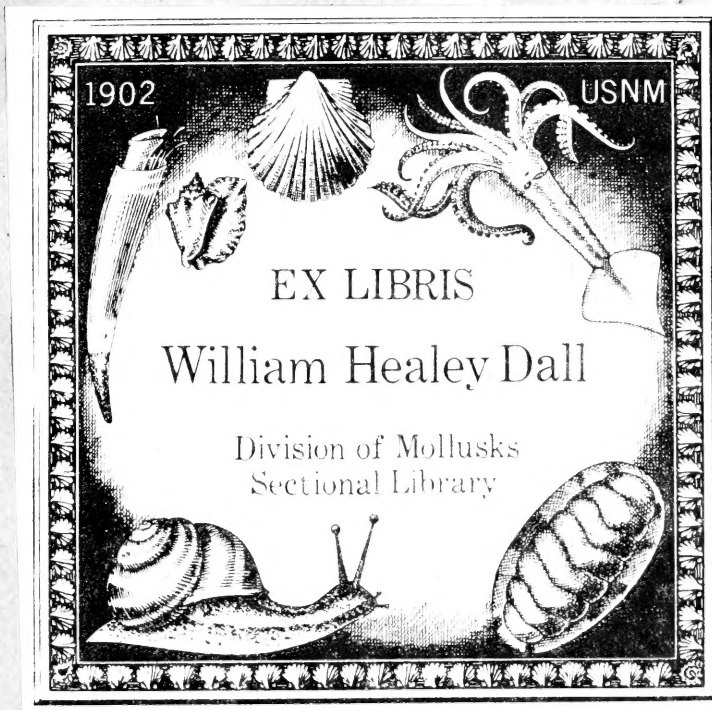




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Division of Mollusks  
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# ANNALS

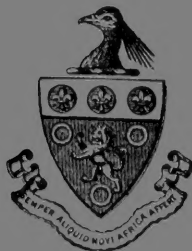
OF THE

# SOUTH AFRICAN MUSEUM

VOLUME XI.

PART III. containing:—

3. — *A Revised Reference List of South African Non-marine Mollusca; with Descriptions of New Species in the South African Museum.* By M. CONNOLLY (Plate II.)



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3.—A *Revised Reference List of South African Non-marine Mollusca ; with Descriptions of New Species in the South African Museum.*—By M. CONNOLLY.

### INTRODUCTION.

LITTLE more than thirteen years have elapsed since the publication of Messrs. Melvill and Ponsonby's "Contribution towards a Check-List of the Non-marine Molluscan Fauna of South Africa" (Proc. Mal. Soc., 1898, iii., p. 166–184), which included all species then known south of the Tropic of Capricorn; and of Dr. Sturany's "Catalog der . . . südafrikanischen Land-und Süßwasser-Mollusken" (Wien, 1898), in which he described several new forms, and listed, with few exceptions, all older ones which had been up to that date reported from south of the line roughly formed by the Zambesi and Kunene Rivers.

In this short time, however, the number of non-marine shells known in South Africa has increased by nearly one-half, the 408 species listed by Sturany having grown to 569, despite the fact that many forms then considered distinct have since been altogether expunged or placed in synonymy.

No apology, therefore, is needed for the appearance of a revised reference list, and it only remains to add a few words of explanation as to special features introduced in the new work.

At Dr. Péringuey's desire, I have adopted Sturany's more extended geographical boundaries. Although Messrs. Melvill and Ponsonby's invaluable series of articles in the Ann. and Mag. Nat. History has left comparatively little to be cleared up regarding the non-marine mollusca to the south of the Tropic of Capricorn, very little is known, conchologically, of much of the region just north of that limit, and the present list must necessarily leave much room for amplification in this direction.

Very few South African non-marine fossils are yet known, and most of them were described in papers dealing also with recent shells. I have therefore included both recent and fossil species in

the body of my work, but, to facilitate distinction, the reference number is printed in ordinary type before recent species, and in *italics* before those which have only been found, so far, in a fossil condition in South Africa.

A list of authors and works consulted, with the abbreviations used, is given on p. 288. Owing to the great increase of recent literature on the subject, the list of references under each species has been lightened by the omission of all those of a purely "check-list" character, or of no actual value to the student.

Many comparatively unimportant references to classification or locality only are also omitted, the authority quoted after each locality being, in the latter case, considered sufficient.

I have also omitted many of the older references to European and American species, as the descriptions contained in them are of little value.

The letters *A.* (anatomy),  
*D.* (description, external),  
*F.* (figure, external),  
*L.* (locality),  
*N.* (note),  
*R.* (radula),

are appended respectively to each reference to denote the class of information it contains.

With regard to Férussac's *Tabl. Syst. des Moll.*, part iii., of which there were two editions in the same year, with different pagination, the alternative pages are given.

The species described and figured by Sturany in *Südafr. L.- und S.-W.-Moll.*, November, 1898, were first published by him in a "Preliminary Note" in the *Anz. kais. Akad. Wiss. Wien*, in June of the same year. I have not, in this instance, quoted the earlier reference, except in the case of *Chondrocyclus isipingöensis*, where priority of nomenclature is involved.

The present work is intended, primarily, to be of as much use as possible to students in South Africa. This accounts for my having appended full references to Genera and the higher divisions, many of which I have found it quite impossible to trace in any library in that country; and also for the addition of as many localities for each species as I have been able to gather; but it has been, naturally, quite impossible to verify the correctness of all of the latter. Many of the older specific names have been misapplied, at various times, to other species, while many recently described shells

have wrongly figured, prior to their description, under one of the older names. In giving all these localities, however, it is my hope that future collectors, on finding a certain shell in a certain neighbourhood, will at least have some guide as to the known species with which their specimens may be compared.

No single map is yet published which includes all the localities mentioned, but to simplify matters as far as possible I have given the province in which each is situated, and subdivided the larger or more intricate districts. Thus, German South-West Africa is divided into Ovampoland (north), Damaraland (or Hereroland) (central), and Great Namaland (south). Little Namaland is in the Cape of Good Hope Province, just south of the mouth of the Orange, and Griqualand West is that portion of the colony north of the same river. Cape Peninsula, where specially mentioned, refers to the small, but conchologically rich, district between Cape Town and Cape Point.

British Bechuanaland, on the north, is divided from Bechuana-land by a line nearly following the direction of the Molopo River. Lorenzo Marques represents the whole Portuguese territory in East Africa south of the Zambesi, as distinct from Mozambique to its north; while the Northern Transvaal comprises the district north of Pretoria.

An effort has been made to state where the type of each species is preserved, and through the kindness of the custodians of the collections mentioned, I have been able to locate about nine-tenths of the total number. In cases where the type cannot be traced or was never specified, the whereabouts of original specimens has, when possible, been given.

For the information of local students, the letters S.A.M. are affixed to the names of species contained in the collection of the South African Museum. I may add that the magnificent Burnup Collection is exhibited in the Natal Government Museum, Pietermaritzburg, while there are good collections of non-marine mollusca at Grahamstown and Port Elizabeth, and a smaller one at Kimberley.

It only remains for me to express my most grateful thanks to the many kind friends who have been ever ready to assist me in the many difficulties which have cropped up in the course of even the present unassuming work. It is almost impossible to mention all by name, and I must therefore confine myself on this page to acknowledging my extreme indebtedness to Messrs. J. H. Ponsonby and H. C. Burnup for an enormous amount of invaluable help and advice, to which are due, in great measure, any merits which may eventually be found in the ensuing pages.

The arrangement of Families and Genera is in accordance with the latest views of leading authorities on the subject. That of the higher orders is a slightly modified adaptation of Paul Pelseener's classification of the Mollusca in Part V. of Sir E. Ray Lankester's "Treatise on Zoology." (London, 1906.)

In the use of Family names, I have followed those writers who employ a few only, in a wide sense, rather than a larger and possibly unnecessary number of smaller families.

April, 1912.

## REFERENCE LIST.

SUB-KINGDOM **MOLLUSCA**, Cuvier, 1795.

(La Décade Philos. Litt. et Politique, Paris, v. p. 391, as Mollusques.)

GRADE **PRORHIPIDOGLOSSOMORPHA**, Grobben, 1894.

(Sitz.-Ber. Akad. Wiss. Wien, p. 86.)

CLASS **GASTROPODA**, Cuvier, 1795.

(Magasin Encycl. ii. p. 448, as Gastéropodes.)

SUB-CLASS **EUTHYNEURA**, Spengel, 1881.

(Zeitschr. f. wissens. Zool. Leipzig, p. 372.)

ORDER **PULMONATA**, Cuvier, 1817.

(Règne Anim. ii. pp. 387, 401, as Pulmonés.)

SUB-ORDER **STYLOMMATOPHORA**, Schmidt, 1855.

(Abhandl. Naturwiss. vereins. Sachs. Halle, p. 7.)

TRIBE **AGNATHA**, Mörch, 1859.

(Mal. Blätt. vi. p. 109.)

FAMILY **APERIDÆ**, Möllendorff, 1903.

(Conch. Cab. p. 5.)

GENUS **APERA**, Heynemann, 1885.

(Jahrb. d. Deutsch. Mal. Ges. xii. p. 20.)

(= *Chlamydephorus*, Binney, 1879, not *Chlamydephorus*, Harlan, in Mammalia 1825.)

Type of Genus *A. gibbonsi* (Binn.)

1. **APERA BURNUPI**, Smith.

1892 *Apera burnupi*, Smith, A.M.N.H. x. p. 466. D.

1897 " " Cllge., A.M.N.H. xx. p. 221. pl. 5,  
f. 1-6. A.

- 1898 *Apera burnupi*, Smith, Pilsb., Nautilus, xii. p. 12. N.  
 1900 " " Cllge., Ann. S.A. Mus. ii. p. 4. pl. 1,  
 f. 5, 6. N.F.  
 1901 " " Cllge., Journ. of Mal. viii. p. 71, f. 1. A.  
 1910 " " Cllge., Ann. Natal Mus. ii. p. 166. D.

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (Burnup).

2. *APER A GIBBONSI* (Binney).

- 1879 *Chlamydephorus gibbonsi*, Binn., Bull. Mus. Comp. Zool.  
 Harvard, v. p. 331. pl. 2, f. a, b. D.F.  
 1884 *Chlamydephorus gibbonsi*, Binn., Ann. N.Y. Acad. Sci. iii. p. 81.  
 pl. 17, f. A. R.  
 1884 *Chlamydephorus gibbonsi*, Binn., Tryon, Struct. and Syst.  
 Conch. iii. p. 13. pl. 101, f. 47. D.F.  
 1885 *Chlamydephorus gibbonsi*, Binn., Tryon, Man. of Conch. i.  
 pp. 17, 251. pl. 2, f. 95. D.F.  
 1885 *Apera gibbonsi*, Binn., Heynem., Jahrb. d. Deutsch. Mal. Ges.  
 xii. p. 17. pl. 2, f. 5-7. D.F.  
 1890 *Chlamydephorus gibbonsi*, Binn., Ckll., A.M.N.H. vi. p. 390. D.  
 1900 *Apera gibbonsi*, Binn., Cllge., Ann. S.A. Mus. ii. p. 4. N.  
 1910 " " Cllge., Ann. Natal Mus. ii. p. 165. D.

Type in Academy of Natural Sciences, Philadelphia.

*Hab.* NATAL. Umgeni Valley (Gibbons). Equeefa; Port Shepstone; Thornybush, near Pietermaritzburg (Burnup).

CAPE OF GOOD HOPE (Weale).

3. *APER A NATALENSIS*, Collinge. [S.A.M.]

- 1900 *Apera natalensis*, Cllge., Ann. S.A. Mus. ii. p. 3. pl. 1, f. 3, 4.  
 pl. 2, f. 14, 15. D.F.A.  
 1910 " " Ann. Natal Mus. ii. p. 167. D.

Type in South African Museum.

*Hab.* NATAL. Richmond (Ward).

4. *APER A PURCELLI*, Collinge. [S.A.M.]

- 1901 *Apera purcelli*, Cllge., Ann. S.A. Mus. ii. p. 230. pl. 14, f. 1, 2.  
 D.F.

Type in South African Museum.

*Hab.* CAPE PENINSULA. Table Mountain (Lightfoot).

## FAMILY TESTACELLIDÆ, Gray, 1853.

(A.M.N.H. xii. p. 330.)

## GENUS TESTACELLA, Cuvier, 1800.

(Leç. d'Anat. comp. Paris, i. Table 5.)

Type of Genus *T. haliotidea*, Drap.

## 5. TESTACELLA AURIGASTER, Layard. [S.A.M.]

1893 *Testacella aurigaster*, Lay., Ckll., Conchologist, ii. p. 205. N.1902 " " (as Syn. of *T. maugei*, Fér.) Tayl.,  
Mon. Brit. Moll. pp. 25, 27. L.*Hab.* CAPE PENINSULA. Cape Town (Layard; Lightfoot).

I believe I am correct in stating that Layard actually published the description of this species, but in what periodical cannot be traced. It is nearly related to *T. maugei*, Fér., with which it may probably prove to be synonymous.

## FAMILY STREPTAXIDÆ, Gray, 1860.

(A.M.N.H. vi. p. 268.)

## SUB-FAMILY STREPTAXINÆ, Godwin-Austen, 1908.

(Fauna Brit. India, Moll. p. 1.)

## GENUS STREPTAXIS, Gray, 1837.

(A.M.N.H. i. p. 484.)

Type of Genus, *S. nobilis*, Gray.

## 6. STREPTAXIS GWANDAENSIS, Preston.

1912 *Streptaxis gwandaensis*, Prest., A.M.N.H. ix. p. 69, f. 1. D.F.

Type in coll. Preston.

*Hab.* RHODESIA. Near Geelong Mine, Gwanda District (S. B. Cox).

## SUB-FAMILY ENNEINÆ, Kobelt, 1904.

(Conch. Cab. p. 92.)

## GENUS ENNEA, H. and A. Adams, 1855.

(Gen. Rec. Moll. ii. p. 171.)

Type of Genus, *E. elegantula* (Pfr.).

The South African portion of this Genus is undoubtedly in need of severe critical revision. Many species have been differentiated on



It appears inadvisable to regard *impervia* as other than a well-marked variety of *adamsiana*, being a stouter form with magnified dentition. *Impervia* is found generally along the coast-belt of Natal, with a very small sprinkling of the narrower form. At Pine Town it is difficult to differentiate the two; at Botha's Hill they are enigmatical; while on reaching Pietermaritzburg and the surrounding district only the narrower form is found.

## 8. ENNEA ALBERSI (Pfeiffer).

[S.A.M.]

- 1854 *Pupa albersi*, Pfr., P.Z.S. p. 295. *D.*  
 1855 *Ennea albersi*, Pfr., Mal. Blätt. ii. p. 61. *D.*  
 „ „ „ Novit. Conch. i. p. 38. pl. 10, f. 15-17. *D.F.*  
 1859 „ „ „ Mon. Hel. iv. p. 338. *D.*  
 1885 „ „ „ Tryon, Man. of Conch. i. p. 97. pl. 19, f. 83,  
 84. *D.F.*  
 1903 „ „ „ M. & P., A.M.N.H. vii. p. 596. *N.F.*  
 1904 „ „ „ Kob., Conch. Cab. p. 182. pl. 23, f. 7-9. *D.F.*

Type in British Museum.

*Hab.* NATAL. Port Natal (Strangier, fide Pfeiffer 1859). Port Shepstone, both sides of the River Umzimkulu (Burnup).

## 9. ENNEA ALICLÆ, Melv. &amp; Pons.

- 1907 *Ennea aliclæ*, M. & P., A.M.N.H. xix. p. 95. pl. 6, f. 1. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Makowe (Burnup). Dukuduku Forest (Toppin).

This may possibly be conspecific with *E. dædalea*, M. and P. Size is the chief distinguishing characteristic, and intermediate grades exist.

## 10. ENNEA APEROSTOMA, Melv. &amp; Pons.

- 1892 *Ennea aperostoma*, M. & P., A.M.N.H. ix. p. 93. pl. 6, f. 10. *D.F.*  
 1904 „ „ „ Kob., Conch. Cab. p. 219. pl. 27, f. 10. *D.F.*

Type in British Museum.

*Hab.* NATAL (Layard).

## var. LISSOPHANES, Melv. &amp; Pons.

- 1892 *Ennea aperostoma* var. *lissophanes*, M. & P., A.M.N.H. ix.  
 p. 93. *N.*

Type in British Museum.

*Hab.* NATAL (Layard).



11. ENNEA ARNOLDI, Sturany. [S.A.M.]

- 1898 *Ennea arnoldi*, Stur., S. A. Moll. p. 28. pl. 2, f. 26-30. *D.F.*  
1904 " " Kob., Conch. Cab. p. 203. pl. 25, f. 10-13. *D.F.*  
Type in Naturh. Hofmus. Vienna.  
*Hab.* NATAL. Isipingo; Durban (Penther). Tongaat; Lower Umkomaas (Burnup).

var. ELONGATA, Sturany.

- 1898 *Ennea arnoldi* var. *elongata*, Stur., S. A. Moll. p. 29. pl. 2, f. 31. *D.F.*  
Type in Naturh. Hofmus. Vienna.  
*Hab.* NATAL. Isipingo (Penther).

12. ENNEA AURIS-LEPORIS, Melv. & Pons.

- 1898 *Ennea auris-leporis*, M. & P., A.M.N.H. i. p. 25. pl. 8, f. 3. *D.F.*  
1904 " " Kob., Conch. Cab. p. 182. pl. 23, f. 10. *D.F.*  
Type in British Museum.  
*Hab.* NATAL (fide M. and P.).

13. ENNEA BERTHÆ, Melv. & Pons.

- 1901 *Ennea berthæ*, M. & P., A.M.N.H. i. p. 315. pl. 2, f. 1. *D.F.*  
1904 " " Kob., Conch. Cab. p. 235. pl. 32, f. 20. *D.F.*  
Type in British Museum.  
*Hab.* NATAL. Karkloof Bush (McBean). Ntimbankulu (Burnup).

14. ENNEA BOWKERÆ, Melv. & Pons.

- 1892 *Ennea bowkeræ*, M. & P., A.M.N.H. ix. p. 92. pl. 6, f. 9. *D.F.*  
1904 " " Kob., Conch. Cab. p. 219. pl. 27, f. 9. *D.F.*  
Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. East London (Miss Bowker).

15. ENNEA BURNUPI, Melv. & Pons. [S.A.M.]

1897. *Ennea burnupi*, M. & P., A.M.N.H. xix. p. 634. pl. 17, f. 2. *D.F.*  
1904 " " Kob., Conch. Cab. p. 217. pl. 27, f. 5. *D.F.*  
Type in British Museum.  
*Hab.* NATAL. Town Bush, Pietermaritzburg; Gordon Falls (Burnup).

## 16. ENNEA CAIRNSI, Melv. &amp; Pons.

1897 *Ennea cairnsi*, M. & P., A.M.N.H. xix. p. 634. pl. 17, f. 1. *D.F.*1904 " " Kob., Conch. Cab. p. 216. pl. 27, f. 4. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Mouth of Buffalo River (in coll. Cairns; Burnup).

## 17. ENNEA CALLISTA, Melv. &amp; Pons.

1909 *Ennea callista*, M. & P., A.M.N.H. iv. p. 485. pl. 8, f. 1. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Dassie Krantz, Grahamstown (Farquhar).

## 18. ENNEA CALOPASA, Melv. &amp; Pons.

1903 *Ennea calopasa*, M. & P., A.M.N.H. xii. p. 596. *D.F.*

Type in British Museum.

*Hab.* NATAL. Port Shepstone, both sides of the River Umziinkulu (Burnup).

## 19. ENNEA CANDIDULA, Morelet.

1889 *Ennea candidula*, Morel., J. de C. xxxvii. p. 12. pl. 2, f. 2. *D.F.*1890 " *layardi*, Ancey, Bull. Soc. Mal. Fr. vii. p. 159. *D.*1904 " " " Kob., Conch. Cab. p. 242. *D.*" " *candidula*, Morel., Kob., Conch. Cab. p. 240. pl. 29, f. 6-8. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth, South End, and Kragga Kama, 17 miles south of Port Elizabeth (Crawford). Port Elizabeth and Grahamstown (*layardi*, fide Layard).

NATAL. Upper Tugela (Quekett).

## 20. ENNEA CARYATIS, Melv. &amp; Pons. [S.A.M.]

1898 *Ennea caryatis*, M. & P., A.M.N.H. i. p. 24. pl. 8, f. 2. *D.F.*1904 " " " Kob., Conch. Cab. p. 134. pl. 19, f. 13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Cradock (Farquhar). Prieska (Gibbons; Gould).

## 21. ENNEA CIMOLIA, Melv. &amp; Pons. [S.A.M.]

1895 *Ennea cimolia*, M. & P., A.M.N.H. xvi. p. 478. pl. 18, f. 2. *D.F.*

1904 " " " Kob., Conch. Cab. p. 185. pl. 23, f. 15.

*D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar). Pirie Forest (var., Godfrey).

NATAL. Dargle; Nottingham Road; Karkloof; Edendale; Backworth and Ntimbankulu, Mid-Illovo (Burnup).

*E. pantheri*, Sturany, though much smaller, seems otherwise identical.

22. *ENNEA CIONIS*, Melv. and Pons.

1898 *Ennea cionis*, M. & P., A.M.N.H. i. p. 25. pl. 8, f. 4. *D.F.*

1904 " " Kob., Conch. Cab. p. 135. pl. 19, f. 15. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Van Staadens River, Port Elizabeth (Crawford).

ZULULAND. Melmoth (Miss Hickey).

23. *ENNEA CLAUSTRARIA*, Melv. & Pons. [S.A.M.]

1903 *Ennea claustraria*, M. & P., A.M.N.H. xii. p. 597. pl. 31, f. 16. *D.F.*

1907 " *stauroma*, " " xix. p. 96. pl. 6, f. 4. *D.F.*

Both types in British Museum.

*Hab.* ZULULAND. Lower Umfolosi Drift (Burnup). Melmoth (*stauroma*, Miss Hickey).

Almost identical with *infrendens*, von Mts., except that the latter has a small plait on the columellar lip, just above the basal tooth, where *claustraria* has only a slight swelling.

24. *ENNEA COLUMNELLA*, Melv. & Pons. [S.A.M.]

1901 *Ennea columnella*, M. & P., A.M.N.H. viii. p. 316. pl. 2, f. 2. *D.F.*

1904 " " Kob., Conch. Cab. p. 235. pl. 32, f. 22. *D.F.*

Type in British Museum.

*Hab.* NATAL. Karkloof Bush (McBean). Dargle; Edendale; Ntimbankulu (Burnup).

25. *ENNEA CONNOLLYI*, Melv. & Pons. [S.A.M.]

1909 *Ennea connollyi*, M. & P., A.M.N.H. iv. p. 486. pl. 8, f. 2. *D.F.*

Type in British Museum.

*Hab.* NATAL. Majuba (Connolly).

TRANSVAAL. Hennop's River; Buis Kop (Connolly).

Generally a much narrower shell than the figure would suggest.







40. ENNEA DUNKERI, Pfeiffer.

- 1855 *Ennea dunkeri*, Pfr., Mal. Blätt. ii. p. 173. *D.*  
 1856 „ „ Novit. Conch. i. p. 73. pl. 20, f. 11-13. *D.F.*  
 1859 „ „ Mon. Hel. iv. p. 339. *D.*  
 1885 „ „ Tryon, Man. of Conch. i. p. 98. pl. 19,  
 f. 89. *D.F.*  
 1898 *Ennea differens*, Stur., S.A. Moll. p. 20. pl. 1, f. 5, 6. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 202. pl. 25,  
 f. 6, 7. *D.F.*  
 „ *Ennea dunkeri*, Pfr., Kob., Conch. Cab. p. 193. pl. 24, f. 9, 10. *D.F.*  
 Type of *dunkeri* in Stettin Museum; *differens* in Naturh. Hofmus.  
 Vienna.  
*Hab.* NATAL. Port Natal (Plant). Durban (*differens*, Penther).  
 Tyeloti, near Botha's Hill; Pinetown; Table Mountain; Lower  
 Umkomaas (Burnup).

