's permission for so doing, the present list therefore embraces only published species, though it is to be hoped Mr. Blanford will himself soon remedy this, and adopt the course which his prohibition has debarred me from.

#### CYCLOSTOMIDÆ.

##### *Cyclophorus*.

*C. Himalayanus*, P.—Not common.

*C. Tryblium*, B.—Rare.

*C. Aurora*, B.—Common. This shell varies very greatly in size



as the following measurements shew, 1.95—1.30 to 1.20—0.80, and smaller specimens than this last are not rare.

*C. Phænotopicus*, B.—A small species of the pterocycloid group of Cyclophorus.

*Megalomastoma.*

*M. Funiculatum*, B.—Tolerably abundant at Darjiling on mossy banks.

*M.* (?) n. s.—A small pointed scalariform species with strong costulate striation.

*Alycæus.*

*A. Urnula*, B.

*A. Constrictus*, B.

*A. Otiphorus*, B.

*A. Stylifer* B.

*A.* n. s.

*A.* n. s.

*A.* n. s.

*A.* n. s.

*A.* n. s.

*Streptaulus.* B.

*S. Blanfordi*, B.

*Diplommatina.*

*D. Pachycheilus*, B.

*D.* sp.

HELICIDÆ.

*Bulimus.*

*B. Sikkimmensis*, Reeve. Rare.

*B.* (small sp.)

*Achatina.*

*A. Tenuispira*, B.

*A. Crassula*, B.

*Clausilia.*

*C. Ios*, B.

*Pupa.*

*P.* (sp.)

*Vitrina.*

*V.* (sp.)



*Helix.*

*H. Cyclophlax*, B.

*H. Tugurium*, B.—Rare.

*H. Castra*, B.—Rare.

*H. Orobia*, B.—Rare.

*H. Lubrica*, B.

*H. Huttoni*, B.

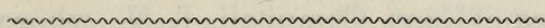
*H. Rorida*, B.—Common on shrubs in Darjiling during early morning.

*H. Climacterica*, B.

*H. Plectostoma*, B.

To this a dozen may safely be added to complete the list, of shells which are undescribed and of which I have not seen specimens.

Calcutta, 30th August, 1858.



*Account of a Cyclone in the Andaman Sea, on the 9th and 10th April, 1858.—By G. von LIEBIG, M. D.*

The *Friend of India* of the 13th May publishes the following notice: “*The Maulmain Advertiser* records a severe gale in the Bay of Bengal on the 9th and 10th of April and two preceding days. The shipping suffered considerable damage and the Brig *Dido* bound from Rangoon to Penang foundered at Sea; one man was saved, &c. &c.”

Having been in the Andaman Sea about that time, doing duty on board the Honorable East India Company's Steam Frigate *Semiramis*, Capt. Campbell, which had left Calcutta on the 4th of March for the Andaman Islands and Maulmain, I had an opportunity of collecting some information with regard to this gale, a well defined Cyclone, the publication of which I think will be of importance for the navigation of the Andaman Sea. I consider the publication of this account the more in the light of a duty, as we have had only lately to regret the loss of Mr. Piddington, who has for a number of years conferred so much benefit on the navigation of the Indian seas by collecting facts illustrative of the laws of circular storms





Theobald, W. 1859. "Notes on the distribution of some of the land and freshwater shells of India: Part II." *The journal of the Asiatic Society of Bengal* 27(IV), 313–323.

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