41. ENNEA ELLIPTICA, Melv. & Pons. [S.A.M.]

- 1898 *Ennea elliptica*, M. & P., A.M.N.H. ii. p. 126. pl. 7, f. 2. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 180. pl. 23, f. 4. *D.F.*  
 Type in British Museum.  
*Hab.* NATAL. Pietermaritzburg; Nottingham Road; Dargle;  
 Karkloof; Hilton Road; Tyeloti, near Botha's Hill; Zwaartkop;  
 Richmond; Edendale (Burnup).

42. ENNEA ESHOWENSIS, Melv. & Pons.

- 1909 *Ennea eshowensis*, M. & P., A.M.N.H. iv. p. 487. pl. 8, f. 4. *D.F.*  
 Type in British Museum.  
*Hab.* ZULULAND. Eshowe (Lady Saunders).

43. ENNEA EUTHYMIA, Melv. & Pons. [S.A.M.]

- 1893 *Ennea euthymia*, M. & P., A.M.N.H. xii. p. 107. pl. 3, f. 10. *D.F.*  
 1898 „ „ Stur., S.A. Moll. p. 21. *N.*  
 1904 „ „ Kob., Conch. Cab. p. 197. pl. 24, f. 19. *D.F.*  
 Type in British Museum.  
*Hab.* NATAL. Thornybush, near Pietermaritzburg (Burnup).  
 A larger variety is found at Lower Umkomaas (Burnup).

44. *ENNEA EXIMIA*, Melv. & Pons.

- 1898 *Ennea eximia*, M. & P., A.M.N.H. i. p. 28. pl. 8, f. 8. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p.184, pl.23, f.13. *D.F.*  
 1909 „ „ A.M.N.H. iv. p. 487. pl. 8, f. 6. *N.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Between Barberton and Delagoa Bay (fide M. and P.).

45. *ENNEA FARQUHARI*, Melv. & Pons.

- 1895 *Ennea farquhari*, M. & P., A.M.N.H. xvi. p. 478. pl. 18,  
 f. 3-5. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 186. pl. 23,  
 f. 17. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

*E. microthauma*, M. & P., is very nearly allied to this species.

46. *ENNEA FORICLUSA*, Melv. & Pons.

- 1901 *Ennea foriclusa*, M. & P., A.M.N.H. viii. p. 316. pl. 2, f. 3. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p.236, pl.32, f.23. *D.F.*

Type in British Museum.

*Hab.* NATAL. Table Mountain, about 12 miles from Pietermaritzburg (Burnup).

47. *ENNEA FORMOSA*, Melv. & Pons. [S.A.M.]

- 1898 *Ennea formosa*, M. & P., A.M.N.H. ii. p. 126. pl. 7, f. 3. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 183. pl. 23,  
 f. 12. *D.F.*

Type in British Museum.

*Hab.* NATAL. Durban (Quekett). Pietermaritzburg (Burnup; Connolly). Karkloof (Taynton).

Some doubt exists as to whether the locality originally given—Durban—is correct.

48. *ENNEA GENIALIS*, Melv. & Pons. [S.A.M.]

- 1903 *Ennea genialis*, M. & P., A.M.N.H. xii. p. 598. pl. 31, f. 14. *D.F.*  
 1907 „ *vallarıs*, „ „ xix. p. 96. pl. 6, f. 5. *D.F.*

Types in British Museum.

*Hab.* ZULULAND. Patana; Lower Umfolosi Drift (Burnup). Melmoth (*vallarıs*, Miss Hickey).









## 61. ENNEA KRAUSSI, Pfeiffer. [S.A.M.]

- 1855 *Ennea kraussi*, Pfr., Mal. Blätt. ii. p. 174. *D.*  
 1856 „ „ Novit. Conch. i. p. 73. pl. 20, f. 14-16. *D.F.*  
 1859 „ „ Mon. Hel. iv. p. 341. *D.*  
 1885 „ „ Tryon, Man. of Conch. i. p. 100. pl. 19,  
 f. 91. *D.F.*  
 1898 *Ennea sejuncta*, Stur., S.A. Moll. p. 24. pl. 1. f. 10-12. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 204. pl. 25, f. 15-17. *D.F.*  
 „ *Ennea kraussi*, Pfr., Kob., Conch. Cab. p. 134. pl. 19, f. 19, 20.  
*D.F.*

Type of *kraussi* in Stettin Museum; *sejuncta* in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Port Natal (Plant). Durban (*sejuncta*, Penther). Lower Umkomaas; Tongaat Beach; Umbogintwini; Pinetown (Burnup).

## 62. ENNEA LABYRINTHEA, Melv. &amp; Pons.

- 1895 *Ennea labyrinthea*, M. & P., A.M.N.H. xvi. p. 479. pl. 18,  
 f. 7, 8. *D.F.*  
 1898 „ *labyrinthica*, M. & P., Stur., S.A. Moll. p. 29 (*Err. typ.*).  
 1904 „ *labyrinthea*, M. & P., Kob., Conch. Cab. p. 224. pl. 28,  
 f. 2, 3. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

## 63. ENNEA LEPPANI, Sturany.

- 1898 *Ennea leppani*, Stur., S.A. Moll. p. 28. pl. 2, f. 23-25. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 137. pl. 19, f. 21, 22. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* CAPE OF GOOD HOPE. Albany District (Penther).

## 64. ENNEA MAGNOLIA, sp. nov., pl. 2, f. 1. [S.A.M.]

Shell small, elongate, cylindrical, subimbricate, smooth, glossy, vitreous, transparent. Spire narrow, produced, sides parallel, apex rounded. Whorls 6, flattish, with practically no sculpture; the apical small, remainder almost equal in circumference and increasing very slowly in distance between sutures. Suture shallow, margined below. Aperture subquadrate; peristome white, slightly thickened and reflexed, with 2 weak teeth; the parietal, short and pointed; the other, little more than a protuberance caused by a slight

straightening, half-way down, of the outer lip, which forms an obtuse forward angle at this point.

Shell  $4.75 \times 1.4$ ; aperture  $.95 \times .85$ ; last whorl 1.8 mm.

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Connolly; Warren).

The contour of the spire, regular in the type, is frequently irregular, being sometimes crooked, and sometimes swollen towards the apex. The present species resembles *E. cimolia*, M. & P., in form and substance, but is more than twice as large, with much weaker dentition.

65. *ENNEA MARGARETTÆ*, Melv. & Pons.

1895 *Ennea margarettæ*, M. & P., A.M.N.H. xvi. p. 479. pl. 18, f. 1. *D.F.*

1904           "                           "           Kob., Conch. Cab. p. 185. pl. 23, f. 16. *D.F.*

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

Founded on a single specimen, not fully mature, whose present whereabouts has not been ascertained.

66. *ENNEA MARIÆ*, Melv. & Pons.

1892 *Ennea mariæ*, M. & P., A.M.N.H. ix. p. 92. pl. 6, f. 12. *D.F.*

1904           "                           "           Kob., Conch. Cab. p. 220. pl. 27, f. 11. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Craigie Burn, Somerset East (Miss Bowker).

67. *ENNEA MARITZBURGENSIS*, Melv. & Pons. [S.A.M.]

1893 *Ennea maritzburgensis*, M. & P., A.M.N.H. xii. p. 107. pl. 3, f. 11. *D.F.*

1904           "                           "           Kob., Conch. Cab. p. 198. pl. 24, f. 21. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (Quekett; Burnup; Ponsonby).

68. *ENNEA MENKEANA* (Pfeiffer).

1853 *Pupa menkeana*, Pfr., Mon. Hel. iii. p. 551. *D.*

1859 *Ennea menkeana*   "   Novit. Conch. i. p. 113. pl. 32, f. 3-5. *D.F.*

1878 *Pupa menkeana*   "   Sow., Conch. Icon. pl. 19, f. 176. *D.F.*

(*Err. Loc.*).

1885 *Ennea menkeana*, Pfr., Tryon, Man. of Conch. i. p. 97. pl. 18,  
f. 79. *D.F.*

1904       "       "       Kob., Conch. Cab. p. 191. pl. 24, f. 6. *D.F.*  
*Hab.* NATAL. Port Natal (in coll. Menke).

69. ENNEA MICROTHAUMA, Melv. & Pons.

1899 *Ennea microthauma*, M. & P., A.M.N.H. iv. p. 194. pl. 3, f. 1. *D.F.*

1904       "       "       Kob., Conch. Cab. p. 234. pl. 32,  
f. 13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Langley).

Extremely closely allied to the variable *E. farquhari*, M. & P.

70. ENNEA MINUTA, Morelet.

1889 *Ennea pusilla*, Morel., J. de C. xxxvii. p. 13. pl. 2, f. 3. *D.F.*

"       "       *minuta* (= *pusilla*, Morel., 1889, nec 1881), Morel.,  
J. de C. xxxvii. p. 200.

1898       "       *ambigua*, Stur., S.A. Moll. p. 29. *N.*

1904       "       *minuta*, Morel., Kob., Conch. Cab. p. 212. pl. 26, f. 22-  
24. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford). Thar-  
field (Miss Bowker).

71. ENNEA MONTANA, Melv. & Pons.

1903 *Ennea montana*, M. & P., A.M.N.H. xii. p. 599. pl. 31, f. 15. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Mountain Drive, Grahamstown  
(Farquhar).

72. ENNEA MULTIDENTATA, Sturany. [S.A.M.]

1898 *Ennea multidentata*, Stur., S.A. Moll. p. 25. pl. 1, f. 16. *D.F.*

1904       "       "       Kob., Conch. Cab. p. 195. pl. 24,  
f. 15. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Isipingo (Penther). Equeefa; Durban; Alexandra  
Junction (Burnup).

73. ENNEA MUNITA, Melv. & Pons.

1892 *Ennea munita*, M. & P., A.M.N.H. ix. p. 86. pl. 6, f. 5. *D.F.*

1904       "       "       Kob., Conch. Cab. p. 217. pl. 27, f. 6. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Griqualand East (Sykes).

74. ENNEA NATALENSIS, Craven. [S.A.M.]

- 1880 *Ennea natalensis*, Crvn., P.Z.S. p. 619. pl. 57, f. 7. *D.F.*  
 1885 " " Tryon, Man. of Conch. i. p. 100.  
 pl. 20, f. 57, 58. *D.F.*  
 1904 " " Kob., Conch. Cab. p. 232. pl. 28, f. 17,  
 18. *D.F.*

Type in British Museum.

*Hab.* NATAL. Durban Harbour (Craven; Penther). Isipingo (Penther). Scottburgh; Lower Umkomaas; Port Shepstone; Equeefa; Alexandra Junction; Umbogintwini; Ntimbankulu; Tongaat Beach (Burnup).

ZULULAND. Dukuduku Forest (Toppin).

75. ENNEA NONOTIENSIS, Melv. & Pons.

- 1894 *Ennea nonotiensis*, M. & P., A.M.N.H. xiv. p. 95. pl. 1, f. 15. *D.F.*  
 1904 " " Kob., Conch. Cab. p. 181. pl. 23,  
 f. 6. *D.F.*

Type in British Museum.

*Hab.* NATAL. Nonoti (Burnup).

76. ENNEA OBOVATA, Pfeiffer. [S.A.M.]

- 1855 *Ennea obovata*, Pfr., P.Z.S. p. 9. *D.*  
 " " " Mal. Blätt. ii. p. 62. *D.*  
 1856 " " Novit. Conch. i. p. 60. pl. 17, f. 9-11. *D.F.*  
 1859 " " Mon. Hel. iv. p. 340. *D.*  
 1885 " " Tryon, Man. of Conch. i. p. 98. pl. 19, f. 4. *D.F.*  
 1898 *Ennea ampullacea*, Stur., S.A. Moll. p. 24. pl. 1, f. 14, 15. *D.F.*  
 1904 " " Kob., Conch. Cab. p. 204. pl. 25, f. 18,  
 19. *D.F.*

„ *Ennea obovata*, Pfr., Kob., Conch. Cab. p. 194. pl. 24, f. 13. *D.F.*  
 Type of *obovata* in British Museum; *ampullacea* in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Isipingo; Durban (Penther). Equeefa; Lower Umkomaas; Pinetown; Ntimbankulu; Inchanga; Table Mountain; Karkloof (Burnup).

Originally described as from Liberia, but apparently in error, as no authentic record of its appearance there is in existence.

## 77. ENNEA OPPUGNANS, Melv. &amp; Pons.

1909 *Ennea oppugnans*, M. & P., A.M.N.H. iv. p. 488. pl. 8, f. 8. *D.F.*  
Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Traps Valley, Bathurst (Farquhar).

## 78. ENNEA PARALLELA, Melv. &amp; Pons.

1909 *Ennea parallela*, M. & P., A.M.N.H. iv. p. 489. pl. 8, f. 9. *D.F.*  
Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

## 79. ENNEA PENTHERI, Sturany.

1898 *Ennea pentheri*, Stur., S.A. Moll. p. 30. pl. 2, f. 32, 33. *D.F.*

1904 ,, ,, Kob., Conch. Cab. p. 242. pl. 28, f. 22,  
23. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Isipingo (Penther).

CAPE OF GOOD HOPE. Traps Valley, Bathurst (Farquhar).

Closely allied to, but much smaller than, *E. cimolia*, M. & P.

## 80. ENNEA PENTODON, Morelet. [S.A.M.]

1889 *Ennea natalensis*, Morel., J. de C., xxxvii. p. 11. pl. 2, f. 1. *D.F.*

,, ,, *pentodon* (= *natalensis*, Morel., 1889, nec Crvn., 1880),  
Morel., J. de C. xxxvii. p. 200.

1898 ,, *binominis*, Stur., S.A. Moll. p. 18. *N.*

1904 ,, *pentodon*, Morel., Kob., Conch. Cab. p. 211. pl. 26, f. 19-  
21. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford).

## 81. ENNEA PERIPLOCA, Melv. &amp; Pons.

1909 *Ennea periploca*, M. & P., A.M.N.H. iv. p. 489. pl. 8, f. 10. *D.F.*  
Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Boschberg Mountain, Somerset  
East (Farquhar).

## 82. ENNEA PERISSODONTA, Sturany.

1898 *Ennea perissodonta*, Stur., S. A. Moll. p. 26. pl. 1, f. 18. *D.F.*

1904 ,, ,, Kob., Conch. Cab. p. 201. pl. 25, f. 1.  
*D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* LORENZO MARQUES. Delagoa Bay (Penther).

Founded on a single example.



83. ENNEA PERSPICUA, Melv. & Pons.

- 1893 *Ennea perspicua*, M. & P., A.M.N.H. xi. p. 23. pl. 3, f. 12. *D.F.*  
 1904 " " " " Kob., Conch. Cab. p. 188. pl. 23,  
 f. 22. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Middelburg (Crawford).

84. ENNEA PERSPICUÆFORMIS, Sturany.

- 1898 *Ennea perspicuæformis*, Stur., S.A. Moll. p. 17. pl. 1, f. 2. *D.F.*  
 1904 " " " " Kob., Conch. Cab. p. 189. pl. 23,  
 f. 23. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* LORENZO MARQUES. Delagoa-Bay (Penther)

Described from a single specimen, only differing from *E. perspicua*, M. & P., in its smaller size and fewer whorls.

85. ENNEA PFEIFFERI (Krauss).

- 1841 *Pupa pfeifferi*, Krs., Küst., Conch. Cab. p. 87. pl. 12, f. 17-19. *D.F.*  
 1848 " " " " Südafr. Moll. p. 79. *D.*  
 " " " " Pfr., Mon. Hel. ii. p. 352. *D.*  
 1885 *Ennea pfeifferi*, Krs., Tryon, Man. of Conch. i. p. 101. pl. 19,  
 f. 98. *D.F.*  
 1904 " " " " Kob., Conch. Cab. p. 133. pl. 19, f. 12. *D.F.*

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Potteberg; Swellendam (Krauss).

var. MINIATA, Krauss.

- 1848 *Pupa pfeifferi*, var. *miniata*, Krs., Südafr. Moll. p. 79. *D.*  
 " " " " Pfr., Mon. Hel. ii. p. 353. *D.*  
*Hab.* ? TRANSVAAL. Mount Mohapaani (Wahlberg).

86. ENNEA PHRAGMA, Melv. & Pons.

- 1907 *Ennea phragma*, M. & P., A.M.N.H. xix. p. 95. pl. 6, f. 3. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Waku, Cathcart District, near the Klipplatz River (Miss Hickey).

87. ENNEA PLANTI, Pfeiffer. [S.A.M.]

- 1855 *Ennea planti*, Pfr., Mal. Blätt. ii. p. 173. *D.*  
 1856 " " " " Novit. Conch. i. p. 72. pl. 20, f. 5, 6. *D.F.*

- 1859 *Ennea planti*, Pfr., Mon. Hel. iv. p. 337. *D.*  
 1878 *Pupa planti* ,, Sow., Conch. Icon. pl. 18, f. 169. *D.F.*  
 1885 *Ennea planti* ,, Tryon, Man. of Conch. i. p. 90. pl. 17, f. 25. *D.F.*  
 1898 ,, ,, Stur., S.A. Moll. p. 16. *N.*  
 1904 ,, ,, Kob., Conch. Cab. p. 178. pl. 22, f. 23, 24. *D.F.*  
 Type in Stettin Museum.  
*Hab.* NATAL (Plant). Durban (Penther). Tongaat Beach  
 (Burnup).

## 88. ENNEA POLITA, Melv. &amp; Pons.

- 1893 *Ennea polita*, M. & P., A.M.N.H. xii. p. 108. pl. 3, f. 12. *D.F.*  
 1904 ,, ,, Kob., Conch. Cab. p. 195. pl. 24, f. 14. *D.F.*  
 Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Tharfield (Miss Bowker).

## 89. ENNEA PREMNODES, Sturany.

- 1901 *Ennea premnodes*, Stur., Ann. Hofmus. Wien, xvi. p. 69, f. 5. *D.F.*  
 1905 ,, ,, Kob., Conch. Cab. p. 344. pl. 32  
 (1904), f. 19. *D.F.*  
 Type in Naturh. Hofmus. Vienna.  
*Hab.* CAPE OF GOOD HOPE. Albany District (Penther).

## 90. ENNEA PULCHELLA, Melv. &amp; Pons.

- 1893 *Ennea pulchella*, M. & P., A.M.N.H. xii. p. 108. pl. 3, f. 13. *D.F.*  
 1904 ,, ,, Kob., Conch. Cab. p. 197. pl. 24,  
 f. 18. *D.F.*  
 Type in British Museum.  
*Hab.* NATAL. Pietermaritzburg (Burnup).

## 91. ENNEA QUEKETTI, Melv. &amp; Pons. [S.A.M.]

- 1896 *Ennea queketti*, M. & P., A.M.N.H. xviii. p. 315. pl. 16, f. 2. *D.F.*  
 1898 ,, ,, Stur., S.A. Moll. p. 16. *N.*  
 1904 *Ennea queketti* ,, Kob., Conch. Cab. p. 241. pl. 29,  
 f. 20. *D.F.*  
 Type in British Museum.  
*Hab.* NATAL. Umzinto (Canon Pennington). Isipingo (Penther).  
 Equeefa; Lower Umkomaas; Durban (Burnup).



## 96. ENNEA SEPARATA, Sturany. [S.A.M.]

1898 *Ennea separata*, Stur., S.A. Moll. p. 20. pl. 1, f. 7, 8. *D.F.*1904 " " Kob., Conch. Cab. p. 202. pl. 25, f. 8, 9. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Isipingo; Durban Bluff (Penther). Equeefa; Pietermaritzburg; Table Mountain; Lower Umkomaas; Umbogintwini; Port Shepstone; Ntimbankulu (Burnup).

## 97. ENNEA SOCRATICA, Melv. &amp; Pons.

1893 *Ennea socratica*, M. & P., A.M.N.H. xii. p. 109. pl. 3, f. 14. *D.F.*1904 " " Kob., Conch. Cab. p. 198. pl. 24, f. 20. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (fide M. & P.).

Founded on a single specimen.

## 98. ENNEA SYLVIA, Melv. &amp; Pons.

1903 *Ennea sylvia*, M. & P., A.M.N.H. xii. p. 599. pl. 31, f. 4. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Maeström Forest, Bedford (Farquhar).

NATAL. Examples from Natal, which have been attributed to this species, are now proved to be distinct.

## 99. ENNEA THARFIELDENSIS, Melv. &amp; Pons.

1893 *Ennea tharfieldensis*, M. & P., A.M.N.H. xii. p. 109. pl. 3, f. 15. *D.F.*1904 " " Kob., Conch. Cab. p. 200. pl. 24, f. 24. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Tharfield (in coll. Layard). Kowie (Farquhar).

## 100. ENNEA THELODONTA, Melv. &amp; Pons.

1892 *Ennea thelodonta*, M. & P., A.M.N.H. ix. p. 85. pl. 6, f. 4. *D.F.*1904 " " Kob., Conch. Cab. p. 216. pl. 27, f. 3. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Langley; Crawford).

101. ENNEA TRANSIENS, Sturany. [S.A.M.]

- 1898 *Ennea transiens*, Stur., S.A. Moll. p. 19. pl. 1, f. 4. D.F.  
1904 " " Kob., Conch. Cab. p. 228. pl. 28, f. 10. D.F.  
Type in Naturh. Hofmus. Vienna.  
*Hab.* NATAL. Durban and neighbourhood (Penther).  
Very nearly allied to, if not identical with, *wahlbergi*, Krs.

102. ENNEA TRIGLOCHIS, Melv. & Pons.

- 1903 *Ennea triglochis*, M. & P., A.M.N.H. xii. p. 600. pl. 31, f. 11. D.F.  
" " *virgo* " " " " f. 10. D.F.  
Types in British Museum.  
*Hab.* NATAL. Botha's Hill (Burnup).  
ZULULAND. Lower Umfolosi Drift (Burnup). Melmoth (Miss Hickey). Dukuduku Forest and Kosi Bay (Toppin).  
Although the types differ slightly, intermediate forms are found of these two shells, which are now admitted to be conspecific.

103. ENNEA VANDENBROECKI, Melv. & Pons.

- 1893 *Ennea vandenbroeckii*, M. & P., A.M.N.H. xii. p. 110. pl. 3, f. 16. D.F.  
1904 " " Kob., Conch. Cab. p. 199. pl. 24, f. 22. D.F.  
Type in British Museum.  
*Hab.* NATAL (ex. coll. Vandenbroeck).  
Founded on two specimens.

104. ENNEA VANSTAADENSIS, Melv. & Pons.

- 1893 *Ennea vanstaadensis*, M. & P., A.M.N.H. xii. p. 110. pl. 3, f. 17. D.F.  
1904 " " Kob., Conch. Cab. p. 199. pl. 24, f. 23. D.F.  
Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Van Staadens River, Port Elizabeth (Crawford).

105. ENNEA VITREOLA, Melv. & Pons.

- 1908 *Ennea vitreola*, M. & P., A.M.N.H. i. p. 130. pl. 7, f. 3. D.F.  
Type in Natal Museum, Pietermaritzburg.  
*Hab.* NATAL. Hilton Road (Burnup).

## 106. ENNEA WAHLBERGI (Krauss).

- 1848 *Pupa wahlbergi*, Krs., Südafr. Moll. p. 80. pl. 5, f. 5. *D.F.*  
 „ „ *wahlbergii* „ Pfr., Mon. Hel. ii. p. 352. *D.*  
 1855 „ *wahlbergi* „ Küst., Conch. Cab. p. 158. pl. 19, f. 6-9. *D.F.*  
 1878 „ *wahlbergi*, Pfr., Sow., Conch. Icon. pl. 20, f. 187. *D.F.*  
 1885 *Ennea wahlbergi*, Krs., Tryon, Man. of Conch. i. p. 96. pl. 19,  
 f. 99. *D.F.*  
 1904 „ „ Kob., Conch. Cab. p. 190. pl. 24, f. 3, 4. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL (Wahlberg). Durban and neighbourhood; Isipingo (Penther, fide Sturany).

Founded on two specimens, which differed from each other both in sculpture and dentition.

## 107. ENNEA WARRENI, Melv. &amp; Pons. [S.A.M.]

- 1903 *Ennea warrenii*, M. & P., A.M.N.H. xii. p. 601. pl. 31, f. 7. *D.F.*  
 Type in British Museum.

*Hab.* ZULULAND. Lower Umfolosi Drift (Warren). Makowe (Crosly). Melmoth (Miss Hickey).

CAPE OF GOOD HOPE. Port St. John's (Shortridge).

## 108. ENNEA WOTTONI, Melv. &amp; Pons.

- 1895 *Ennea wottoni*, M. & P., A.M.N.H. xvi. p. 479. pl. 18, f. 6. *D.F.*  
 1898 „ „ Stur., S.A. Moll. p. 17. *N.*  
 1904 „ „ Kob., Conch. Cab. p. 186. pl. 23, f. 18. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar). Albany District (Penther).

Very closely allied to, if not inseparable from, *infans*, Crvn.

## 109. ENNEA XYSILA, Melv. &amp; Pons. [S.A.M.]

- 1907 *Ennea xysila*, M. & P., A.M.N.H. xix. p. 97. pl. 6, f. 6. *D.F.*  
 „ „ „ var. *hyalina*, M. & P., *ibid.* pl. 6, f. 6a. *N.F.*

Types in British Museum.

*Hab.* TRANSVAAL. Johannesburg (Johnson; McBean). Pretoria and surrounding district (McBean; Connolly). Heidelberg (Miss Livingston).

Although the extremes of form vary greatly, almost every intermediate grade can be traced, so that the varietal name is hardly retainable.

110. *ENNEA ZELOTA*, Melv. & Pons. [S.A.M.]

1907. *Ennea zelota*, M. & P., A.M.N.H. xix. p. 97. pl. 6, f. 7. D.F.

Type in British Museum.

*Hab.* NATAL. Port Shepstone; Equeefa (Burnup).

GENUS *STREPTOSTELE*, Dohrn, 1866.

(Mal. Blätt. xiii. p. 128.)

Type of Genus, *S. lotophaga* (Morel).

111. *STREPTOSTELE HERMA*, sp. nov., pl. 2, f. 3. [S.A.M.]

Shell very small, elongate, narrowly rimate, slightly glossy, translucent, milky olivaceous. Spire produced, tapering, very narrow, apex rounded. Whorls 7, gradually increasing, little convex, but impressed at the suture; the first 2 smooth, remainder beautifully sculptured with rather coarse, irregular, almost straight striæ. Suture deep. Aperture short, piriform, virtually edentulate, the only processes being an almost imperceptible parietal callosity, and an incurvation of the outer lip about one-third of its length below the suture. Peristome not thickened, thinly reflexed.

Shell  $4.5 \times 1.3$ ; aperture  $.9 \times .8$ ; last whorl 1.5 mm.

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Connolly).

This beautiful little species belongs to a group of Central African shells which have been placed of late years in *Streptostele*. As their columella is not achatinoid, as it should be in Dohrn's genus, it is probable that a new section will have to be founded for them.

FAMILY RHYTIDIDÆ, Pilsbry, 1893.

(Man. of Conch. viii. p. 135.)

GENUS *NATALINA*, Pilsbry, 1893.

(Man. of Conch. viii. p. 135.)

(= *Aerope*, Albers, 1860, non Leach, 1813.)

Type of Genus, *N. caffra* (Fér.).

The species which follow have been variously attributed to *Natalina*, or to *Rhytida*, Albers (Die Helic., 1860, p. 89. Type *greenwoodi*, Gray), and its subgenera, *Macrocycloides*, von Martens

(Preuss. Exp. nach. Ost.-Asien., 1867, Zool. ii. p. 259. Type *obscurata*, Ad. & Rve.), and *Afrorhytida*, Möllendorff (Conch. Cab., 1903, p. 61. Type *knysnaensis*, Pfr.).

Very little is known of most of the animals, and subdivision of the shells, on conchological grounds alone, is by no means satisfactory. Future research will doubtless provide anatomical grounds for reclassification, and establish the suggested subgenera on a permanent basis. Meanwhile, to facilitate reference, it is more convenient to place the species in alphabetical sequence under *Natalina*.

#### 112. NATALINA ARGUTA, Melv. & Pons.

1907 *Natalina arguta*, M. & P., A.M.N.H. xix. p. 98. pl. 6, f. 8. *D.F.*  
Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. East London (Burnup).

#### 113. NATALINA BEYRICHI (von Martens).

1890 *Aerope beyrichi*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 85. *D.*

1894 " " " Conch. Mitth. iii, 3. p. 1. *D.*

1897 " " " Archiv. f. Naturg. lxiii, i. p. 35. pl. 6, f. 1-3. *D.F.*

1903 *Natalina beyrichi* " " Mlldff., Conch. Cab. p. 21. pl. 4, f. 1-3. *D.F.*

Type in Zool. Mus. Berlin.

*Hab.* CAPE OF GOOD HOPE. Pondoland (Beyrich).

#### 114. NATALINA CAFFRA (Férussac). [S.A.M.]

1821 *Helix cafra*, Fér., Tabl., Syst. Moll. pt. 3. p. 29 (or 25.) *N.*

1838 " " " Desh., Hist. Nat. An. s. Vert. viii. p. 107. *D.*

1848 *Helix cafra* " " Krs., Südafr. Moll. p. 75. *N.*

" " " Pfr., Mon. Hel. i. p. 40. *D.*

1850 *Helix cafra* " " Desh., Hist. Nat. Moll. i. p. 198. pl. 9A, f. 8. *D.F.*

1851 *Helix cafra* " " Rve., Conch. Icon. pl. 40, f. 179. *D.F.*

1851, 52 " " " Pfr., Conch. Cab. p. 52. pl. 74, f. 1-3. *D.F.*

1880 *Rhytida cafra*, Fér., Gibb., Journ. of Conch. iii. p. 95. *D.*

1885 *Aerope* " " Tryon, Man. of Conch. i. p. 131, pl. 25, f. 13. *D.F.*

1890 " " " Pilsb., Proc. Acad. Nat. Sci. Phila. p. 41. pl. 1, f. A-F. *A.R.*



1895 *Natalina caffra*, Fér., M. Woodw., Proc. Mal. Soc. i. p. 270.  
pl. 17, f. 1-9. A.

1903 " " " Mlldff., Conch. Cab. p. 20. pl. 3, f. 4-7. D.F.  
Type—*ubi?*

*Hab.* CAPE OF GOOD HOPE. Caffraria (Delalande). Uitenhage (fide Férussac). Algoa Bay (Krauss). Port Elizabeth (Crawford). Grahamstown; Bedford; Bathurst; Kowie (Farquhar). Somerset East (Miss Bowker). Pirie Mountain (Godfrey).

TRANSVAAL. Between Delagoa Bay and Lydenburg (Wilms).

NATAL. Woods near Natal Bay (Krauss). Along the coast from Port Shepstone to Tongaat; Pinetown; Pietermaritzburg; Karkloof; Curry's Post (Burnup).

ZULULAND (in. coll. Layard, who wrote: "This species was sent to me from Natal by the late Mr. H. J. McKen, who told me he procured it on a battlefield in Zululand, feeding on the putrefying corpses of the natives slain in one of their tribal fights.")

var. *WESSELIANA*, Maltzan.

1876 *Helix caffra*, Fér., var. *wesselliana*, Maltz., Kobelt, Jahrb. d. deutsch. Mal. Ges. iii. p. 149. pl. 5, f. 1. D.F.

1877 *Helix caffra*, Fér., var. *wesselliana*, Maltz., Pfr., Mon. Hel. viii. p. 558. D.

1885 *Aerope caffra*, Fér., var. *wesselliana*, Maltz., Tryon, Man. of Conch. i. p. 131. pl. 25, f. 14. D.F.

1903 *Natalina caffra*, Fér., var. *wesselliana*, Maltz., Mlldff., Conch. Cab. p. 21. pl. 3, f. 8. D.F.

*Hab.* SOUTH AFRICA (fide Kobelt).

ZULULAND (Toppin).

LORENZO MARQUES. Rikatla (Junod).

115. *NATALINA CAFFRULA*, Melv. & Pons. [S.A.M.]

1898 *Natalina caffrula*, M. & P., A.M.N.H. i. p. 24. pl. 8, f. 1. D.F.

" " " Stur., S.A. Moll. p. 32. N.

1903 " " " Mlldff., Conch. Cab. p. 23. pl. 4, f. 4, 5. D.F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna (Purcell). North bank of Zwartkops River; Port Elizabeth (Crawford).

LORENZO MARQUES. Matolla (Penther, fide Sturany).

NATAL. Durban (Penther, fide Sturany).

## 116. NATALINA CHAPLINI, Melv. &amp; Pons.

- 1894 *Natalina chaplini*, M. & P., A.M.N.H. xiv. p. 91. pl. 1, f. 3. *D.F.*  
 1895 " " " xv. p. 165. pl. 12, f. 5. *F.*  
 1903 *Rhytida (Macrocycloides) chaplini*, M. & P., Mlldff., Conch.  
 Cab. p. 58. pl. 10, f. 15-17. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Kamachs, 5 miles west of Uitenhage (Crawford).

## 117. NATALINA CÆNOTERA (Melv. &amp; Pons). [S.A.M.]

- 1892 *Helix (Macrocyclis) cænoteræ*, M. & P., A.M.N.H. x. p. 238.  
 pl. 13, f. 2. *D.F.*  
 1903 *Rhytida (Macrocycloides) cænoteræ*, M. & P., Mlldff., Conch.  
 Cab. p. 59. pl. 10, f. 19. *D.F.*

Type in British Museum.

*Hab.* "S. AFRICA" (Trimen).

CAPE OF GOOD HOPE. Tharfield (Schönland). Grahamstown (Farquhar). Somerset East (Miss Bowker; Purcell). Port Alfred (Crawford). Pirie Mountain (Godfrey).

NATAL. Pietermaritzburg; Port Shepstone; Howick (Burnup). Majuba (Connolly).

ZULULAND. Hlabisa (Burnup). Dukuduku (Toppin).

## 118. NATALINA COERNEYENSIS, Melv. &amp; Pons.

- 1894 *Natalina coerneyensis*, M. & P., A.M.N.H., xiv. p. 91. pl. 1, f. 2.  
*D.F.*  
 1903 *Rhytida (Afrorhytida) coerneyensis*, M. & P., Mlldff., Conch.  
 Cab. p. 64. pl. 11, f. 8. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Coerney; Sandflats Station (Crawford).

NATAL (in coll. Layard, fide M. & P.).

## 119. NATALINA COSMIA (Pfeiffer). [S.A.M.]

- 1850 *Helix munda*, Benson, A.M.N.H. vi. p. 253. *D.*  
 1851 " *cerea*, Pfr. (= *mundæ*, Bs. 1850, nec Adams 1849), Pfr.,  
*Zeitschr. f. Malak.* viii. p. 16. *N.*  
 1852 " *cosmia*, Pfr. (= *cerea*, Pfr. 1851, nec Gould. 1850), Pfr.,  
*Zeitschr. f. Malak.* ix. p. 112. *N.*  
 1853 " " " *Mon. Hel.* iii. p. 94. *D.*

- 1853 *Helix cosmia*, Pfr., Rve., Conch. Icon. pl. 173, f. 1174. *D.F.*  
 1854 „ „ „ Conch. Cab. p. 389. pl. 143 (1852), f. 6-8. *D.F.*  
 1864 „ *omphalion*, Bs., A.M.N.H. xiii. p. 494. *D.*  
 1868 „ „ „ Pfr., Mon. Hel. v. p. 153. *D.*  
 1887 „ (*Pella cosmia*, Pfr., Tryon, Man. of Conch. iii. p. 106.  
 pl. 20, f. 80. *D.F.*

1898 *Natalina cosmia*, Pfr. (= *omphalion*, Bs.), M. & P., Proc. Mal. Soc. iii. p. 170.

1903 *Rhytida (Macrocycloides) cosmia*, Pfr., Mlldff., Conch. Cab. p. 60. pl. 10, f. 23-25. *D.F.*

Type of *cosmia*—*ubi*? Specimens of *omphalion*, ex auct., in University Museum of Zoology, Cambridge.

*Hab.* CAPE PENINSULA. Lion's Head, near Camp's Bay (*munda*, Benson). Top of Table Mountain, overlooking Cape Town (*cerea*, Layard). Kalk Bay (Lightfoot). Simonstown (*omphalion*, "fide Hawkins," Benson).

120. NATALINA DUMETICOLA (Benson). [S.A.M.]

- 1851 *Helix dumeticola*, Bs., A.M.N.H. vii. p. 106. *D.*  
 1854 „ „ „ Pfr., Conch. Cab. p. 390. pl. 143 (1852),  
 f. 16-18. *D.F.*  
 1853 „ „ „ Mon. Hel. iii. p. 93. *D.*  
 „ „ „ Rve., Conch. Icon. pl. 173, f. 1172. *D.F.*  
 1856 „ „ „ A.M.N.H. xviii. p. 437. *N.*  
 1887 *Helix (Pella) dumeticola*, Bs., Tryon, Man. of Conch. iii. p. 106.  
 pl. 20, f. 79. *D.F.*  
 1903 *Rhytida (Macrocycloides) dumeticola*, Bs., Mlldff., Conch. Cab.  
 p. 59. pl. 10, f. 20-22. *D.F.*

Type in British Museum.

*Hab.* CAPE PENINSULA. Green Point; Simonstown; Simon's Bay (Benson). Camp's Bay (Layard). Hout Bay; Milnerton; Kommetje (Connolly); Robben Island (Fisk).

121. NATALINA EUMACTA (Melv. & Pons.).

- 1892 *Helix (Aerope) eumacta*, M. & P., A.M.N.H. x. p. 237. pl. 13,  
 f. 4. *D.F.*  
 1903 *Natalina eumacta*, M. & P., Mlldff., Conch. Cab. p. 22. pl. 3,  
 f. 9. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE (*not* Natal). Bashee River, Idutywa (Crawford).

122. NATALINA INHLUZANA (Melv. & Pons.).

- 1894 *Helix (Dorcasia) inhluzana*, M. & P., A.M.N.H. xiv. p. 91. pl. 1, f. 4. *D.F.*  
 1895 *Dorcasia inhluzana*, M. & P., A.M.N.H. xv. p. 165. pl. 12, f. 6. *F.*  
 1903 *Rhytida (Afrorhytida) inhluziana*, M. & P., Mlldff., Conch. Cab. p. 64. pl. 11, f. 7. *D.F.*  
 1907 „ *inhluzana*, M. & P., A.M.N.H. xix. p. 99. *N.*  
 Type in British Museum.  
*Hab.* NATAL. Inhluzani Mountain (Mrs. Shaw).  
 “Nearly allied to, if not a variety of, *R. kraussi*, Pfr.” (M. & P., 1907).

123. NATALINA INSIGNIS, Melv. & Pons.

- 1907 *Natalina insignis*, M. & P., A.M.N.H. xix. p. 98. pl. 6, f. 9. *D.F.*  
 Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Teafontein, Grahamstown (Farquhar).

124. NATALINA KNYSNAENSIS (Pfeiffer). [S.A.M.]

- 1845 *Helix knysnaensis*, Pfr., P.Z.S. p. 131. *D.*  
 1846 „ „ „ A.M.N.H. xvii. p. 439. *D.*  
 1847 „ „ „ Phil., Abb. u. Besch. ii. p. 85. pl. 7, f. 5. *D.F.*  
 1848 „ „ „ Mon. Hel. i. p. 84. *D.*  
 1852 „ „ „ Rve., Conch. Icon. pl. 177, f. 403. *D.F.*  
 1853 „ „ „ Conch. Cab. p. 343. pl. 133 (1852), f. 5, 6. *D.F.*  
 1887 *Helix (Pella) knysnaensis*, Pfr., Tryon, Man. of Conch. iii. p. 106. pl. 20, f. 75. *D.F.*  
 1889 *Aerope knysnaensis*, Pfr., Pilsb., Proc. Acad. Nat. Sci. Phila. p. 277. pl. 9, f. A-G. *F.A.R.*  
 1890 „ „ „ Pilsb., Proc. Acad. Nat. Sci. Phila. p. 41. *N.*  
 1903 *Rhytida (Afrorhytida) knysnaensis*, Pfr., Mlldff., Conch. Cab. p. 61. pl. 11, f. 1, 2. *D.F.*  
 Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Knysna (coll. Cuming). Port Elizabeth (Crawford; Farquhar). Somerset East (Miss Bowker).

125. NATALINA KRAUSSI (Pfeiffer).

- 1846 *Helix kraussi*, Pfr., Symb. iii. p. 70. *D.*  
 1848 „ „ „ Mon. Hel. i. p. 197. *D.*

- 1848 *Helix kraussi*, Pfr., Krs., Südafr. Moll. p. 77. pl. 4, f. 24. *D.F.*  
 1851 „ *sturmiانا*, Pfr., P.Z.S. p. 253. *D.*  
 1853 „ „ „ Mon. Hel. iii. p. 150. *D.*  
 „ „ „ „ Rve., Conch. Icon. pl. 168, f. 1132. *D.F.*  
 1854 „ *kraussi*, Pfr., Rve., Conch. Icon. pl. 198, f. 1391. *D.F.*  
 „ „ *sturmiانا*, Pfr., A.M.N.H. xiii. p. 142. *D.*  
 „ „ „ „ Conch. Cab. p. 397. pl. 144 (1852), f. 3, 4.  
*D.F.*  
 1888 „ (*Acusta*) *kraussi*, Pfr., Tryon, Man. of Conch. iv. p. 50.  
 pl. 10, f. 30. *D.F.*  
 1890 „ *sturmiانا*, Pfr., Pilsb., Man. of Conch. vi. pl. 36, f. 28,  
 29. *F.*  
 1895 *Rhytida kraussi*, Pfr., Cooke, Camb. Nat. Hist., Moll. & Brach.  
 p. 232, f. 139. *R.*  
 1898 „ *kraussi* „ (= *sturmiانا*), M. & P., Proc. Mal. Soc.  
 iii. p. 170.  
 1903 „ (*Afrorhytida*) *kraussi*, Pfr., Mlldff., Conch. Cab. p. 63.  
 pl. 11, f. 5, 6. *D.F.*

Type of *sturmiانا* in British Museum; *kraussi*—*ubi*?

*Hab.* CAPE OF GOOD HOPE. Outeniqua, George District (Krauss).  
 Knysna (fide Pfeiffer). Tharfield (Miss Bowker) and Grahamstown  
 (Miss Glanville, fide Layard).

ORANGE FREE STATE. Van Reenen, Drakensberg (Burnup).

*Sturmiانا* was described from a shell in the Cuming collection,  
 “*Hab. ?*” but in the Nomenclator Pfeiffer gives the locality Delagoa  
 Bay.

*N. inhluzana* (M. & P.) is possibly a variety of *kraussi*.

126. NATALINA LIGHTFOOTIANA, Melv. & Pons. [S.A.M.]

- 1909 *Natalina lightfootiana*, M. & P., A.M.N.H. iv. p. 490. pl. 8,  
 f. 13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Swellendam (Lightfoot). Montagu  
 (Connolly).

As the shell of this species is not glossy, but dull, and the animal,  
 to the best of my belief, not carnivorous, it probably belongs to a  
 different family.

127. NATALINA LILIACEA, Preston.

- 1912 *Natalina liliacea*, Prest., Proc. Mal. Soc. x. p. 17. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna Forest (Cox).

## 128. NATALINA LIPAROXANTHA (Melv. and Pons.). [S.A.M.]

1892 *Helix (Macrocyclus) liparoxantha*, M. & P., A.M.N.H. x. p. 238.  
pl. 13, f. 3. *D.F.*

1903 *Rhytida (Macrocycloides) liparoxantha*, M. & P., Mlldff., Conch.  
Cab. p. 58. pl. 10, f. 18. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg; Pinetown; Table Mountain;  
Port Shepstone (Burnup).

ZULULAND. Hlabisa (Burnup).

CAPE OF GOOD HOPE. Transkei (Weisbecker).

Very closely allied to *N. coenotera* (M. & P.) and *vernica* (Krs.).

## 129. NATALINA OCONNORI, Preston.

1912 *Natalina oconnori*, Prest., A.M.N.H. ix. p. 445. *D.F.*

Type in coll. Preston.

*Hab.* CAPE OF GOOD HOPE. Ceres District (O'Connor).

## 130. NATALINA QUEKETTIANA (Melv. &amp; Pons.).

1893 *Helix (Macrocyclus) quekettiana*, M. & P., A.M.N.H. xii. p. 103.  
pl. 3, f. 1. *D.F.*

1903 *Rhytida (Afrorhytida) quekettiana*, M. & P., Mlldff., Conch.  
Cab. p. 63. pl. 11, f. 4. *D.F.*

Type in British Museum.

*Hab.* NATAL. Town Bush, Pietermaritzburg (Quekett).

## 131. NATALINA SCHAERFÆ (Pfeiffer).

1861 *Helix schærfiæ*, Pfr., Mal. Blätt. viii. p. 73. pl. 2, f. 1-3. *D.F.*

1864 " " Bs., A.M.N.H. xiii. p. 494. *N.*

1868 " " Mon. Hel. v. p. 242. *D.*

1886 " " Kob., Conch. Cab. p. 615. pl. 178, f. 1-6.  
*D.F.*

1890 *Helix (Ampelita) schærfiæ*, Pfr., Pilsb., Man. of Conch. vi.  
p. 43. pl. 7, f. 95, 96, 97, 1, 2. *D.F.*

Type in Stettin Museum.

*Hab.* CAPE OF GOOD HOPE. Bredas Bosch, Gnadenthal District  
(Mrs. Schärf). Oudebosch; Bredasdorp (Layard).

## 132. NATALINA TARACHODES, sp. nov., pl. 2, f. 4. [S.A.M.]

Shell small, depressed, rounded, broadly and deeply umbilicate,  
very glossy, transparent, golden corneous. Spire not elevated.  
Whorls  $4\frac{1}{2}$ , flattened above, but not carinated, rapidly increasing

covered with very faint, regular, curved striæ, which are still fainter on the under side. Suture simple, shallow. Aperture nearly circular, descending a little in front. Peristome thin, simple, receding sharply in profile from above. Columella very weak, concave, without marginal reflexion.

Diam. maj. 8, min. 7; alt. 3.3; apert. alt. 3.2, lat. 3.7 mm.

Radular formula 12+0+12×35.

Type in British Museum.

*Hab.* CAPE PENINSULA (generally distributed).

This little species has been known for fifty years, but has been generally misidentified as *vernica*, Krauss, or *bullacea*, Pfr., under one of which names it appears in many museum and private collections. It is a far smaller form than *vernica*, with the type of which I have compared it, while *bullacea* is an Australian species, non-existent in South Africa. *N. vernica*, var. *minor*, Pfr., from Natal, which I have not seen, may be near akin to *tarachodes*, but, if so, is worthy of specific rank.

133. NATALINA TRIMENI (Melv. & Pons). [S.A.M.]

1892 *Helix (Aerope) trimeni*, M. & P., A.M.N.H. x. p. 237. pl. 13, f. 1. *D.F.*

1893 *Natalina tremeni*, M. & P., Pilsb., Man. of Conch. viii. p. 135. (*Err. typ.*)

1895 ,, *trimeni*, M. & P., Pace., Proc. Mal. Soc. i. p. 232. *A.R.*

1903 *Rhytida (Afrorhytida) trimeni*, M. & P., Mlldff., Conch. Cab. p. 62. pl. 11, f. 3. *D.F.*

Type in British Museum.

*Hab.* "S. AFRICA" (Trimen).

CAPE OF GOOD HOPE. Somerset East (Miss Bowker). Grahams-town; Cradock (Farquhar). Kowie, Port Alfred (Crawford). Wit-moss (Reeve),

134. NATALINA VERNICOSA (Krauss).

1848 *Helix vernica*, Krs., Südafr. Moll. p. 76. pl. 4, f. 23. *D.F.*

,, ,, ,, Pfr., Zeitschr. f. Malak. v. p. 93. *D.*

1850 ,, ,, ,, Bs., A.M.N.H. vi. p. 254. *N.*

1851 ,, ,, ,, Rve., Conch. Icon. pl. 43, f. 198. *D.F.*

1853 ,, ,, ,, Pfr., Mon. Hel. iii. p. 95. *D.*

1879 *Rhytida vernica*, Krs., Binn., Ann. N.Y. Acad. Sci. i. p. 355. pl. 14, f. I. *R.*

- 1884 *Rhytida vernicosa*, Krs., Binn., Ann. N.Y. Acad. Sci. iii. p. 82.  
pl. 17, f. L. *R.*
- 1885 *Elæa vernicosa*, Krs., Tryon, Man. of Conch. i. p. 130. pl. 28,  
f. 52-54. *D.F.*
- 1903 *Rhytida (Macrocyloides) vernicosa*, Krs., Mildff., Conch. Cab.  
p. 57. pl. 10, f. 12-14. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL (Wahlberg).

CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet). Grahams-  
town (Miss Glanville, fide Layard).

A good deal of confusion has existed with regard to this species,  
and it is by no means certain that some of the specimens described  
or figured by the foregoing authors, especially Binney and Möllen-  
dorff, are correctly identified.

The type appears to be an immature example, nearly akin to  
*N. liparoxantha* (M. & P.).

var. MINOR, Pfeiffer.

- 1853 *Helix vernicosa*, Krs., var. *minor*, Pfr., Mon. Hel. iii. p. 95. *D.*
- 1885 *Elæa* " " " Tryon, Man. of Conch. i.  
p. 131. *N.*

"var.  $\beta$ . *Minor*, costulis superficiei obsoletioribus" (Pfr., *l.c.*).

*Hab.* NATAL (fide Pfeiffer).

135. NATALINA VIRIDESCENS (Melv. & Pons.). [S.A.M.]

- 1891 *Helix (Patula) viridescens*, M. & P., A.M.N.H. viii. p. 238. *D.*
- 1892 " " " " ix. pl. 4, f. 1. *F.*
- " " " " Pilsb., Man. of Conch. viii.  
p. 78. pl. 30, f. 32. *D.F.*
- 1903 *Rhytida (Macrocyloides) viridescens*, M. & P., Mildff., Conch.  
Cab. p. 61. pl. 10, f. 26. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Pretoria (Farquhar; McBean).

NATAL. Dargle; Inhluzani (Burnup).

TRIBE HOLOGNATHA, W. G. Binney, 1878.

(Moll. United States, v. p. 81.)

FAMILY ZONITIDÆ, Mörch, 1863.

(Vid. Med. naturhist. Foren. Copenhagen, p. 267.)



SUB-FAMILY HELICARIONINÆ, Godwin-Austen, 1883.

(Moll. of India, pt. 4, p. 146.)

GENUS ZINGIS, von Martens, 1878.

(Monats-Ber. K. Akad. Wiss. Berlin, p. 290.)

(= *Sheldonia*, Ancey, 1888.)

Type of Genus, *Z. radiolata*, von Mts.

136. ZINGIS CRAWFORDI (Melv. & Pons.) [S.A.M.]

1890 *Helix (Pella) crawfordi*, M. & P., A.M.N.H. vi. p. 469. *D.*

1892 " " " ix. p. 94. pl. 4, f. 4. *F.*

1893 *Phasis (Trachycystis) crawfordi*, M. & P., Pilsb., Man. of Conch. viii. p. 146. pl. 35, f. 10. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Middleton; Kleinpoort, Graff Reinet line (Crawford). Cradoek (Farquhar). Witmoss (Reeve). Somerset East (in S.A. Museum).

137. ZINGIS DELICATA, Melv. & Pons. [S.A.M.]

1895 *Zingis delicata*, M. & P., A.M.N.H. xv. p. 163. pl. 12, f. 1. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna District (Cox; O'Connor; Purcell).

138. ZINGIS HAYGARTHII, Melv. & Pons.

1899 *Zingis haygarthi*, M. & P., A.M.N.H. iv. p. 195. pl. 3, f. 3. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. 'Nkhandla Forest (Haygarth).

139. ZINGIS MINYTHODES (Melv. & Pons.) [S.A.M.]

1892 *Helix (Pella) minythodes*, M. & P., A.M.N.H. x. p. 240. pl. 13, f. 8. *D.F.*

1893 *Phasis (Trachycystis) minythodes*, M. & P., Pilsb., Man. of Conch. viii. p. 144. pl. 35, f. 15. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Craigie Burn, Somerset East (Crawford).

140. ZINGIS PERLEVIS, Preston.

1912 *Zingis perlevis*, Prest., Proc. Mal. Soc. x. p. 17. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna Forest (Cox).

Possibly better placed in *Peltatina*.

## 141. ZINGIS ROSENBERGI, Preston.

1909 *Zingis rosenbergi*, Prest., A.M.N.H. iv. p. 498. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Pietersburg (fide Preston).

## 142. ZINGIS THERMARUM, Melv. &amp; Pons. [S.A.M.]

1909 *Zingis thermarum*, M. & P., A.M.N.H. iv. p. 491. pl. 8, f. 14. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Warmbaths; Pietpotgietersrust (Connolly).

RHODESIA. Umtali (in S.A. Museum).

## GENUS HELICARION, Férussac, 1821.

(Tabl. Syst. Moll. pt. 3, p. 23 (or 19), as *Helixarion*, emend. p. 71 (or 67).Type of Genus, *H. cuvieri*, Fér.

Most of the following species should doubtless be placed in *Peltatinæ*, but, without knowledge of the animal, it is impossible to determine their exact generic position.

## 143. HELICARION CHRYSOPRASINUS (Melv. &amp; Pons).\*

1892 *Vitrina chrysoprasina*, M. & P., A.M.N.H. x. p. 241. pl. 13, f. 11. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Cathcart (ex coll. Wotton).

ORANGE FREE STATE. Thaba N'chu (Connolly).

The locality—Pretoria—given for the type is almost undoubtedly erroneous.

## 144. HELICARION COXI, Preston.

1912 *Helicarion coxi*, Prest., Proc. Mal. Soc. x. p. 16. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna (Cox).

## 145. HELICARION KNYSNAENSIS, Preston.

1912 *Helicarion knysnaensis*, Prest., Proc. Mal. Soc. x. p. 16. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna (Cox).

## 146. HELICARION PLANTI (Pfeiffer).

1856 *Vitrina planti*, Pfr., P.Z.S., p. 324. *D.*1859 ,, ,, Mon. Hel. iv. p. 794. *D.*1862 ,, ,, Rve., Conch. Icon. pl. 8, f. 57. *D.F.*1885 *Vitrina (Gallandia) planti*, Pfr., Tryon, Man. of Conch. i. p. 157. *D.*

\* Since the above was printed, this Species has been proved to belong to *Microkerkus*.

Type in British Museum.

*Hab.* NATAL (Plant).

A very distinct species, perhaps more nearly akin to true *Helicarion* than others of the present group.

147. *HELICARION PUMILIO*, Melv. & Pons. \*

1909 *Helicarion pumilio*, M. & P., A.M.N.H. iv. p. 490. pl. 8, f. 11. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Zoutpansberg (Cregoe).

148. *HELICARION RUSSOFULGENS*, Melv. & Pons.

1909 *Helicarion russofulgens*, M. & P., A.M.N.H. iv. p. 490. pl. 8, f. 12. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Eshowe (Lady Saunders).

NATAL. Tongaat (Burnup). ? Hilton Road (fide M. & P.)

149. *HELICARION TRANSVAALENSIS* (Craven).

1880 *Vitrina transvaalensis*, Crvn., P.Z.S. p. 615. pl. 57, f. 3. *D.F.*

1885 „ (*Gallandia transvaalensis*, Crvn., Tryon, Man. of Conch. i. p. 156. pl. 34, f. 88, 89. *D.F.*

1912 “New Genus?” *transvaalensis*, Crvn., G.-Aust., A.M.N.H. ix. p. 128.

Type in British Museum.

*Hab.* TRANSVAAL. Lydenburg (Craven).

NATAL. Majuba (Connolly).

BASUTOLAND. Mont-aux-Sources (Warren).

150. *HELICARION VANDENBROECKI* (Craven).

1880 *Vitrina vandenbroeckii*, Crvn., P.Z.S. p. 615. pl. 57, f. 4. *D.F.*

1885 „ (*Gallandia vandenbroeckii*, Crvn., Tryon, Man. of Conch. i. p. 156. pl. 34, f. 90, 91. *D.F.*

Type in British Museum.

*Hab.* NATAL. Lydenburg (Craven).

SUB-FAMILY TROCHONANININÆ (nov.).

GENUS *MARTENSIA*, Semper, 1870.

(Reis. im Archip. Philippin., ii, 3. p. 42.)

(= *Ledoulxia*, Bgt., 1885, pars.)

Type of Genus, *M. mozambicensis* (Pfr.).

\* This Species has just been constituted Type of the new Genus *Andrarion*, Godwin-Austen.

## 151. MARTENSIA MOZAMBICENSIS (Pfeiffer). [S.A.M.]

- 1855 *Helix mozambicensis*, Pfr., P.Z.S. p. 91. pl. 31, f. 9. *D.F.*  
 1859 " " Mon. Hel. iv. p. 32. *D.*  
 1869 " " Novit. Conch. iii. p. 499. pl. 108,  
 f. 1-3. *D.F.*  
 1870 *Martensia mossambicensis*, Pfr., Semp., Reis. Archip. Philippin.  
 ii, 3. p. 42. pl. 3, f. 5. pl. 6, f. 15. *A.R.*  
 1874 " *mossambicensis*, Pfr., Jick., Fauna N.-O.-Afr. p. 49. *D.*  
 1881 *Helix mozambicensis*, Pfr., Dohrn, Conch. Cab. p. 609. pl. 177,  
 f. 7-11. *D.F.*  
 1883 *Trochomorpha mozambica*, Bgt., Ann. Sci. Nat. Paris, xv. p. 107. *L.*  
 1885 *Trochonanina mozambicensis*, Pfr., Bgt., Hélixarionidées, p. 7. *N.*  
 1886 *Nanina (Martensia) mozambicensis*, Pfr., Tryon, Man. of Conch.  
 ii. p. 50. pl. 24, f. 80. *D.F.*  
 1889 *Trochonanina mozambicensis*, Pfr., Bgt., Moll. de l'Afr. équat.  
 p. 17. *N.*  
 1894 " " Smith., Proc. Mal. Soc. i.  
 p. 164. *N.*  
 1895 *Martensia mozambicensis*, Pfr., G.-Aust., Proc. Mal. Soc. i.  
 p. 281. pl. 19, f. 1. *A.*  
 1897 *Trochonanina (Martensia) mossambicensis*, Pfr., von Mts.,  
 D.-O.-Afr. p. 46. pl. 1, f. 8. *D.F.* p. 296. *N.*  
 1907 *Martensia mossambicensis*, Pfr., Melv. & Standen, Manchester  
 Memoirs, li, 4. p. 9. *N.*

Type in British Museum.

*Hab.* LORENZO MARQUES. Tette (Peters). Movene (Penther).

TRANSVAAL. Barberton (Fry). Zoutpansberg (Cregoe).

RHODESIA. Salisbury (Miss Weineck).

Widely distributed in East Africa.

von Martens (1897) considers *Trochonanina livingstoniana*, Ancey, from Nyassa, to be merely a small, high form of this species.

## var. ALBOPICTA, von Martens.

- 1869 *Nanina mossambicensis*, Pfr., var. *albopicta*, von Mts., von der  
 Deeken's Reisen in Ostafrika, iii. p. 56. pl. 1, f. 2. *D.F.*  
 1878 *Trochonanina mossambicensis*, Pfr., var. *albopicta*, von Mts.,  
 Monats-Ber. Akad. Wiss. Berlin, p. 289. *N.*  
 1885 " *anceyi*, Bgt., Hélixarionidées, p. 9. *D.*  
 " *Ledoulxia albopicta*, von Mts., Bgt., Hélixarionidées, p. 12. *N.*  
 1886 *Martensia mozambicensis*, Pfr., var. *albopicta*, von Mts., Tryon,  
 Man. of Conch. ii. p. 50. *N.*

- 1889 *Trochonanina anceyi*, Bgt., Moll. de l'Afr. équat. p. 20. D.  
1897 „ *mossambicensis*, Pfr., var. *albopicta*, von Mts.,  
D.-O.-Afr. p. 47. D.

*Hab.* MOZAMBIQUE. Tette (Peters).

Occurring, often in company with the normal form, in many parts of East Africa.

var. *ELATIOR*, von Martens.

- 1866 *Trochomorpha*? *mossambicensis*, Pfr., var. *elator*, von Mts.,  
Mal. Blätt. xiii. p. 92. D.  
1869 *Helix mossambicensis*, var. *elator*, von Mts., Pfr., Novit. Conch.  
iii. p. 500. pl. 108, f. 4-6. D.F.  
1874 *Martensia mossambicensis*, Pfr., var. *elator*, von Mts., Jiek.,  
Fauna N.-O.-Afr. p. 50. N.  
1897 *Trochonanina mossambicensis*, Pfr., var. *elator*, von Mts.,  
D.-O.-Afr. p. 47. pl. 3, f. 9. D.F.

*Hab.* LORENZO MARQUES. Ikchongove (? Itschongove), (Schenck).

Not so plentiful, but rather more widely distributed than the normal form, occurring as far north as Abyssinia (von Martens).

GENUS TROCHOMORPHA, Albers, 1850.  
(Die Helic., p. 116.)

Type of Genus, *T. trochiformis* (Fér.).

152. TROCHOMORPHA PLACENTA, Melv. & Pons.

- 1899 *Trochomorpha placenta*, M. & P., A.M.N.H. iv. p. 197. pl. 3, f. 9. D.F.  
Type in British Museum.  
*Hab.* ZULULAND. 'Nkandhla Forest (Haygarth).

GENUS TROCHOZONITES, Pfeffer, 1883.  
(Abhandl. Naturwiss. Verein. Hamburg, vii, 2. p. 23.)

Type of Genus, *T. percarinatus* (von Mts.).

153. TROCHOZONITES DIORYX, Melv. & Pons.

- 1892 *Helix (Trochozonites) dioryx*, M. & P., A.M.N.H. ix. p. 89. pl. 5,  
f. 2. D.F.  
Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Robbe Bay, Port Nolloth (Layard).

GENUS THAPSIELLA, Gude, 1911.  
(Proc. Mal. Soc. ix. p. 272.)

Type of Genus, *T. masakuensis* (Smith).

154. THAPSIELLA CONNOLLYI, Preston.

1912 *Thapsiella connollyi*, Prest., A.M.N.H. ix. p. 70, f. 3. *D.F.*  
Type in coll. Preston.

*Hab.* RHODESIA. Victoria Falls (Connolly).

SUB-FAMILY PELTATINÆ, Godwin-Austen, 1912.  
(A.M.N.H. ix. pp. 124, 126.)

GENUS PELTATUS, Godwin-Austen, 1908.  
(A.M.N.H. i. p. 131.)

Type of Genus, *P. aloicola* (M. & P.).

155. PELTATUS ALOICOLA (Melv. & Pons.).

1890 *Vitrina huttoniæ*, Bs., var. *aloicola*, M. & P., A.M.N.H. vi. p. 467. *D.*

1908 *Peltatus hudsoniæ*, Bs., G.-Aust., A.M.N.H. i. p. 131. pl. 8, f. 1.  
*D.F.A.*

1912 „ *aloicola*, M. & P., G.-Aust., A.M.N.H. ix. p. 130. pl. 4,  
f. 1. *D.A.R.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth, North End and  
Rufane Vale, living on aloes (Crawford).

156. PELTATUS ARNOTTI (Benson).

1864 *Helix arnotti*, Bs., A.M.N.H. xiii. p. 491. *D.*

1868 „ „ Pfr., Mon. Hel. v. p. 67. *D.*

1909 *Zingis arnotti* „ M. & P., A.M.N.H. iv. p. 491. pl. 8, f. 16. *N.F.*

1912 *Peltatus* „ „ G.-Aust., A.M.N.H. ix. p. 137. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Colesberg (Arnott).

157. PELTATUS ASTHENES (Melv. & Pons.).

1907 *Helicarion asthenes*, M. & P., A.M.N.H. xix. p. 99. pl. 6, f. 10. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Cradock (Farquhar).

158. PELTATUS CALEDONENSIS, Godwin-Austen.

- 1912 *Peltatus caledonensis*, G.-Aust., A.M.N.H. ix. p. 132. pl. 2, f. 1.  
pl. 4, f. 3. pl. 5, f. 1. D.A.R.

Type in British Museum.

Hab. CAPE OF GOOD HOPE. Houw Hoek (Connolly).

159. PELTATUS CAPSULA (Benson). [S.A.M.]

- 1864 *Helix capsula*, Bs., A.M.N.H. xiii. p. 492. D.  
1868 " " Pfr., Mon. Hel. v. p. 52. D.  
1892 *Nanina hypochlora*, M. & P., A.M.N.H. ix. p. 87. pl. 4, f. 8. D.F.  
1912 *Peltatus capsula*, Bs., G.-Aust., A.M.N.H. ix. p. 133. pl. 7, f. 2. D.A.

Type of *capsula* in University Museum of Zoology, Cambridge;  
*hypochlora* in British Museum.

Hab. CAPE PENINSULA. Simonstown (Layard; Connolly).

*Hypochlora* was described from "Cape of Good Hope (Layard)";  
Colonel Godwin-Austen has assisted me to compare the type with  
*capsula*, and agrees that the two species are inseparable.

160. PELTATUS COTYLEDONIS (Benson). [S.A.M.]

- 1850 *Helix cotyledonis*, Bs., A.M.N.H. v. p. 216. D.  
1852 " " Rve., Conch. Icon. pl. 124, f. 740. D.F.  
1853 " " Pfr., Mon. Hel. iii. p. 31. D.  
1854 " " " Conch. Cab. p. 376. pl. 141 (1852),  
f. 3, 4. D.F.  
1887 *Helix (Pella) cotyledonis*, Bs., Tryon, Man. of Conch. iii. p. 103.  
pl. 20, f. 59. D.F.

- 1912 *Peltatus cotyledonis*, Bs., G.-Aust., A.M.N.H. ix. p. 134. A.R.  
Specimens ex auct. in University Museum of Zoology, Cambridge.

Hab. CAPE OF GOOD HOPE. Simonstown (Benson). Kalk Bay  
(Layard). Fish Hoek; Hermanus; Saldanha Bay and Stumpnose,  
Malmesbury District (Lightfoot). Kommetje; Buffelsfontein, near  
Cape Point (Connolly).

161. PELTATUS HUDSONÆ (Benson).

- 1864 *Helix hudsoniæ*, Bs., A.M.N.H. xiii. p. 493. D.  
1868 " " Pfr., Mon. Hel. v. p. 104. D.  
1890 *Vitrina huttoniæ* " M. & P., A.M.N.H. vi. pp. 467, 468. N.  
(Err. typ.)  
1893 *Pella (Gallandia) hudsoniæ*, Bs., Pilsb., Man. of Conch. viii.  
p. 135. N.





Type *ubi?*

*Hab.* CAPE OF GOOD HOPE. "On aloes" (Delalande). Port Elizabeth (fide Crawford).

Not the *Helix pellicula*, Fér., of Pfr., 1851 (Conch. Cab. p. 47), nor of Desh., 1850 (Hist. nat. Moll. i. p. 204), which is trifasciate, and apparently a West Indian species. The true *pellicula* would appear to be a *Peltatus*, possibly identical with *aloicola*.

164. PELTATUS PHYTOSTYLUS (Benson).

1864 *Helix phytostylus*, Bs., A.M.N.H. xiii. p. 492. D.

1868 " " Pfr., Mon. Hel. v. p. 52. D.

1912 *Peltatus phytostylus*, Bs., G.-Aust., A.M.N.H. ix. pp. 127, 137. N.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Colesberg (Arnott). Riversdale, Swellendam District (Mrs. Hudson). Port Elizabeth (Crawford).

165. PELTATUS TROTTERIANUS (Benson). [S.A.M.]

1848 *Helix trotteriana*, Bs., A.M.N.H. ii. p. 161. D.

1852 " " Rve., Conch. Icon. pl. 124, f. 745. D.F.

1853 " " Pfr., Mon. Hel. iii. p. 29. D.

1854 " " " Conch. Cab. p. 388. pl. 143 (1852),  
f. 1, 2. D.F.

1887 *Helix (Pella) trotteriana*, Bs., Tryon, Man. of Conch. iii. p. 103.  
pl. 20, f. 57. D.F.

1912 *Peltatus trotteriana*, Bs., G.-Aust., A.M.N.H. ix. p. 135. pl. 5,  
f. 2. pl. 6, f. 1. D.A.R.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Uitenhage (Trotter). Port Elizabeth (Crawford). Knysna (Purcell). Cradock (Farquhar). Bokkeveldt (Layard).

BASUTOLAND. Maseru (Sclater).

GENUS KERKOPHORUS, Godwin-Austen, 1912.

(A.M.N.H. ix. p. 127.)

Type of Genus, *K. inunctus* (M. & P.).

166. KERKOPHORUS AMPLIATUS (Melv. & Pons.).

1899 *Zingis ampliata*, M. & P., A.M.N.H. iv. p. 196. pl. 3, f. 5. D.F.

Type in British Museum.

*Hab.* NATAL. Durban (Burnup).

Apparently near akin to *natalensis*, Krs.

167. *KERKOPHORUS CINGULATUS* (Melv. & Pons.). [S.A.M.]1890 *Vitrina cingulata*, M. & P., A.M.N.H. vi. p. 466. *D.*1892 " " " ix. p. 94. pl. 5, f. 8. *F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Bellevue; Tootabi, near Alicedale; Alexandria District (Crawford). Bedford (Farquhar). Port St. John's (Shortridge). Kentani (Miss Pegler).

It is questionable whether this species is separable from the Natalian *poepfigi*, Menke, which it much resembles.

168. *KERKOPHORUS CORNEUS* (Pfeiffer).1846 *Vitrina cornea*, Pfr., Symb. iii. p. 81. *D.*1848 " " Krs., Südafr. Moll. p. 74. *N.*" " " Mon. Hel. ii. p. 505. *D.*1854 " " Conch. Cab. p. 21. pl. 2, f. 31-33. *D.F.*1862 " " Rve., Conch. Icon. pl. 4, f. 24. *D.F.*1885 *Vitrina (Gallandia) cornea*, Pfr., Tryon, Man. of Conch. i. p. 157. pl. 34, f. 92-94. *D.F.*1912 *Kerkophorus corneus?* Pfr., G.-Aust., A.M.N.H. ix. p. 137. pl. 1, f. 1. *A.*

Type in Stettin Museum.

*Hab.* NATAL. Port Natal (Menke).

CAPE OF GOOD HOPE. Eastern Province (Krauss). Port Elizabeth (fide Morelet).

169. *KERKOPHORUS FUSCICOLOR* (Melv. & Pons.). [S.A.M.]1892 *Vitrina fuscicolor*, M. & P., A.M.N.H. x. p. 240. pl. 13, f. 10. *D.F.*1903 *Natalina* " " Mlldff., Conch. Cab. p. 23. pl. 3, f. 10. *D.F.*

Type in British Museum.

*Hab.* ORANGE FREE STATE. Rensberg's Kop, Drakensberg (Quekett). Platberg, Harrismith (Connolly).

170. *KERKOPHORUS INUNCTUS* (Melv. & Pons.). [S.A.M.]1860 *Helix congehana*, Krs., von Mts., Die Helic. p. 84. *L.*1899 *Zingis inuncta*, M. & P., A.M.N.H. iv. p. 195. pl. 3, f. 4. *D.F.*1912 *Kerkophorus inunctus*, M. & P., G.-Aust., A.M.N.H. ix. pp. 127, 138. pl. 3, f. 1. *F.A.*

Type of *inunctus* in British Museum; *congehana* in Stuttgart Museum.

*Hab.* NATAL. Umkomaas; Alexandra Junction (Burnup). *Congella (congellana)*, Wahlberg).

ZULULAND. 'Nkandhla Forest (Haygarth). Umbonambi (Toppin). Makowe (Crosly).

Through the kindness of Dr. Lampert, of Stuttgart, I have been enabled to examine the type of the little-known *H. congellana*. It is identical with *inunctus*, but, never having been described or figured, must yield precedence to the last-named species.

171. *KERKOPHORUS LEUCOSPIRA* (Pfeiffer). [S.A.M.]

1856 *Vitrina leucospira*, Pfr., P.Z.S. p. 326. *D.*

1862 " " Rve., Conch. Icon. pl. 6, f. 42. *D.F.*

1885 *Helicarion leucospirus*, Pfr., Tryon, Man. of Conch. i. p. 168. pl. 28, f. 39. *D.F.*

1899 " *leucospira*, Pfr., M. & P., A.M.N.H. iv. p. 192. *N.*

Type in British Museum.

*Hab.* NATAL. Pinetown; Tongaat; Malvern (Burnup). Umgeni Rivermouth (Quekett).

Described as from South Australia.

172. *KERKOPHORUS MELVILLI*, Godwin-Austen.

1912 *Kerkophorus melvilli*, G.-Aust., A.M.N.H. ix. p. 127. pl. 7, f. 1. *A.R.*

Type in British Museum.

*Hab.* NATAL. Equeefa (Burnup).

173. *KERKOPHORUS NATALENSIS* (Krauss).

1848 *Vitrina natalensis*, Krs., Südafr. Moll. p. 74. pl. 4, f. 17. *D.F.*

" " " Pfr., Mon. Hel. ii. p. 505. *D.*

1862 " " Rve., Conch. Icon. pl. 1, f. 1. *D.F.*

1885 *Vitrina (Gallandia) natalensis*, Krs., Tryon, Man. of Conch. i. p. 156. pl. 34, f. 83, 84. *D.F.*

1909 *Helicarion subcornea*, Prest., A.M.N.H. iv. p. 498. *D.F.*

Type of *natalensis* in Stuttgart Museum; *subcornea* in British Museum.

*Hab.* NATAL. Natal Bay (Krauss).

CAPE OF GOOD HOPE. Somerset East and Tharfield (Miss Bowker), and Hillside, Grahamstown (Miss Glanville), *vide* Layard.

*Subcornea* was described from "Natal"; it appears quite inseparable from *natalensis*, Krs. *Ampliatius* and *zonamydrus*, M. & P., are also very similar to the last-mentioned shell.

174. *KERKOPHORUS PHÆDIMUS* (Melv. & Pons.). [S.A.M.]

- 1892 *Vitrina phædima*, M. & P., A.M.N.H. x. p. 241. pl. 13, f. 12. *D.F.*  
 1898. " " " " Stur., S.A. Moll. p. 34. *N.*  
 1912 *Kerkophorus phædimus*, M. & P., G.-Aust., A.M.N.H. ix. p. 139.  
 pl. 5, f. 3. *A.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg; Durban; Pinetown; Dargle; Karkloof; Port Shepstone; Ntimbankulu (Burnup).

CAPE OF GOOD HOPE. Grahamstown; Bedford (Farquhar). Pirie Mountain (Godfrey).

175. *KERKOPHORUS POEPPIGI* (Menke). [S.A.M.]

- 1846 *Vitrina poeppigii*, Mke., Pfr., Symb. iii. p. 81. *D.*  
 1848 " " " " Krs., Südafr. Moll. p. 74. *N.*  
 " " " " " Pfr., Mon. Hel. ii. p. 504. *D.*  
 1854 " " " " " Conch. Cab. p. 17, pl. 2, f. 13-15. *D.F.*  
 1862 " " " " " Rve., Conch. Icon. pl. 7, f. 49. *D.F.*  
 1885 *Vitrina (Gallandia) poeppigii*, Mke., Tryon, Man. of Conch.  
 i. p. 156. pl. 34, f. 85-87. *D.F.*

Type in Stettin Museum.

*Hab.* NATAL. Port Natal (Menke). On plants, widely distributed (Krauss).

TRANSVAAL. "Moori" (Mooi) River (Craven).

LORENZO MARQUES. Rikatla (Junod).

176. *KERKOPHORUS VITALIS* (Melv. & Pons.). [S.A.M.]

- 1908 *Helicarion vitalis*, M. & P., A.M.N.H. i. p. 133. pl. 7, f. 4. *D.F.*  
 1912 *Kerkophorus* " " " " G.-Aust., A.M.N.H. ix. p. 138. pl. 3,  
 f. 3. *A.*

Type in British Museum.

*Hab.* NATAL. Port Shepstone; Durban (Burnup).

177. *KERKOPHORUS ZONAMYDRUS* (Melv. & Pons.). [S.A.M.]

- 1890 *Vitrina zonamydra*, M. & P., A.M.N.H. vi. p. 467. *D.*  
 1892 " " " " " " ix. p. 94. pl. 5, f. 9. *F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Alexandria District (Crawford). Kowie (Farquhar).

NATAL. Durban (Penther, fide Sturany).

GENUS MICROKERKUS, Godwin-Austen, 1912.  
(A.M.N.H. ix. p. 128.)

Type of Genus, *M. symmetricus* (Crvn.).

178. MICROKERKUS PONDOENSIS, Godwin-Austen. [S.A.M.]

1912 *Microkerkus pondoensis*, G.-Aust., A.M.N.H. ix. p. 128. pl. 4,  
f. 2. A.R.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Kentani (Miss Pegler).

179. MICROKERKUS SYMMETRICUS (Craven).

1880 *Helix symmetrica*, Crvn., P.Z.S. p. 614. pl. 57, f. 2. D.F.

1887 „ (*Pella*) *symmetrica*, Crvn., Tryon, Man. of Conch. iii.  
p. 108. pl. 21, f. 99. D.F.

1898 *Pella symmetrica*, Crvn., Stur., S.A. Moll. pp. 39, 40. N.

1912 *Microkerkus symmetricus*, Crvn., G.-Aust., A.M.N.H. ix.  
pp. 128, 137. pl. 1, f. 2. pl. 3, f. 4. F.A.

Type in British Museum.

*Hab.* TRANSVAAL. Lydenburg (Craven). Pretoria (McBean).

SUB-FAMILY ZONITINÆ, Pilsbry, 1898.  
(Nautilus, xi. p. 128.)

GENUS VITREA, Fitzinger, 1833.

(Beiträge zur Landeskunde Oesterreichs u.d. Enns, Wien, iii. p. 99.)  
(= *Hyalinia*, Charpentier, 1837, nec Schumacher, 1817.)

Type of Genus, *V. diaphana* (Studer).

180. VITREA CRYSTALLINA (Müller). [S.A.M.]

1774 *Helix crystallina*, Müll., Verm. ii. p. 23. D.

1805 „ *crystallina* „ Drap., Hist. Moll. Fr. p. 118. pl. 8,  
f. 13-18. D.F.

1821 „ *eburnea*, Hartm., Neue Alp. i. p. 234.

„ „ *crystallina*, Müll., C. Pfr., Syst. Anordn. deutsch. L.-u.  
W. Schn. p. 46. pl. 2, f. 36. D.F.

1829 „ *vitrea*, Brown, Edinb. Journ. Nat. & Geogr. Sci. i. p. 12.  
pl. 1, f. 12-14. D.F.

1830 „ *crystallina*, Müll. (= *vitrea*, Brown), Alder, Cat. New-  
castle, p. 11. D.

- 1840 *Zonites crystallinus*, Müll., Gray, Turton's Man. p. 176. pl. 4,  
f. 42. *D.F.*
- 1848 *Helix crystallina*, Müll., Pfr., Mon. Hel. i. p. 59. *D.*
- 1852 " " Pfr., Conch. Cab. p. 128. pl. 88 (1850),  
f. 27-30. *D.F.*
- 1855 " " Moq.-Tand., Hist. Nat. Moll. Fr. ii.  
p. 89. pl. 9, f. 26-29. *D.F.*
- 1856 *Zonites crystallinus* " Bgt., Amén. malac. i. p. 192. pl. 20,  
f. 19-24. *D.F.*
- 1862 " " " Jeffr., Brit. Conch. i. p. 170. and v.  
(1869) pl. 10, f. 3. *D.F.*
- 1864 " *eustilbus*, Bgt., Mal. Algérie, i. p. 76. pl. 4, f. 11-16. *D.F.*
- 1881 *Hyalina cavannæ*, Paulucci, Bull. Soc. Mal. Ital. p. 80. pl. 1 bis,  
f. 3. *D.F.*
- 1886 *Hyalinia (Vitrea) crystallina*, Müll., Tryon, Man. of Conch. ii.  
p. 138. pl. 46, f. 3-8. *D.F.*
- 1908 " " " Tayl., Mon. Brit. Moll.  
p. 108. pl. 2 and pl. 15 (1912). *D.F.A.R.*

Type—*ubi* ?

*Hab.* CAPE PENINSULA. Cape Town and suburbs (plentiful).

A common European species.

#### GENUS POLITA, Held, 1837.

(*Isis*, p. 916.)

Type of Genus, *P. cellaria* (Müll.).

#### 181. POLITA ALLIARIA (Miller).

[S.A.M.]

- 1822 *Helix alliaria*, Mill., Ann. Philos. iii. p. 379. *D.*
- 1828 " *foetida*, Stark, Elem. Nat. Hist. ii. p. 59. *D.*
- 1833 " *alliacea*, Jeffr., Linn. Trans. xvi. p. 341. *D.*
- 1840 *Zonites alliarius*, Mill., Gray, Turton's Manual, p. 168. pl. 4,  
f. 39. *D.F.*
- 1851 *Helix remota*, Bs., A.M.N.H. vii. p. 263. *D.*
- 1854 *Zonites alliarius*, Mill., Schm., Mal. Blätt. i. p. 8. *N.*
- 1855 " " Moq.-Tand., Hist. Nat. Moll. Fr. ii.  
p. 83. pl. 9, f. 9-11. *D.F.*
- 1859 *Helix alliaria*, Mill., Pfr., Mon. Hel. iv. p. 76. *D.*
- 1862 *Zonites alliarius*, Mill., Jeffr., Brit. Conch. i. p. 161. and v.  
(1869), pl. 9, f. 2. *D.F.*
- 1886 *Hyalinia (Polita) alliaria*, Mill., Tryon, Man. of Conch. ii.  
p. 145. pl. 47, f. 91-93. *D.F.*

1907, 8 *Hyalinia* (*Euhyalinia*) *alliarum*, Mill., Tayl., Mon. Brit. Moll. p. 57. pl. 2 (1908), pl. 6 (1909). *D.F.A.R.*

Type of *remota* in British Museum; *alliarum*—*ubi*?

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

A common European species, probably of recent importation into South Africa.

182. *POLITA CELLARIA* (Müller). [S.A.M.]

- 1774 *Helix cellaria*, Müll., Verm. ii. p. 28. *D.*  
 1786 " " " Chem., Conch. Cab. ix, 2. p. 102. pl. 127, f. 1129. *D.F.*  
 1788 " " " Gmel., Syst. Nat., Ed. 13. i. p. 3634. *D.*  
 1803 " *lucida*, Mont., Test. Brit. p. 425; and Suppl. (1808), pl. 23, f. 4. *D.F.*  
 1807 " *nitens*, Gmel., Mat. & Rack., Linn. Trans. viii. p. 198. pl. 5, f. 7. *D.F.*  
 1817 " *glaphyra*, Say, Nicholson's Encycl. iv. pl. 1, f. 3. *D.F.*  
 1821 " *cellaria*, Müll., C. Pfr., Syst. Anordn. deutsch. L.-u. W. Schn. p. 42. pl. 2, f. 29, 30. *D.F.*  
 1822 " " " Lam., Hist. nat. An. s. Vert. vi, 2. p. 91. *D.*  
 1830 " " " (= *nitida*, Drap.), Alder, Cat. Newcastle, p. 12. *D.*  
 1840 *Zonites cellarius*, Müll., Gray, Turton's Manual, p. 170. pl. 4, f. 40. *D.F.*  
 1841 *Helix cellaria*, Müll. (= *glaphyra*, Say.), A. Binn., Boston Journ. Nat. Hist. iii. p. 421. *D.*  
 1842 " *glaphyra*, Say, Pfr., Symb. ii. p. 29. *D.*  
 1848 " *cellaria*, Müll., Pfr., Mon. Hel. i. p. 111. *D.*  
 1850 " " " Bs., A.M.N.H. v. p. 217. *L.*  
 1852 " " " Pfr., Conch. Cab. p. 102. pl. 84 (1850), f. 8-10. *D.F.*  
 1855 *Zonites cellarius*, Müll., Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 78. pl. 9, f. 1, 2. *D.F.*  
 1862 " " (= *lucida*, Pult., nec Drap.), Jeffr., Brit. Conch. i. p. 159. *D.*  
 1864 *Helix sydneyensis*, Cox, Cat. Austral. Land Shells, p. 37. *D.*  
 1868 " " Mon. Austral. Land Shells, p. 9. pl. 9, f. 16. pl. 18, f. 3. *D.F.*  
 1886 *Hyalinia* (*Polita*) *cellaria*, Müll., Tryon, Man. of Conch. ii. p. 155. pl. 50, f. 33-52. *D.F.*  
 1907 " (*Euhyalinia*) *cellaria*, Müll., Tayl., Mon. Brit. Moll. p. 30. pl. 2 (1908), pl. 6 (1909). *D.F.A.R.*

1910 *Hyalinia (Polita) cellaria*, Müll., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 455. N.

Specimens ex coll. Müller in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. Rondebosch (Benson, 1846). Somerset East (Miss Bowker). Stellenbosch (Péringuey). Somerset West (Purcell). Widely distributed in the Cape Peninsula.

RHODESIA. Bulawayo (in S.A. Museum).

The Rev. E. W. Bowell has identified the animal of specimens from St. James, Cape Peninsula, as typical of the common European *cellaria*.

183. *POLITA DRAPARNAUDI* (Beck). [S.A.M.]

- 1801 *Helix lucida*, Drap., Tabl. Moll. Fr. p. 96. D.  
 1805 „ *nitida* „ Hist. Moll. Fr. p. 117. pl. 8, f. 23-25. D.F.  
 1815 „ *lucida* „ Brard, Hist. Coq. Paris, p. 34. pl. 2, f. 3, 4. D.F.  
 1828 „ *nitida* „ Stark, Elem. Nat. Hist. ii. p. 59. D.  
 1835 „ *cellaria*, Müll., *var.*, Rossmässler, Icon. i. p. 71. pl. 1, f. 22\*. D.F.  
 1837 „ (*Helicella*) *draparnaldi*, Beck (= *nitida*, Drap.), Beck, Index Moll. p. 6.  
 1853 „ *draparnaldi*, Beck, Pfr., Mon. Hel. iii. p. 86. D.  
 1854 „ „ „ „ Conch. Cab. p. 497. pl. 161, f. 23-25. D.F.  
 1855 *Zonites lucidus*, Drap., Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 75. pl. 8, f. 29-35. D.F.A.  
 1869 „ *cellarius*, “ Müll.,” Jeffr., Brit. Conch. v. pl. 9, f. 1. F.  
 1886 *Hyalinia (Polita) lucida*, Drap., Tryon, Man. of Conch. ii. p. 149. pl. 48, f. 37-43, 46-56. pl. 49, f. 57-59. D.F.  
 1895 *Helix nitida*, Drap., Locard, Ipsa Draparnaudi Conchylia, p. 145. N.  
 1907 *Hyalinia (Euhyalinia) lucida*, Drap., Tayl., Mon. Brit. Moll. p. 18. pl. 2 (1908), pl. 6 (1909). D.F.A.R.  
 1911 „ (*Polita*) *lucida*, Drap., Germain, Arch. Zool. Exper. vi. p. 234. pl. 13, f. 1-6, 10-12, 22-24, 32-34, 41-43. N.F.  
 Originals of *lucida*, Drap., in Naturh. Hofmus. Vienna (as *nitida*).  
*Hab.* CAPE PENINSULA. Rondebosch (Oakley). Kenilworth (Connolly).

Specimens from Kenilworth have been dissected and identified by the Rev. E. W. Bowell.

I fail to see how the name *lucida*, of Draparnaud, can possibly be retained for this species. The earliest *Helix lucida* is that of Pulteney, 1799 (Cat. Dorset, p. 47), who wrote:—



"*H. lucida*, M.P.; *pellucida*, Pen., 134; Gualt. t. 2, G. Testa *pellucida*, *umbilicata*, *depressa*, *lævissima*.

"Pellucid snail shell, about  $\frac{3}{8}$  of an inch long, exactly resembling the foregoing" (*H. ericëtorum*, Müll.) "in figure, but quite smooth and glossy, and wholly without striæ, marks, or bands.

"Found on plants in the River Stour."

(Gualtieri's figure, quoted above, appears to represent a roughly striate shell, somewhat high in the spire, with a distinctly expanded peristome, and his letterpress runs, "*Cochlea terrestris umbilicata*, minor, *pellucida*, *flavescens*.")

Draparnaud's description of his *Helix lucida* (1801) is as follows:—

"*H. lucide. H. lucida.* Coq. transparente, luisante, corné clair en dessus, blanchâtre en dessous; ouverture grande.

"Haut. 5–6 mill.; larg. 13–16; diam. 11–14.

"*Helix cellaria*, Müll., Verm. Hist. 230. Gualt. t. 2. f. G.

"*H. commune* dans les jardins, sous les haies. (5 tours). Animal pâle, blanchâtre, un peu grisâtre en dessus. Tentacules grisâtres. Yeux noirs."

Müller's original description of *cellaria* is:—

"*H. testa umbilicata*, *depressa*, *lutescente*, *nitida*, *subtus lactea*. *Apertura larga*."

Pulteney's *H. lucida* is probably synonymous with *cellaria*, Müll.; but it is evident that, in using the same name and quoting the same figure as Pulteney, Draparnaud intended to allude to Pulteney's species; while his reference to Müller, whose description of *cellaria* he practically translates, shows that in his opinion *lucida* and *cellaria* were identical. The fact that in 1805 he rechristened his own *H. lucida*, *nitida*, and gave the name *lucida* to *H. nitida*, Müll., does not tend to simplify the matter.

It appears from the foregoing that if the name *lucida* be allowed to stand at all, it should bear Pulteney's name as author; but under the circumstances it seems preferable to consider *lucida*, Pult., a synonym of *cellaria*, and to follow the majority of Continental authorities in adopting a modification of Beck's name, *draparnaldi*, for the present much-debated species.

Among its other synonyms are *nitens*, von Alten, 1812; *obscurata*, Porro in Villa, 1841; *blauneri*, Shuttl., 1843; *fulgida*, Parreyss, 1851; *planulata*, Stabile, 1864; *septentrionalis*, *farinesianus*, and *navarricus*, Bgt., 1870; *calabricus*, Paulucci, 1879; *gyrocorta*, Bgt. in Servain, 1880; *porroi*, Paulucci, 1882; *subfarinesiana*, Bgt.; *barbozana*, Castro; and *intermissa*, Locard, 1894.

I have known South African examples display cannibal propensities, devouring other small species, even of *Zonitoides* and *Polita*, which were placed in their box. They were, however, no match for *Natalina coenotera*, which treated them in similar fashion.

SUB-FAMILY ARIOPHANTINÆ, Godwin-Austen, 1888.  
(Moll. of India, pt. 6, p. 253, as Arionphantinæ, *emend.* Pilsbry, 1898, Nautilus, xi, p. 129.)

GENUS ZONITOIDES, Lehmann, 1862.  
(Mal. Blätt. ix. p. 111.)

Type of Genus, *Z. nitidus* (Müll.).

184. ZONITOIDES AFRICANUS, Böttger.

1910 *Zonitoides africanus*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 436. pl. 28, f. 2. *D.F.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* DAMARALAND. Gobabis (subfossil, Hermann).

185. ZONITOIDES ARBOREUS (Say). [S.A.M.]

1817 *Helix arborea*, Say, Nicholson's Encyclopædia, iv. pl. 4, f. 4. *D.F.*

1821 ,, *arborea* ,, Fér., Tabl. Syst. Moll. pt. 3. p. 45 (or 41). *N.*

1840 ,, *ottonis*, Pfr., Archiv. f. Naturg., vi, 1. p. 251. *D.*

1841 ,, *arborea*, Say, Binn., Boston Journ. Nat. Hist. iii. p. 422. pl. 22, f. 1. *D.F.*

1848 ,, ,, ,, (= *ottonis*), Pfr., Mon. Hel. i. p. 95. *D.*

1852 ,, ,, ,, Pfr., Conch. Cab. p. 114. pl. 85 (1850), f. 33-35. *D.F.*

1866 *Hyalina breweri*, Newcomb, Tryon, Amer. Journ. of Conch. ii. p. 250. pl. 19, f. 27. *D.F.*

1885 *Zonites arboreus*, Say, Binn., Bull. U.S. Nat. Mus. xxviii. p. 61. *D.F.* and Synonymy.

1886 *Hyalinia (Polita) arborea*, Say (= *breweri*, Newc.), Tryon, Man. of Conch. ii. p. 161. pl. 51, f. 9-17. *D.F.*

Type—*ubi*?

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Layard). Grahamstown (Reeve). Kenilworth (Connolly). King Williamstown (Godfrey). Queenstown (Becker).

TRANSVAAL. Pretoria (Connolly).

NATAL. Pietermaritzburg (Ponsonby).

A common American species, introduced into S. Africa and various other parts of the globe.

186. ZONITOIDES CUPIDO, Melv. & Pons. [S.A.M.]

1903 *Zonitoides cupido*, M. & P., A.M.N.H. xii. p. 601. pl. 32, f. 1. D.F.

Type in British Museum.

Hab. ZULULAND. Lower Umfolosi Drift (Burnup).

RHODESIA. Victoria Falls (Warren).

SUB-FAMILY ?

("Position most doubtful;" Godwin-Austen, 1908, Fauna of Brit. India, Moll., p. 258.)

GENUS KALIELLA, Blanford, 1863.

(A.M.N.H. xi. p. 83.)

Type of Genus, *K. barrakporensis* (Pfr.).

187. KALIELLA EUCONULOIDES, Melv. & Pons. [S.A.M.]

1908 *Kaliella euconuloides*, M. & P., A.M.N.H. i. p. 133. pl. 7, f. 5. D.F.

Type in British Museum.

Hab. NATAL. Dargle; Karkloof; Inhluzani; Game Pass (Burnup).

The generic position of this species is doubtful; Colonel Godwin-Austen informs me that it is not a *Kaliella*.

188. KALIELLA SIGURENSIS, Godwin-Austen. [S.A.M.]

1882 *Kaliella sigurensis*, G.-Aust., L. & F. W. Moll. India, i. p. 5. pl. 1, f. 11. D.F.

1890 *Helix* (*Trochonanina*) *pretoriensis*, M. & P., A. M. N. H. vi. p. 469. D.

1892 " " " " " ix. p. 94. pl. 4, f. 5. F.

Types in British Museum.

Hab. TRANSVAAL. Pretoria District (*pretoriensis*, Farquhar).

NATAL. Pietermaritzburg; Dargle; Equeefa; Karkloof; Tyeloti, near Botha's Hill (Burnup).

Described from the Nilgherri Hills, India.

Colonel Godwin-Austen has identified the Pretorian form of *Kaliella* as *sigurensis*, and in all probability the Natal localities refer to the same species. E. A. Smith, however (P.Z.S. 1899, p. 582), in chronicling *K. barrakporensis* (Pfr.), from Mount Chirad-

zulu, B.C.A., considered that *pretoriensis*, M. & P., was a synonym of the last named. It is very possible that both these nearly allied Indian species have found their way into South Africa, and may have been mistaken one for another.

189. *KALIELLA VICTORIÆ*, Preston. [S.A.M.]

1912 *Kaliella victoriae*, Prest., A.M.N.H. ix. pp. 69, f. 2; 70. *F.D.*

Type in coll. Preston.

*Hab.* RHODESIA. Victoria Falls (Connolly).

FAMILY LIMACIDÆ, Gray, 1821.

(Lond. Med. Repos. xv. p. 230, as Limacideæ, *emend.* 1824, Ann. of Philos. viii. p. 107.)

SUB-FAMILY LIMACINÆ, Swainson, 1840.

(Treatise on Malacology, p. 327.)

GENUS LIMAX, Linné, 1758.

(Syst. Nat., Ed. 10. i. pp. 644, 652.)

Type of Genus, *L. maximus*, Lin.

190. *LIMAX FLAVUS*, Linné. [S.A.M.]

1758 *Limax flavus*, Lin., Syst. Nat., Ed. 10. i. p. 652. *D.*

1774 " " Müll., Verm. ii. p. 10. *D.*

1801 " *variegatus*, Drap., Tabl. Moll. Fr. p. 103. *D.*

1815 *Limacella unguiculus*, Brard, Hist. Coq. Paris, p. 115. pl. 4, f. 3, 4, 11, 12. *D.F.*

1819 *Limax variegatus*, Drap., Fér., Hist. Nat. Moll. ii, 1. p. 71. pl. 5, f. 1-6. *D.F.*

1831 *Limacellus unguiculus*, Brard (= *carinatus*, Leach), Turton, Manual, p. 25. *D.*

1840 *Limax flavus*, Lin., Gray, Turton's Manual, p. 114. pl. 3, f. 16. *D.F.*

1855 " *variegatus*, Drap., Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 25. pl. 3, f. 3-9. *D.F.A.*

1860 " " " Heynem., Mal. Blätt. vii. p. 165. pl. 1, f. 1-8. *D.F.*

1863 " " " Heynem., Mal. Blätt. x. p. 212. pl. 3, f. 5. *N.R.*

1869 " " " Lehm., Mal. Blätt. xvi. p. 148. *N.*

1885 " *flavus*, Lin., Tryon, Man. of Conch. i. p. 200. pl. 49, f. 63, 70-72. pl. 50, f. 76. *D.F.*

- 1900 *Limax variegatus*, Drap., Cllge., Ann. S.A. Mus. ii. p. 2. *L.*  
 1903 „ *flavus*, Lin., Tayl., Mon. Brit. Moll. p. 78. pl. 10 (1905),  
 f. 3-9. *D.F.A.R.*  
 1910 „ „ „ Cllge., Ann. Natal. Mus. ii. p. 160. *N.*  
*Hab.* NATAL. Pietermaritzburg (Burnup).  
 CAPE PENINSULA. Cape Town (Lightfoot).  
 A well-known and widely distributed species, in whose synonymy  
 have been placed *L. umbrosus*, Phil., 1844; *maculatus*, Kalenicz,  
 1851; *deshayesii*, Bgt., 1862; *companyoi*, Bgt., 1863; *breck-*  
*worthianus*, Lehm., 1864; *bicolor*, Selenka, 1865; *bæticus*, Mabilie,  
 1868; and *ecarinatus*, Bttg., 1881.
191. LIMAX MAXIMUS, Linné.
- 1678 *Limax cinereus*, Lister, Hist. Anim. Angl. p. 127. pl. 2, f. 15.  
*D.F. (Pre-Linnean.)*  
 1758 „ *maximus*, Lin., Syst. Nat., Ed. 10. i. p. 652. *D.*  
 1774 „ *cinereus*, Müll., Verm. ii. p. 5. *D.*  
 1805 „ „ „ Drap., Hist. Moll. Fr. p. 124. pl. 9, f. 11. *D.F.*  
 1815 *Limacella parma*, Brard, Hist. Coq. Paris, p. 110. pl. 4, f. 1, 2,  
 9, 10. *D.F.*  
 1819 *Limax antiquorum*, Fér., Hist. Nat. Moll. ii, 1. p. 68. pl. 4. *D.F.*  
 1821 „ *cinereus*, Müll., C. Pfr., Syst. An. u. Besch. deutsch.  
 L.-u. W. Schn. p. 20. *D.*  
 „ „ *alpinus*, Fér., Tabl. Syst. Moll. pt. 2. p. 21. *D.*  
 „ „ *valentianus*, Fér., Tabl. Syst. Moll. pt. 2. p. 21. *D.*  
 1831 *Limacellus parma*, Brard, Turton, Manual, p. 24. *D.*  
 1840 *Limax maximus*, Lin., Gray, Turton's Man. p. 112. pl. 3, f. 14. *D.F.*  
 1855 „ (*Eulimax*) *maximus*, Lin., Moq.-Tand., Hist. Nat. Moll.  
 Fr. ii. p. 28. pl. 4, f. 1-8. *D.F.*  
 1861 „ *cinereus*, List., Heynem., Mal. Blätt. viii. p. 163. *N.*  
 1862 „ „ „ Lehm., Mal. Blätt. ix. p. 172. pl. 4, f. 1, 2. *D.A.*  
 1863 „ „ „ Heynem., Mal. Blätt. x. p. 200. pl. 2, f. 1. *N.R.*  
 1885 „ *maximus*, Lin., Tryon, Man. of Conch. i. p. 189. pl. 46,  
 f. 31-35, 39. pl. 49, f. 76. pl. 60, f. 81, 82. *D.F.*  
 1901 „ *maximus*, Lin., Cllge., Ann. S.A. Mus. ii. p. 229. *N.L.*  
 1902 „ „ „ Tayl., Mon. Brit. Moll. p. 34. pl. 6 (1903),  
 f. 1-15. *D.F.A.R.*

*Hab.* CAPE PENINSULA. Table Mountain, Newlands (Purcell).  
 Another European slug, whose recent synonymy includes *L.*  
*cyrenæus*, *companyoi*, and *maculatus*, Nunnely; *sylvaticus*, Morelet;  
 and *cornaliæ*, Pini.

## GENUS MILAX, Gray, 1855.

(Cat. Pulm. p. 174.)

(=*Amalia*, Moquin-Tandon, 1855.)Type of Genus, *M. gagates* (Drap.).

## 192. MILAX CAPENSIS (Krauss).

- 1848 *Limax capensis*, Krs., Südafr. Moll. p. 73. D.  
 1855 „ *kraussii*, H. & A. Ad. (= *campestris*, “Krs.”), H. & A.  
 Ad., Gen. rec. Moll. ii. p. 219.  
 1862 „ „ „ „ Heynem., Mal. Blätt. ix. p. 217. N.  
 „ *Amalia capensis*, Krs., Heynem., Mal. Blätt. ix. p. 215. N.  
 1885 „ „ „ „ Jahrb. d. Deutsch. Mal. Ges.  
 xii. p. 294. N.  
 „ *Limax* „ „ (= *kraussii*, Ads.), Tryon, Man. of Conch.  
 i. p. 214. N.  
 1891 *Amalia* „ „ Ckll., A.M.N.H. vii. p. 336. N.

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE (Krauss).

## 193. MILAX GAGATES (Draparnaud). [S.A.M.]

- 1801 *Limax gagates*, Drap., Tabl. Moll. Fr. p. 100. D.  
 1805 „ „ „ „ Hist. Moll. Fr. p. 122. pl. 9, f. 1, 2. D.F.  
 1819 „ „ „ „ Fér., Hist. Nat. Moll. ii, 1. p. 75. pl. 6,  
 f. 1, 2. D.F.  
 1824 „ *maurus*, Quoy & Gaim., Voy. Uranie, p. 427. D.  
 1855 *Milax gagates*, Drap., Gray, Cat. Pulm. p. 174. D.  
 „ *Limax (Amalia) gagates*, Drap., Moq.-Tand., Hist. Nat. Moll.  
 Fr. ii. p. 19. pl. 2, f. 1-3. D.F.  
 1870 „ „ „ „ Drap., Semp., Reis. in Arch. Philip-  
 pin. ii, 3. p. 84. pl. 11, f. 9, 26. A.R.  
 1885 *Amalia gagates*, Drap., Heynem., Jahrb. d. Deutsch. Mal. Ges.  
 xii. p. 293. N.  
 „ „ „ „ Tryon, Man. of Conch. i. p. 218. pl. 53,  
 f. 53, 54. D.F.  
 1891 „ „ „ „ Ckll., A.M.N.H. vii. pp. 329, 337. N.  
 1900 „ „ „ „ Cllge., Ann. S.A. Mus. ii. p. 2. L.  
 1901 „ „ „ „ „ „ „ p. 230. N.  
 1904 „ „ „ „ Tayl., Mon. Brit. Moll. p. 139. pl. 15  
 (1906), f. 9-14. D.F.A.R.  
 1907 „ „ „ „ Srth., Zool. Anz. Leipsig, xxxi. pp. 793,  
 798. N.  
 1910 *Milax gagates*, Drap., Cllge., Ann. Natal Mus. ii. p. 161. N.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (fide Cockerell).  
Cape Town (Lightfoot). Cape Flats (Schultze). Ashton; Storms  
Vlei (Purcell). Simonstown (German South Pole Expedition).

NATAL. Pietermaritzburg (Burnup).

A European species, known from many parts of the globe. Other  
synonyms are *hewstoni*, Cooper, 1872; *marginata*, Pini, 1876; *tas-*  
*manicus* and ? *nigricolus*, Tate, 1880; and *abori*, Cllge., 1897.

194 MILAX PONSONBYI (Collinge). [S.A.M.]

1900 *Amalia ponsonbyi*, Cllge., Ann. S.A. Mus. ii. p. 2. pl. 1, f. 1, 2.  
pl. 2, f. 13. D.F.A.

1910 " " (? = *capensis*, Krs.), Srth., Deutsch.  
Sudpol. Exp. xii. p. 157. N.

Type in University Museum of Zoology, Cambridge.

*Hab.* CAPE PENINSULA. Cape Town (Lightfoot).

GENUS AGRIOLIMAX, Mörch, 1865.

(J. de C. xiii. p. 378.)

Type of Genus, *A. agrestis* (Lin.).

195. AGRIOLIMAX AGRESTIS (Linné).

1758 *Limax agrestis*, Lin., Syst. Nat., Ed. 10. i. p. 652. D.

1774 " " Müll., Verm. ii. p. 8. D.

" " *reticulatus*, Müll., Verm. ii. p. 10. D.

1791 " *filans*, Hoy, Linn. Trans. i. p. 183. D.N.

1805 " *agrestis*, Lin., Drap., Hist. Moll. Fr. p. 126. pl. 9, f. 9. D.F.

1815 *Limacella obliqua*, Brard, Hist. Coq. Paris, p. 118. pl. 4, f. 5, 6,  
13-15. D.F.

1819 *Limax bilobatus*, Fér., Hist. Nat. Moll. ii, 1. p. 74. pl. 5, f. 2. D.F.

" " *agrestis*, Lin., Fér., *ibid.* p. 73. pl. 5, f. 7-10. D.F.

1831 *Limacellus obliquus*, Brard, Turton, Manual, p. 26. D.

1840 *Limax agrestis*, Lin., Gray, Turton's Man. p. 117. pl. 3, f. 17. D.F.

1855 " " " Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 22.  
pl. 2, f. 18-22. pl. 3, f. 1, 2. D.F.

1862 " " " Lehm., Mal. Blätt. ix. p. 183. D.

1863 " " " Heynem., Mal. Blätt. x. p. 209. pl. 2, f. 7. N.R.

1885 " (*Agriolimax*) *agrestis*, Lin., Tryon, Man. of Conch. i.  
p. 205. pl. 50, f. 90-94. pl. 51, f. 95-98. D.F.

1893 *Agriolimax agrestis*, Lin., Ckll., Conchologist, ii. p. 200. N.

1900 " " Cllge., Ann. S.A. Mus. ii. p. 3. L.

- 1903, 4 *Agriolimax agrestis*, Lin., Tayl., Mon. Brit. Moll. p. 104. pl. 15  
(1906), f. 1-4. *D.F.A.R.*
- 1907        "                "        Srth., Zool. Anz. Leipzig, xxxi.  
pp. 793, 798. *N.*
- 1910        "                "        Cllge., Ann. Natal Mus. ii. p. 161. *N.*
- Hab.* CAPE PENINSULA. Cape Town (Lightfoot). Cape Flats  
(Schultze). Green Point (Roebuck). Miller's Point (German South  
Pole Expedition).

NATAL. Pietermaritzburg (Burnup).

A species of world-wide distribution, which has been described  
under many names.

In addition to the early synonymy given above, the following are,  
by various authorities, considered to be identical with *agrestis*:  
*Limax salicium*, Bouillet; *tunicata*, Gould; *pallidus*, Schrenk;  
*niciensis* and *veranyanus*, Bgt.; *heydeni*, Heynem.; *norvegicus*,  
Westerl.; *fedtschenkoi*, Koch & Heynem.; *panormitanus*, Less. &  
Poll.; *mentonicus*, Nev.; *varians*, A. Adams; *molestus*, Hutton;  
and *dymczewiczii*, Kalenicz.

#### 196. AGRIOLIMAX LÆVIS (Müller).

- 1774 *Limax lævis*, Müll., Verm. ii. p. 1. *D.*
- 1801        "       *brunneus*, Drap., Tabl. Moll. Fr. p. 104. *D.*
- 1821        "       *lævis*, Müll., and *brunneus*, Drap., Fér., Tabl. Syst. Moll.  
pt. 2. p. 23. *D.*
- 1885 *Agriolimax lævis*, Müll., Srth., Zeitschr. f. wiss. Zool. Leipzig,  
xlii. p. 327. pl. 7, f. 17. *D.F.*
- "       *Limax (Krynickia) lævis*, Müll., Tryon, Man. of Conch. i. p. 211.  
pl. 52, f. 21. *D.F.*
- 1898 *Agriolimax lævis*, Müll., Stur., S.A. Moll. p. 36. *N.*
- 1904        "       (*Hydrolimax*) *lævis*, Müll., Tayl., Mon. Brit. Moll.  
p. 121. pl. 15 (1906), f. 5-8. *D.F.A.R.*

*Hab.* CAPE OF GOOD HOPE. Queenstown (Dower; Roebuck).

Other synonyms of this world-diffused slug appear to be: *lacustris*,  
Bonelli, 1822; *campestris*, Binn., 1841; *lombricoides*, Morel, 1845;  
*parvulus*, Normand, 1852; *arenarius*, Gass., 1867; *rarotonganus*,  
Heynem., 1871; *argentinus*, Strob., 1874; *montanus* and *castaneus*,  
Ing., and *ingersolli*, Binn., 1875; *hyperboreus*, Westerl., 1876;  
*meridionalis*, Doering, 1878; *stenurus*, Strebel, 1880; *brasiliensis*,  
Semper, 1885; *queenslandicus*, Hedley, 1888; and *bevenoti*, Cllge.,  
1897.



FAMILY UROCYCLIDÆ, Simroth, 1889.  
(Nov. Act. Acad. Caes. Leop. liv. p. 62.)

GENUS UROCYCLUS, Gray, 1864.  
(P.Z.S. p. 250.)

Type of Genus, *U. kirki*, Gray.

197. UROCYCLUS FASCIATUS, von Martens.

- 1884 *Urocyclus fasciatus*, von Mts., Heynem., Jahrb. d. Deutsch.  
Mal. Ges. xi. p. 8. pl. 1, f. 4, 5. *D.F.*  
1910       "       von Mts., Cllge., Ann. Natal Mus. ii. p. 162. *N.*  
Type in Zool. Mus. Berlin.  
*Hab.* MOZAMBIQUE. Quilimane (fide Simroth).  
NATAL. Pietermaritzburg (Burnup).

198. UROCYCLUS FLAVESCENS (Keferstein).

- 1866 *Parmarion flavescens*, Kfstn., Mal. Blätt. xiii. p. 70. pl. 2, f. 1-8.  
*D.F.A.R.*  
1879 *Urocyclus flavescens*, Kfstn. (cum var. *pallida*), Gibbons, Journ.  
of Conch. ii. p. 138. *D.*  
1883       "       "       Pfeffer, Abhandl. Naturwiss. Verein.  
Hamburg, vii, 2. p. 12. *D.*  
1884       "       "       Heynem., Jahrb. d. Deutsch. Mal.  
Ges. xi. p. 6. pl. 1, f. 2, 3. *D.F.*  
1885       "       "       (cum var. *pallida*, Gibb.), Tryon,  
Man. of Conch. i. p. 163. pl. 35,  
f. 34-36. *D.F.*  
1894       "       "       Ckl., Journ. of Mal. iii. p. 52. *D.*  
1910       "       "       Cllge., Ann. Natal Mus. ii. p. 162. *L.*  
Type in Zool. Mus. Berlin.  
*Hab.* NATAL. Pinetown. Pietermaritzburg (Burnup).  
LORENZO MARQUES. Inhambane; Quilimane; Mungurumbe  
(Peters, 1846). Delagoa Bay (Spencer).

199. UROCYCLUS KIRKI, Gray.

- 1864 *Urocyclus kirki*, Gray, P.Z.S. p. 251. *D.F.*  
1879       "       "       Gibbons, Journ. of Conch. ii. p. 139. *N.*  
1884       "       "       Tryon, Struct. & Syst. Conch. iii. p. 81.  
pl. 101, f. 60. *D.F.*  
"       "       "       Heynem., Jahrb. d. Deutsch. Mal. Ges.  
xi. p. 7. pl. 1, f. 1. *D.F.*  
10

- 1864 *Urocyclus kirkii*, Gray, Binn., Ann. N.Y. Acad. Sci. iii. p. 84.  
 pl. 16, f. K. pl. 17, f. N. *R.*
- 1887        "        "        Poirier, Bull. Soc. Mal. Fr. iv. p. 196. pl. 5,  
 f. 1, 2, 6. pl. 6, f. 1, 2. pl. 8, f. 1. *D.F.A.R.*
- 1891        "        "        Ckl., A.M.N.H. vii. p. 101. *N.*
- 1910        "        "        Cllge., Ann. Natal Mus. ii. p. 161. *N.*
- Type in British Museum.
- Hab.* NATAL. Durban (fide Sturany).
- MOZAMBIQUE. Near the mouth of the Zambesi (Kirk).
- LORENZO MARQUES. Delagoa Bay; Inhambane (fide Sturany).

## 200. UROCYCLUS KRAUSSIANUS (Heynemann).

- 1848 *Limax (Arion) ? sp.*, Krs., Südafr. Moll. p. 73. *D.*
- 1862        "        *kraussianus*, Heynem., Mal. Blätt. ix. p. 217. *D.*
- 1863        "        "        "        "        x.p.211.pl.3,f.2. *N.R.*
- 1891 *Urocyclus*        "        "        Ckl., A.M.N.H. vii. p. 102. *N.*
- 1910        "        "        "        Cllge., Ann. Natal Mus. ii. p. 163. *N.*
- Hab.* CAPE PENINSULA. Cape Town (Krauss).
- NATAL (fide Sturany).

## 201. UROCYCLUS PALLESCENS, Cockerell.

- 1891 *Urocyclus pallescens*, Ckl., A.M.N.H. vii. p. 101. *D.*
- 1910        "        "        "        Cllge., Ann. Natal Mus. ii. p. 162. *D.*
- Type in British Museum.
- Hab.* NATAL. Durban (Craven).

## FAMILY ARIONIDÆ, Gray, 1840.

(Turton's Manual, pp. 101, 104.)

## SUB-FAMILY OPELTINÆ, Cockerell, 1891.

(P.Z.S. p. 216.)

## GENUS OPELTA, Mörch, 1867.

(Mal. Blätt. xiv. p. 191.)

Type of Genus, *O. nigropunctata*, Mörch.

## 202. OPELTA ATERRIMA (Gray).

- Limax (Arion) allerian*, Gray, in British Museum.
- 1855 *Arion aterrimus*, Gray, Cat. Pulm. p. 55. *D.*
- 1890        "        "        (? *Oopelta*), Ckl., A.M.N.H. vi. p. 387. *D.N.*
- 1901 *Oopelta aterrima*        "        Cllge., Ann. S.A. Mus. ii. p. 230. *D.*

Type in British Museum.

*Hab.* SOUTH AFRICA (fide Gray).

203. *OPELTA CAPENSIS*, Pollonera.

1909 *Oopelta capensis*, Pollon., Boll. Mus. Torino, xxiv, 608. p. 11.  
plate, f. 1-6. *D.F.*

Type in Museum of Zoology, Turin.

*Hab.* CAPE OF GOOD HOPE (in Mus. Torino).

204. *OPELTA FLAVESCENS*, Collinge. [S.A.M.]

1900 *Oopelta flavescens*, Cllge., Ann. S.A. Mus. ii. p. 6. pl. 1, f. 9, 10.  
pl. 2, f. 17. *D.F.A.*

1901 " " Ann. S.A. Mus. ii. p. 231. *N.*

Type in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Kalk Bay; Caledon; Swellendam;  
Kogman's Kloof, Ashton (Purcell).

205. *OPELTA GRANULOSA*, Collinge. [S.A.M.]

1900 *Oopelta granulosa*, Cllge., Ann. S.A. Mus. ii. p. 6. pl. 1. f. 11, 12.  
pl. 2, f. 18. *D.F.A.*

1901 " " Ann. S.A. Mus. ii. p. 231. *N.*

Type in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Nieuwondtville (Leipoldt). Hot  
Springs, Montagu (Purcell). Sir Lowry's Pass (Connolly).

206. *OPELTA MINOR*, Pollonera.

1909 *Oopelta minor*, Pollon., Boll. Mus. Torino, xxiv, 608. p. 12.  
plate, f. 7, 8. *D.F.*

Type in Museum of Zoology, Turin.

*Hab.* CAPE OF GOOD HOPE (in Mus. Torino).

207. *OPELTA NIGROPUNCTATA*, Möreh. [S.A.M.]

1867 *Oopelta nigropunctata*, Mörch, Heynem., Mal. Blätt. xiv. p. 191.  
pl. 2, f. 1, 2. *D.R.*

1885 " " Tryon, Man. of Conch. i. p. 225. *D.*

1900 " " Cllge., Ann. S.A. Mus. ii. p. 5. pl. 1,  
f. 7, 8. pl. 2, f. 16. *D.F.A.*

1901 " " Cllge., Ann. S.A. Mus. ii. p. 231.  
pl. 14, f. 6, 11, 12. *A.*

1909 " " Pollon., Boll. Mus. Torino, xxiv,  
608. p. 10. *D.*

1910 *Oopelta nigropunctata*, Mörch, Srth., Deutsch. Sudpol. Exp. xii, 4.  
p. 149, pl. 21, f. 1-14, 16, 17. *A.*

*Hab.* CAPE OF GOOD HOPE. Cape Town (Lightfoot). Bergvliet (Schultze). Albany District (Penther). Sir Lowry's Pass (Conolly).

Described from Guinea.

208. *OPELTA POLYPUNCTATA*, Collinge. [S.A.M.]

1901 *Oopelta polypunctata*, Clge., Ann. S.A. Mus. ii. p. 232. pl. 14,  
f. 3, 4, 7, 8, 9, 10. *D.F.A.*

Type in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Zonder End, Caledon Division (Purcell).

SUB-FAMILY ARIONINÆ, Morse, 1864.

(Journ. Portland Soc. Nat. Hist. i, 1. pp. 5, 7.)

GENUS ARION, Férussac, 1819.

(Hist. Nat. Moll. ii, 1. pp. 50, 53.)

Type of Genus, *A. empiricorum*, Fér.

209. *ARION FUSCUS* (Müller). [S.A.M.]

1774 *Limax fuscus*, Müll., Verm. ii, p. 11. *D.*

1821 " " Fér., Tabl. Syst. Moll. pt. 2. p. 23. *D.*

1855 *Arion fuscus*, Müll., Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 14.  
pl. 1, f. 28-30. *D.F.*

1863 " " Mörch, Vid. Med. naturh. For. Copenhagen,  
p. 273. *D.*

1873 " " Lehm., Leb. Schneck. Stettins, p. 17. pl. 2,  
f. 2. *D.F.*

1885 " " (= *subfuscus*, Drap., *cinctus*, Dumont, *fas-*  
*ciatus*, Nilss. (part), and *incommodus*,  
Hutt.), Tryon, Man. of Conch. i. p. 235.  
pl. 57, f. 18-21. *D.F.*

1887 " " Pollon., Atti. Acc. Sci. Torino, xxii. p. 200.  
pl. 3, f. 14. *D.F.*

1890 " " Pollon., Boll. Mus. Zool. Torino, v. p. 12. *D.*

1893 " " Ckl., Conchologist, ii. p. 211. *N.*

1897 " " (= *citrinus*, Westerl., 1871, and *stabilis*,  
Pollon., 1885), Clge., P. Z.S. p. 443,  
pl. 30, f. 13. pl. 31, f. 14-16. *D.A.*

- 1900 *Arion fuscus*, Müll., Cllge., Ann. S.A. Mus. ii. p. 7. L.  
 1910 " " " Ann. Natal Mus. ii. p. 170. L.  
*Hab.* CAPE PENINSULA. Cape Town (Lightfoot).  
 NATAL. Pietermaritzburg (Burnup).

210. ARION INTERMEDIUS, Normand.

- 1852 *Arion intermedius*, Norm., Descr. Lim. nouv. p. 6. D.  
 1867 *Geomalacus intermedius*, Norm., Mab., Rev. et Mag. Zool. p. 57. D.  
 1887 *Arion intermedius*, Norm., Pollon., Atti. Acc. Sci. Torino, xxii.  
 p. 207. pl. 3, f. 1-7. D.F.  
 1893 " " Gain, Conchologist, ii. p. 55. N.  
 " " Ckl., *ibid.* pp. 63, 212. D.A.N.  
 1906 " " Tayl., Mon. Brit. Moll. p. 240. pl. 24  
 (1907), f. 18-23. D.F.A.R.  
 1907 " " Srth., Zool. Anz. Leipsig, xxxi.  
 pp. 794, 796. N.  
 1910 " " Srth., Deutsch. Sudpol. Exp. xii, 4.  
 p. 153. N.

*Hab.* CAPE PENINSULA. Cape Flats (Schultze).

Although first differentiated at so comparatively recent date, this European species has the following synonyms: *Geomalacus hiemalis*, Drouet, 1867; *mabillei*, Baud, 1868; *vendeannus*, Let., 1869; *Arion verrucosus*, Brev., 1881; *mabillianus*, Baud, 1884; *minimus*, Srth., 1885; and *mollerii*, Pollon., 1889.

FAMILY ENDODONTIDÆ, Crosse, 1894.  
 (J. de C. xlii. p. 219.)

GENUS ENDODONTA, Albers, 1860.  
 (Die Helic. p. 90.)

Type of Genus, *E. lamellosa* (Fér.).

SECTION AFRODONTA, Melv. & Pons, 1908.  
 (A.M.N.H. i. pp. 133, 135.)

Type of Section, *E. bilamellaris*, M. & P.

211. ENDODONTA (AFRODONTA) BILAMELLARIS,  
 Melv. & Pons.

[S.A.M.]

- 1908 *Afrodonta bilamellaris*, M. & P., A.M.N.H. i. p. 134. pl. 7, f. 6. D.F.  
 " " " G.-Aust., *ibid.* p. 135. pl. 8, f. 2. A.R.

1912 *Endodonta (Afrodonta) bilamellaris*, M. & P., Bnp., Ann. Natal Mus. ii. p. 335. pl. 24, f. 18. *D.N.F.*

Type in British Museum.

*Hab.* NATAL. Dargle; Edendale; Tongaat; Enon bush, Richmond; Hilton Road; Ntimbankulu (Burnup).

212. ENDODONTA (AFRODONTA) FARQUHARI, Burnup.

1912 *Endodonta (Afrodonta) farquhari*, Bnp., Ann. Natal Mus. ii. p. 339. pl. 24, f. 7-10. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown; Port Elizabeth; Kowie; Bathurst (Farquhar).

213. ENDODONTA (AFRODONTA) INHLUZANIENSIS, Burnup.

1912 *Endodonta (Afrodonta) inhluzaniensis*, Bnp., Ann. Natal Mus. ii. p. 342. pl. 24, f. 14-17. *D.F.*

Type in British Museum.

*Hab.* NATAL. Inhluzani Mountain (Burnup).

214. ENDODONTA (AFRODONTA) NOVENLAMELLARIS,  
Burnup. [S.A.M.]

1912 *Endodonta (Afrodonta) novenlamellaris*, Bnp., Ann. Natal Mus. ii. p. 341. pl. 24, f. 11-13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown; Kowie (Farquhar). King Williamstown (Godfrey).

215. ENDODONTA (AFRODONTA) PERFIDA, Burnup.

1907 *Trachycystis rotula*, M. & P., A.M.N.H. xix. p. 99. pl. 6, f. 12. *D.F.*

1912 *Endodonta (Afrodonta) perfida*, Bnp. (= *rotula*, M. & P., 1907, nec Hombr. & Jacq., 1854), Bnp., Ann. Natal Mus. ii. p. 337. pl. 24, f. 1-6. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Fern Kloof, Grahamstown (Farquhar).

216. ENDODONTA (AFRODONTA) TRILAMELLARIS,  
Melv. & Pons. [S.A.M.]

1908 *Afrodonta trilamellaris*, M. & P., A.M.N.H. i. p. 134. pl. 7, f. 7. *D.F.*

1912 *Endodonta (Afrodonta) trilamellaris*, M. & P., Bnp., Ann. Natal Mus. ii. p. 336. *D.N.*

Type in British Museum.

Hab. NATAL. Dargle (Burnup).

GENUS PHORTION, Preston, 1910.

(A.M.N.H. vi. p. 531.)

(= *Phasis*, Albers, 1850, nec Hubner, in Lepidoptera, 1816.)

Type of Genus, *Ph. menkeanum* (Pfr.).

217. PHORTION CAPENSE (Pfeiffer). [S.A.M.]

- 1841 *Helix capensis*, Pfr., Symb. i. p. 40. D.  
 1848     "       "       (= *irrorata*, Zgl. in litt.), Pfr., Mon. Hel.  
   i. p. 60. D.  
 1849     "       "       Conch. Cab. p.220.pl.34 (1848), f.9-11. D.F.  
 1850     "       "       Bs., A.M.N.H. v. p. 217. N.  
 1851     "       "       Rve., Conch. Icon. pl. 43, f. 202. D.F.  
 1853     "       "       (= *littoricola*, Bs. in litt.), Pfr., Mon. Hel.  
   iii. p. 66.  
 1887 *Helix (Pella) capensis*, Pfr., Tryon, Man. of Conch. iii. p. 103.  
   pl. 20, f. 61. D.F.

Type in Stuttgart Museum.

Hab. CAPE OF GOOD HOPE (coll. Pfeiffer). Cape Town and Cape Peninsula (very common). Robben I. (Fisk). Dassen I. (Connolly). Port Elizabeth to Alexandria (Crawford). Port Alfred (Penther). Widely distributed from Port Elizabeth to Namaland. *Ph. paludicola* (Bs.) is possibly a small, and *uitenhagense* (Krs.) a high-spined, form of *capense*, while *namaquanum* (von Mts.) appears to be little more than a variety of the same species, of which examples quite as large as *namaquanum* are known from Muizenberg.

218. PHORTION MENKEANUM (Pfeiffer). [S.A.M.]

- 1842 *Helix menkeana*, Pfr. (*H. capensis*, Menke, ined.), Pfr., Symb.  
   ii. p. 33. D.  
 1848     "       "       Mon. Hel. i. p. 55. D.  
    "       "       "       Krs., Südafr. Moll. p. 75. N.  
 1852     "       "       "       Conch. Cab. p. 229. pl. 133, f. 5, 6. pl. 111  
   (1850), f. 1-5. D.F.  
    "       "       "       Rve., Conch. Icon. pl. 106, f. 591. D.F.  
 1887 *Helix (Pella) menkeana*, Pfr., Tryon, Man. of Conch. iii. p. 108.  
   pl. 21, f. 98. D.F.  
 1893 *Phasis menkeana*, Pfr., Pilsb., Man. of Conch. ix. p. 37. pl. 10,  
   f. 1-3. F.

Type in Stettin Museum.

*Hab.* CAPE OF GOOD HOPE (Menke). Elim (Krauss).

CAPE PENINSULA, widely distributed from Table Mountain to Cape Point.

219. PHORTION NAMAQUANUM (von Martens).

1889 *Helix (Pella) namaquana*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 161. *D.*

1893 *Phasis namaquana*, von Mts., Pilsb., Man. of Conch. viii. p. 297. *N.*

1894 *Helix* " " Conch. Mitth. iii, 3. p. 4. *D.*

1897 " " " Archiv. f. Naturg. lxxiii, i. p. 38. pl. 7, f. 1-4. *D.F.*

Type in Zool. Mus. Berlin.

*Hab.* LITTLE NAMALAND. Between Port Nolloth and Ananas (Schenck; Day).

220. PHORTION PALUDICOLA (Benson).

1850 *Helix paludicola*, Bs., A.M.N.H. vi. p. 253. *D.*

1853, 54 " " Pfr., Conch. Cab. p. 358. pl. 137, f. 4, 5. *D.F.*

1853 " " " Mon. Hel. iii. p. 66. *D.*

" " " Rve., Conch. Icon. pl. 174, f. 1179. *D.F.*

1887 *Helix (Pella) paludicola*, Bs., Tryon, Man. of Conch. iii. p. 104. pl. 20, f. 64. *D.F.*

Specimens ex auct. in University Museum of Zoology, Cambridge.

*Hab.* CAPE PENINSULA. "Baszaarms" (Baas Harman's) Kraal, near Retreat (Benson). Seekoe Vlei (Connolly).

221. ? PHORTION SOLLERS (Melv. & Pons.)

1907 ? *Phasis sollers*, M. & P., A.M.N.H. xix. p. 100. pl. 6, f. 14. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Melmoth (Miss Hickey).

Probably better placed nearer *Trachycystis*.

222. PHORTION UITENHAGENSE (Krauss).

1846 *Helix uitenhagensis*, Krs., Pfr., Symb. iii. p. 66. *D.*

1848 " " " Mon. Hel. i. p. 61. *D.*

" " " Südafr. Moll. p. 76. pl. 4, f. 22. *D.F.*

1854 " " " Rve., Conch. Icon. pl. 207, f. 1461. *D.F.*

1887 *Helix (Pella) uitenhagensis*, Krs., Tryon, Man. of Conch. iii. p. 104. pl. 20, f. 63. *D.F.*

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Winterhoek Mt., Uitenhage



(Krauss). "Moderately plentiful in the neighbourhood of the village of Uitenhage, on the gravelly soil on low bushes" (Layard). Crawford considers this species to be a var. of *capense*, and writes of its occurrence at Port Elizabeth: "*P. uitenhagense* is found only in Zwartkops valley, and is always more conical than *capense*. Same habits as *capense*."

Layard wrote: "I look upon this as the inland variety of the preceding species" (*capense*). "It was not nearly so abundant as *capensis* in its own locality. It has more whorls and a more exerted spire than *capensis*, but partakes of all the varieties from pure white to dark mottled specimens."

GENUS SCULPTARIA, Pfeiffer, 1855.

(Mal. Blätt. ii. p. 135.)

Type of Genus, *S. sculpturata* (Gray).

The subjoined classification is based on J. H. Ponsoby's article in Proc. Mal. Soc., 1910, vol. ix. p. 34.

223. SCULPTARIA COLLARIS (Pfeiffer).

- 1867 *Helix collaris*, Pfr., Mal. Blätt. xiv. p. 197. *D.*  
1868       "       "       Mon. Hel. v. p. 506. *D.*  
1869       "       "       Novit. Conch. iii. p. 496. pl. 107, f. 5-9. *D.F.*  
1886 *Helix sculpturata*, Gray, Kob., Conch. Cab. p. 621. pl. 178, f. 26-28. *D.F.*  
1887 *Polygyra (Sculptaria) sculpturata*, Gray, var. *collaris*, Pfr., Tryon, Man. of Conch. iii. p. 138. pl. 24, f. 27, 28. *D.F.*  
1910 *Sculptaria collaris*, Pfr., Pons., Proc. Mal. Soc. ix. p. 35. *N.*  
" *Helix (Sculptaria) collaris*, Pfr., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 438. *N.*

Type in Stettin Museum.

*Hab.* DAMARALAND (fide Böttger).

224. SCULPTARIA DAMARENSIS (H. Adams).

- 1870 *Helix (Corilla) damarensis*, H. Ad., P.Z.S. p. 379. pl. 27, f. 14. *D.F.*  
1887 *Polygyra (Sculptaria) sculpturata*, Gray, var. *damarensis*, H. Ad., Tryon, Man. of Conch. iii. p. 138. pl. 25, f. 67, 68. *D.F.*  
1890 *Sculptaria chapmanni*, Ancey, Bull. Soc. Mal. Fr., vii. p. 156. *D.*  
1892       "       *melvilliana*, Ancey (= *chapmanni*, Ancey, nec Cox), Brit. Nat. p. 126.  
1910       "       *damarensis*, H. Ad., Pons., Proc. Mal. Soc. ix. p. 35. *N.*

- 1910 *Helix (Sculptaria) damarensis*, H. Ad., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 438. N.

Type of *damarensis* in British Museum; *melvilliana* in coll. Dautzenberg.

*Hab.* OVAMPOLAND. Walwich Bay (*melvilliana*, Andersson and Chapman).

Pfeiffer, Clessin, and von Martens have at different times placed the present species in the synonymy of *collaris*, Pfr., and Paetel and Tryon in that of *sculpturata*, Gray. Ponsonby (1910) remarks: "This is the largest species of the Genus; the spire is more raised and the sculpture is weaker than in any of its allies."

#### 225. SCULPTARIA RETISCUPTA (von Martens).

- 1889 *Helix retisculpta*, von Mts., Nachrichtsbl. d. Deutsch. Mal. Ges. xxi. p. 154. D.

1894 *Sculptaria retisculpta*, von Mts., Conch. Mitth. iii, 3. p. 5. D.

1897 " " " Archiv. f. Naturg. lxiii, i. p. 38. pl. 7, f. 5-7. D.F.

1910 " " " Pons., Proc. Mal. Soc. ix. p. 36. N.

Type in Zool. Mus. Berlin.

*Hab.* DAMARALAND. Ussab (ex "*Linnæa*," fide von Martens).

#### 226. SCULPTARIA SCULPTURATA (Gray).

1838 *Helicodonta sculpturata*, Gray, Alexander's Expedition, ii. p. 268. D.

1845 *Helix sculpturata*, Gray, Pfr., Zeitschr. f. Malak. p. 86. D.

1848 " " " Mon. Hel. i. p. 408. D.

1854 " " " Rve., Conch. Icon. pl. 208, f. 1471. D.F.

1887 *Polygyra (Sculptaria) sculpturata*, Gray, Tryon, Man. of Conch. iii. p. 138. pl. 25, f. 69. D.F.

1893 *Sculptaria sculpturata*, Gray, Pilsb., Man. of Conch. ix. p. 39. pl. 10, f. 4. F.

1910 " " " Pons., Proc. Mal. Soc. ix. p. 34. D.

" *Helix (Sculptaria) sculpturata*, Pfr., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 437. N.

Type in British Museum.

*Hab.* GREAT NAMALAND. Near the Great Fish River (Alexander).

DAMARALAND. "Kurikaubmund am Swakop (Kurikop bei Otjikango)" (Rintelen).

var. RINTELENI, Böttger.

- 1910 *Helix (sculptaria) sculpturata*, Pfr., var. *rinteleni*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 437. pl. 28, f. 1. D.F.

Type in Senckenberg Museum, Frankfurt.

*Hab.* DAMARALAND. Huleb, S. of Usakos (Rintelen).

GENUS TRACHYCYSTIS, Pilsbry, 1893.

(*Man. of Conch.* viii. p. 136, and ix. p. 37.)

(= *Pella*, Albers, 1860 (pars), nec Stephens, in *Coleoptera*, 1835.)

Type of Genus, *T. biscalpta* (Bs.).

During recent years this Genus has been a convenient receptacle for a large number of small South African helicoids, whose soft parts are mostly unknown, and whose conchological characters do not admit of their inclusion in other South African Genera. It has long been obvious that, as more becomes known of the animals, the Genus will have to undergo considerable revision. The fact, too, of *biscalpta* standing as the type will enormously restrict *Trachycystis* s.s., as its animal is a very peculiar one, to which only *charybdis*, and probably *tollini*, *vorticialis*, and *hartvigiana* are near akin.

227. TRACHYCYSTIS ACTINOTRICHA (Melv. & Pons.). [S.A.M.]

1892 *Helix (Pella) actinotricha*, M. & P., A.M.N.H. x. p. 238. pl. 13, f. 5. *D.F.*

1893 *Phasis (Trachycystis) actinotricha*, M. & P., Pilsb., *Man. of Conch.* viii. p. 143. pl. 35, f. 14. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg; Karkloof; Nottingham Road (Burnup).

228. TRACHYCYSTIS AENA (Krauss).

1848 *Helix aena*, Krs., *Südafr. Moll.* p. 75. pl. 4, f. 18. *D.F.*

„ „ „ Pfr., *Zeitschr. f. Malak.* p. 92. *D.*

1853 „ „ „ „ *Mon. Hel.* iii. p. 68. *D.*

1854 „ „ „ Rve., *Conch. Icon.* pl. 189, f. 1320. *D.F.*

1887 *Helix (Pella) aena*, Krs., Tryon, *Man. of Conch.* iii. p. 105. pl. 20, f. 71. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL (Wahlberg).

229. TRACHYCYSTIS ALCOCKI, Melv. & Pons. [S.A.M.]

1895 *Helix (Trachycystis) alcocki*, M. & P., A.M.N.H. xv. p. 164. pl. 12, f. 2. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Kowie, Port Alfred to Alexandria District (Crawford). Grahamstown (Farquhar).

230. TRACHYCYSTIS APRICA (Krauss).

- 1848 *Helix aprica*, Krs., Südafr. Moll. p. 77. pl. 4, f. 26. *D.F.*  
 " " " Pfr., Zeitschr. f. Malak. p. 114. *D.*  
 1851 " " Rve., Conch. Icon. pl. 43, f. 201. *D.F.*  
 1853 " " Pfr., Mon. Hel. iii. p. 123. *D.*  
 1887 *Helix (Pella) aprica*, Krs., Tryon, Man. of Conch. iii. p. 107.  
 pl. 20, f. 88. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL (Wahlberg).

231. TRACHYCYSTIS AULACOPHORA (Ancey).

- 1890 *Helix aulacophora*, Ancey, Bull. Soc. Mal. France, vii. p. 153. *D.*  
 1893 *Phasis (Trachycystis) aulacophora*, Ancey, Pilsb., Man. of  
 Conch. viii. p. 138. pl. 43, f. 60, 61. *D.F.*

Type in coll. Geret.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth, North end to Zwartkops River (Crawford).

232. TRACHYCYSTIS BATHYCOELE (Mely. & Pons.). [S.A.M.]

- 1892 *Helix (Pella) bathycoele*, M. & P., A.M.N.H. ix. p. 89. pl. 5, f. 4. *D.F.*  
 1893 *Phasis (Trachycystis) bathycoele*, M. & P., Pilsb., Man. of Conch.  
 viii. p. 139. pl. 35, f. 13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Craigie Burn, Somerset East (Miss Bowker). Bedford; Dassie Krantz, Grahamstown (Farquhar). Van Staaens River, Port Elizabeth (Crawford).

NATAL. Pietermaritzburg; Ntimbankulu (Burnup).

233. TRACHYCYSTIS BISCUPTA (Benson). [S.A.M.]

- 1851 *Helix biscupta*, Bs., A.M.N.H. vii. p. 103. *D.*  
 1853 " " Pfr., Mon. Hel. iii. p. 72. *D.*  
 " " " Rve., Conch. Icon. pl. 173, f. 1171. *D.F.*  
 1854 " " Pfr., Conch. Cab. p. 380. pl. 141 (1852),  
 f. 17-19. *D.F.*  
 1887 *Helix (Pella) biscupta*, Bs., Tryon, Man. of Conch. iii. p. 105.  
 pl. 20, f. 72. *D.F.*

1893 *Phasis (Trachycystis) bisculpta*, Bs., Pilsb., Man. of Conch. ix. pp. 37, 38. pl. 10, f. 5-7. pl. 15, f. 3, 4. *F.A.*

Specimens ex auct. in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Camps Bay (Benson). Houw Hoek (Lightfoot). Widely distributed over the greater part of the Cape Peninsula, from Lion's Head to Cape Point.

Layard wrote: "There are two forms of this shell; var. *major* is found at Bredasdorp; the var. *minor* I procured among grass roots at the foot of the Round Battery, Simonstown."

A beautiful variety with white, translucent shell, from Signal Hill, Cape Town (Lightfoot), is in the S.A. Museum.

234. TRACHYCYSTIS BURNUPI, Melv. & Pons. [S.A.M.]

1892 *Helix (Pella) burnupi*, M. & P., A.M.N.H. x. p. 239. pl. 13, f. 6. *D.F.*

1893 *Phasis (Trachycystis) burnupi*, M. & P., Pilsb., Man. of Conch. viii. p. 140. pl. 35, f. 5. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (Burnup). Common throughout Natal.

LORENZO MARQUES. Delagoa Bay (Connolly).

235. TRACHYCYSTIS CALORAMA, Melv. & Pons. [S.A.M.]

1899 *Trachycystis calorama*, M. & P., A.M.N.H. iv. p. 196. pl. 3, f. 6. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pinetown; Inchanga (Burnup).

236. TRACHYCYSTIS CENTRIFUGA, Melv. & Pons. [S.A.M.]

1903. *Trachycystis centrifuga*, M. & P., A.M.N.H. xii. p. 602. pl. 32, f. 9. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Maeström Forest, Bedford (Farquhar). Pirie Forest (var., Godfrey).

237. TRACHYCYSTIS CHARYBDIS (Benson). [S.A.M.]

1856 *Helix charybdis*, Bs., A.M.N.H. xviii. p. 436. *D.*

1859 " " Pfr., Mon. Hel. iv. p. 106. *D.*

1899 " " M. & P., A.M.N.H. iv. p. 194. pl. 3, f. 16. *N.F.*

Specimen ex auct. in University Museum of Zoology, Cambridge.

*Hab.* CAPE PENINSULA. Table Mountain (Layard; Lightfoot; Connolly). Kalk Bay (Lightfoot).

## 238. TRACHYCYSTIS CONISALEA (Melv. &amp; Pons). [S.A.M.]

1892 *Helix (Pella) conisalea*, M. & P., A.M.N.H. x. p.239. pl.13, f.7. *D.F.*1893 *Phasis (Trachycystis) conisalea*, M. & P., Pilsb., Man. of Conch. viii. p. 145. pl. 35, f. 4. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg; Nottingham Road; Karkloof; Dargle; Equeefa; Table Mountain, E. of Pietermaritzburg (Burnup).

## 239. TRACHYCYSTIS CONNOLLYI, Melv. &amp; Pons. [S.A.M.]

1909 *Trachycystis connollyi*, M. & P., A.M.N.H. iv. p.491. pl.8, f.15. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Montagu (Connolly). Kuruman (in coll. Layard).Nearly allied to *T. farquhari* (M. & P.).

## 240. TRACHYCYSTIS COXI, Preston.

1912 *Trachycystis coxi*, Prest., Proc. Mal. Soc. x. p. 18. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna Forest (Cox).Resembles *inclara*, Morelet, from which it differs in being imperforate and of a more delicate substance.

## 241. TRACHYCYSTIS ECTIMA, Melv. &amp; Pons. [S.A.M.]

1899 *Trachycystis ectima*, M. & P., A.M.N.H. iv. p. 197. pl. 3, f. 8. *D.F.*

Type in British Museum.

*Hab.* NATAL. Umkomaas; Tongaat (Burnup).

## 242. TRACHYCYSTIS EPETRIMA (Melv. &amp; Pons.).

1892 *Helix (Pella) epetrima*, M. & P., A.M.N.H. ix. p. 84. pl. 4, f. 3. *D.F.*1893 *Phasis (Trachycystis) epetrima*, M. & P., Pilsb., Man. of Conch. viii. p. 146. pl. 35, f. 6. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Somerset District (fide M. & P.). North End, Port Elizabeth (Crawford).

## 243. TRACHYCYSTIS ERYTHRACTIS, sp. nov., pl. 2, f. 5. [S.A.M.]

Shell depressed-conic, subrimate, rather thin and dull, hardly translucent; with close, faint, regular striation parallel to the curve of the outer lip; pale cream-coloured, prettily marked on the upper side with irregular ruby rays and streaks; the underside, though

similarly striate, is of thinner texture and devoid of red marking. Spire moderately elevated, apex sharp. Whorls  $5\frac{1}{2}$ , gradually increasing, rounded, with very slight angulation at the periphery. Suture simple, shallow. Aperture compressed oval; peristome thin, simple; columella short, thickened upwards, margin narrowly reflexed, almost entirely concealing the perforation.

Diam. maj. 10.1, min. 8.9; alt. 6.8; Apert. alt. 5.2, lat. 5.4 mm.

Type in South African Museum.

*Hab.* CAPE OF GOOD HOPE. Caledon Division (Lightfoot).

Possibly nearer *Phortion* than *Trachycystis*, but differing therefrom in one or two important particulars.

244. TRACHYCYSTIS FARQUHARI (Melv. & Pons.).

1892 *Helix farquhari*, M. & P., A.M.N.H. x. p. 240. pl. 13, f. 9. *D.F.*

1893 *Phasis (Trachycystis) farquhari*, M. & P., Pilsb., Man. of Conch. viii. p. 147. pl. 35, f. 12. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Farquhar).

Very nearly allied to *T. connollyi*, from which it possibly differs in having rather less convex whorls and more concave columella.

245. TRACHYCYSTIS GLANVILLIANA (Ancey).

1890 *Helix glanvilliana*, Ancey, Bull. Soc. Mal. Fr. vii. p. 157. *D.*

1893 *Phasis (Trachycystis) glanvilliana*, Ancey, Pilsb., Man. of Conch. viii. p. 147. *N.*

Type in coll. Geret.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Miss Glanville).

246. TRACHYCYSTIS GLEBARIA, Melv. & Pons. [S.A.M.]

1903 *Trachycystis glebaria*, M. & P., A.M.N.H. xii. p. 602. pl. 32, f. 15. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pinetown; Hilton Road (Burnup).

247. TRACHYCYSTIS HARTVIGIANA (Pfeiffer).

1861 *Helix hartvigiana*, Pfr., Mal. Blätt. viii. p. 167. *D.*

1868 " " Mon. Hel. v. p. 239. *D.*

1886 " " Kob., Conch. Cab. p. 617. pl. 178, f. 10-12. *D.F.*

1887 *Helix (Pella) hartvigiana*, Pfr., Tryon, Man. of Conch. iii. p. 107. pl. 20, f. 89-91. *D.F.*

1898 *Pella hartvigiana*, Pfr., Stur., S.A. Moll. p. 39. *N.*

Type in Stettin Museum.

*Hab.* CAPE OF GOOD HOPE. Gnadenthal, near Stellenbosch (Hartvig). Oudebosch (Layard).

248. TRACHYCYSTIS HOTTENTOTA (Melv. & Pons.). [S.A.M.]

1891 *Helix hottentota*, M. & P., A.M.N.H. viii. p. 239. *D.*

1892 " " " ix. p. 94. pl. 4, f. 6. *F.*

1893 *Phasis (Trachycystis) hottentota*, M. & P., Pilsb., Man. of Conch. viii. p. 141. pl. 35, f. 8. *D.F.*

1907 *Trachycystis paula*, M. & P., A.M.N.H. xix. p. 99. pl. 6, f. 11. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Happy Valley and Rufane Vale, Port Elizabeth (Crawford). Wynberg; Simonstown; Lakeside; Caledon (Connolly).

NATAL. Pietermaritzburg (Penther). Majuba (Connolly). Game Pass, &c. (Burnup).

TRANSVAAL. Johannesburg (*paula*, McBean). Pretoria; Pienaars Poort; Buiskop (Connolly).

A somewhat variable species, in which the beautiful distant costulate sculpture, so noticeable in immature or very fine adult specimens, disappears quickly when exposed to wear. The type of *paula* has been very carefully compared with that of *hottentota*, and is undoubtedly conspecific.

249. TRACHYCYSTIS INCLARA (Morelet). [S.A.M.]

1889 *Helix inops*, Morel., J. de C. xxxvii. p. 6. pl. 1, f. 2. *D.F.*

" " *inclara*, Morel., (= *inops*, Morel., 1889, nec Mouss., 1872), Morel., J. de C. xxxvii. p. 200.

" " *bowkeriana*, Ancey, in litt.

1893 *Phasis (Trachycystis) inops*, Morel., Pilsb., Man. of Conch. viii. p. 144. pl. 43, f. 50, 51. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth; Alexandria District (Crawford). Grahamstown (*bowkeriana*, Miss Glanville). Tharfield (*bowkeriana*, Miss Bowker). Bedford; Bathurst (Farquhar). Port St. John's (Shortridge).

250. TRACHYCYSTIS KNYSNAENSIS, Preston.

1912 *Trachycystis knysnaensis*, Prest., Proc. Mal. Soc. x. p. 17. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna Forest (Cox).



251. TRACHYCYSTIS LATICOSTATA, Melv. & Pons.

1903 *Trachycystis laticostata*, M. & P., A.M.N.H. xii. p. 602. pl. 32, f. 5. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Maeström Forest, Bedford (Farquhar).

252. TRACHYCYSTIS LIGNICOLA, Melv. & Pons.

1898 *Trachycystis lignicola*, M. & P., A.M.N.H. ii. p. 125. pl. 7, f. 1. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Fish River, Cradock (Farquhar).

253. TRACHYCYSTIS LIRICOSTATA (Melv. & Pons.).

1891 *Helix (Pella) liricostata*, M. & P., A.M.N.H. viii. p. 239. *D.*

1892 " " " ix. p. 94. pl. 5, f. 1. *F.*

1893 *Phasis (Trachycystis) liricostata*, M. & P., Pilsb., Man. of Conch. viii. p. 140. pl. 35, f. 9. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. East Griqualand (fide M. & P.). Van Staadens River and Coerney, Port Elizabeth (Crawford).

254. TRACHYCYSTIS LOVÉNI (Krauss).

1848 *Helix loveni*, Krs., Südafr. Moll. p. 76. pl. 4, f. 21. *D.F.*

" " " Pfr., Zeitschr. f. Malak. v. p. 93. *D.*

1851 " " Rve., Conch. Icon. pl. 43, f. 195. *D.F.*

1853 " " Pfr., Mon. Hel. iii. p. 79. *D.*

1887 *Helix (Pella) loveni*, Krs., Tryon, Man. of Conch. iii. p. 106. pl. 20, f. 74. *D.F.*

1898 *Phasis (Trachycystis) loveni*, M. & P., Stur., S.A. Moll. p. 45. (*Err. typ.*)

Type in Stuttgart Museum.

*Hab.* NATAL (Wahlberg).

255. TRACHYCYSTIS LYGÆA (Melv. & Pons.). [S.A.M.]

1892 *Helix (Pella) lygæa*, M. & P., A.M.N.H. ix. p. 85. pl. 4, f. 7. *D.F.*

1893 *Phasis (Trachycystis) lygæa*, M. & P., Pilsb., Man. of Conch. viii. p. 138. pl. 35, f. 7. *D.F.*

1899 *Trachycystis lygæa*, M. & P., Moss & Webb, Proc. Mal. Soc. iii. p. 263. *A.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (Burnup).

CAPE OF GOOD HOPE. Somerset East District (Miss Bowker).

## 256. TRACHYCYSTIS METALLAKTER, sp. nov., pl. 2, f. 6. [S.A.M.]

Shell small, depressed globose, umbilicate, thin, fulvo-corneous, semitransparent. Spire little raised, apex rounded. Whorls 4, convex, gradually increasing; beautifully sculptured above on the second, third, and part of the fourth with delicate, curved, rather distant, transverse liræ, which are clear, but less pronounced, on the underside; towards the aperture the striation becomes closer and fainter. Suture deep. Aperture sub-ovate, descending slightly; peristome thin, simple. Umbilicus not very wide, but deep, extending to the apex. Columella weak, margin slightly reflexed, but in no way concealing the umbilicus.

Diam. maj. 4·0, min. 3·4; alt. 2·2; apert. alt. 1·9, lat. 1·5 mm.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Caledon (Connolly).

As with the far smaller *hottentota*, M. & P., the distant liræ, which are such a beautiful feature in immature shells, wear off with increasing age, and do not seem to be produced after the first  $3\frac{1}{2}$  whorls. I have chosen the type carefully, as being in a transitional stage, for specimens of exceptional size possessing 5 whorls show hardly a trace of the early sculpture, and might well be mistaken for a different species.

## 257. TRACHYCYSTIS MICROSCOPICA (Krauss).

1848 *Helix microscopica*, Krs., Südafr. Moll. p. 76. pl. 4, f. 20. *D.F.*

” ” ” Pfr., Zeitschr. f. Malak. v. p. 93. *D.*

1853 ” ” ” Mon. Hel. iii. p. 83. *D.*

1887 *Helix (Pella) microscopica*, Krs., Tryon, Man. of Conch. iii. p. 106. pl. 20, f. 77, 78. *D.F.*

Type in Stockholm Museum.

*Hab.* NATAL. Mooi River (Wahlberg).

Through the courtesy of Dr. S. Théele, of Stockholm, I am enabled to give, on p. 159, a photograph of this little-known species. It will be seen that it can hardly be placed in *Pupisoma*, but its exact generic position is extremely doubtful.

## 258. TRACHYCYSTIS MICROSTRIATA, Preston.

1912 *Trachycystis microstriata*, Prest., Proc. Mal. Soc. x. p. 18. *D.F.*

Type in coll. Dautzenberg.

*Hab.* CAPE OF GOOD HOPE. Knysna (Cox).

259. *TRACHYCYSTIS ORDINARIA*, Melv. & Pons. [S.A.M.]  
1908 *Trachycystis ordinaria*, M. & P., A.M.N.H. i. p.135. pl. 7, f. 8. *D.F.*  
Type in British Museum.  
*Hab.* TRANSVAAL. Potchefstroom (Miss Livingston).  
ORANGE FREE STATE. Bloemfontein; Rustfontein (Connolly).  
Kroonstad (Miss Hickey).  
Specimens from Rustfontein have rather coarser and more distant striation than the typical form, but are hardly specifically separable.
260. *TRACHYCYSTIS OREINA*, Melv. & Pons.  
1903 *Trachycystis oreina*, M. & P., A.M.N.H. xii. p.602. pl. 32, f. 8. *D.F.*  
Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).
261. *TRACHYCYSTIS PATERA*, Melv. & Pons.  
1903 *Trachycystis patera*, M. & P., A.M.N.H. xii. p.603. pl. 32, f. 6. *D.F.*  
Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Maeström Forest, Bedford (Farquhar). Simonstown (Connolly).
262. *TRACHYCYSTIS PERMEATA*, Melv. & Pons.  
1903 *Trachycystis permeata*, M. & P., A.M.N.H. xii. p.603. pl. 32, f. 2. *D.F.*  
Type in British Museum.  
*Hab.* NATAL. Pinetown; Tongaat (Burnup).
263. *TRACHYCYSTIS PERPLICATA* (Benson). [S.A.M.]  
1851 *Helix perplicata*, Bs., A.M.N.H. vii. p. 104. *D.*  
1853        "           "        Rve., Conch. Icon. pl. 173, f. 1173. *D.F.*  
"           "           "        Pfr., Mon. Hel. iii. p. 81. *D.*  
1854        "           "        "        Conch. Cab. p. 381. pl. 141 (1852),  
  f. 20-22. *D.F.*  
1885 *Helicopsis tabulæ*, Chaper, Bull. Soc. Zool. Fr. x. p. 483. pl. 11,  
          f. 4, 5. *D.F.*  
1887 *Helix (Pella) perplicata*, Bs., Tryon, Man. of Conch. iii. p. 106.  
  pl. 20, f. 76. *D.F.*  
1892        "           *rhysodes*, M. & P., A.M.N.H. ix. p. 87. pl. 4, f. 2. *D.F.*  
1893 *Phasis (Trachycystis) rhysodes*, M. & P., Pilsb., Man. of Conch.  
  viii. p. 141. pl. 35, f. 2. *D.F.*  
"           "           *tabulæ*, Chaper, Pilsb., Man. of Conch.  
  viii. p. 139. pl. 43, f. 52. *D.F.*  
Specimens of *perplicata*, ex auct., in University Museum of

Zoology, Cambridge. Type of *rhysodes* in British Museum; *tabulæ* in École des Mines, Paris.

*Hab.* CAPE OF GOOD HOPE. Near Newlands (Benson). Table Mountain (*tabulæ*, Chaper). ? Port Elizabeth (fide Sturany). Widely distributed throughout the Cape Peninsula from Table Mountain to Cape Point.

The type of *rhysodes*, from the Layard collection, from an unknown locality, is identical with *perplicata*, Bs.; and after careful study of Chaper's description and figure of *tabulæ*, I have no hesitation in placing the latter in the same synonymy.

264. TRACHYCYSTIS PETROBIA (Benson).

1851 *Helix petrobia*, Bs., A.M.N.H. vii. p. 105. *D.*

1853 " " Pfr., Mon. Hel. iii. p. 95. *D.*

" " Rve., Conch. Icon. pl. 173, f. 1169. *D.F.*

1854 " " Pfr., Conch. Cab. p. 382. pl. 141 (1852), f. 25-27. *D.F.*

1887 *Helix (Pella) petrobia*, Bs., Tryon, Man. of Conch. iii. p. 107. pl. 20, f. 81. *D.F.*

*Hab.* CAPE OF GOOD HOPE. High Constantia (Benson). Port Elizabeth, North End (Crawford).

265. TRACHYCYSTIS PINGUIS (Krauss).

1848 *Helix pinguis*, Krs., Südafr. Moll. p. 75. pl. 4, f. 19. *D.F.*

" " Pfr., Zeitschr. f. Malak. v. p. 91. *D.*

1851 " " Rve., Conch. Icon. pl. 43, f. 200. *D.F.*

1853 " " Pfr., Mon. Hel. iii. p. 64. *D.*

1887 *Helix (Pella) pinguis*, Krs., Tryon, Man. of Conch. iii. p. 103. pl. 20, f. 60. *D.F.*

1898 *Pella pinguis*, Krs., Stur., S.A. Moll. p. 39. *N.*

Type in Stuttgart Museum.

*Hab.* NATAL (Wahlberg).

No recent localities are given, as doubt exists whether the shell, which has of late years been generally accepted as *pinguis*, is in reality that species. von Martens' record of Tette must also be viewed with distrust.

266. TRACHYCYSTIS PLANTI (Pfeiffer).

[S.A.M.]

1854 *Helix platti*, Pfr., P.Z.S. p. 51. (*Err. typ.*) *D.*

" , *planti* " Rve., Conch. Icon. pl. 189, f. 1325. *D.F.*

1859 " " " Mon. Hel. iv. p. 60. *D.*

- 1885 *Helix planti* Pfr., Kob., Conch. Cab. p. 622. pl. 178, f. 29-31. *D.F.*  
 1887 „ (*Pella*) *planti*, Pfr., Tryon, Man. of Conch. iii. p. 105.  
 pl. 20, f. 73. *D.F.*  
 1893 *Phasis (Trachycystis) planti*, Pfr., Pilsb., Man. of Conch. viii.  
 p. 142. pl. 43, f. 57-59. *N.F.*

Type in British Museum.

*Hab.* NATAL (Plant). Lower Umkomaas; Durban; Tongaat  
 (Burnup).

ZULULAND. Umbonambi (Burnup).

? TRANSVAAL. Lydenburg (fide Craven). A very doubtful locality.

CAPE OF GOOD HOPE. Tharfield, near Kleinmont Rivermouth  
 (Miss Bowker, fide Layard).

var. AFRICÆ, Brown.

- 1865 *Helix africæ*, Brown, Amer. Journ. of Conch. i. p. 136. *D.*  
 1876 „ „ Pfr., Mon. Hel. vii. p. 459. *D.N.*  
 1877 „ „ „ Conch. Cab. p. 527. pl. 162, f. 8, 9. *D.F.*  
 1893 *Phasis (Trachycystis) africæ*, Brown, Pilsb., Man. of Conch.  
 viii. p. 142. pl. 43, f. 55, 56. *D.F.*  
 „ „ *planti*, Pfr., var. *africæ*, Brown, Pilsb.  
 Man. of Conch. ix. p. 38.

Type in Philadelphia Museum.

*Hab.* CAPE OF GOOD HOPE. Great Brakke (Brown).

267. TRACHYCYSTIS PRIONACIS (Benson). [S.A.M.]

- 1864 *Helix prionacis*, Bs., A.M.N.H. xiii. p. 493. *D.*  
 „ „ *browningii* „ „ „ „ *D.*  
 1868 „ „ „ Pfr., Mon. Hel. v. p. 178. *D.*  
 „ „ *prionacis* „ „ „ „ p. 183. *D.*  
 1892 „ (*Pella*) *erateina*, M. & P., A.M.N.H. ix. p. 88. pl. 5, f. 3. *D.F.*  
 1893 *Phasis (Trachycystis) erateina*, M. & P., Pilsb., Man. of Conch.  
 viii. p. 137. pl. 35, f. 11. *D.F.*  
 „ „ *prionacis*, Bs., Pilsb., *ibid.* p. 137. *D.*  
 „ „ *browningii*, Bs., Pilsb., *ibid.* p. 136. *D.*  
 „ „ *browningii*, Bs., Pilsb., Man. of Conch.  
 ix. p. 38. pl. 10, f. 8, 9. *F.*

- 1898 *Trachycystis eratina*, M. & P., Proc. Mal. Soc. iii. p. 173.

Type of *erateina* in British Museum; originals of *browningii* in  
 University Museum of Zoology, Cambridge; *prionacis* probably in  
 British Museum.

*Hab.* CAPE OF GOOD HOPE. Bredasdorp (*prionacis*, Layard).

Near Cape Point (*browningii*, Browning). Bredasdorp; Cape Point (*eratina*, Layard).

*Prionacis* was founded on a single specimen furnished by Layard from Bredasdorp; *browningii* on two found by Browning near Cape Point; *eratina* on shells in coll. Layard from Bredasdorp and Cape Point.

In the recently dispersed Layard collection was a tube labelled "*eratina*" containing shells from Cape Point and Bredasdorp. These were identical with original *browningii* in the Cambridge Museum. *Prionacis* was differentiated by Benson from *browningii* on account of larger size, less close plication, extending further down on the underside, and wider umbilicus. All these points are consistent with the increasing growth of the shell, young examples of which are almost imperforate, and show no basal sculpture. It seems advisable to unite the three species, of which *prionacis* has priority.

268. TRACHYCYSTIS PYCNOTRICHA, Melv. & Pons.

1899 *Trachycystis pycnotricha*, M. & P., A.M.N.H. iv. p. 197. pl. 3, f. 7. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Kowie River (Cox).

269. TRACHYCYSTIS RARIPLICATA (Benson).

1849 *Helix rariplicata*, Bs. in Mss., Pfr., Zeitschr. f. Malak. vi. p. 71. *D.*

1850       "       "       A.M.N.H. vi. p. 254. *D.*

1853       "       "       Pfr., Conch. Cab. p. 323. pl. 129 (1852),  
f. 31-33. *D.F.*

"       "       "       Rve., Conch. Icon. pl. 174, f. 1183. *D.F.*

"       "       "       Pfr., Mon. Hel. iii. p. 96. *D.*

1879 *Helix (Pella) rariplicata*, Bs., Binn., Ann. N.Y. Acad. Sci. i.  
p. 361. pl. 14, f. H. *R.*

1884 *Pella rariplicata*, Bs., Binn., Ann. N.Y. Acad. Sci. iii. p. 89.  
pl. 3, f. I. *R.*

1887 *Helix (Pella) rariplicata*, Bs., Tryon, Man. of Conch. iii. p. 107.  
pl. 20, f. 82. *D.F.*

Type in Stettin Museum.

*Hab.* CAPE PENINSULA. Green Point Lighthouse (Benson; Layard).

Examples presented to the British Museum as *rariplicata* by Gibbons in 1876 have proved to be not that species, but *sabuletorum*. As Binney obtained his specimens from Gibbons, his articles in all probability refer to the last-mentioned species.

270. TRACHYCYSTIS RIVULARIS (Krauss).

- 1848 *Helix rivularis*, Krs., Südafr. Moll. p. 77. pl. 4, f. 25. *D.F.*  
 " " " Pfr., Zeitschr. f. Malak. v. p. 114. *D.*  
 1853 " " " Mon. Hel. iii. p. 110. *D.*  
 1874 " " Jick., Fauna N.-O.-Afr. p. 59. *N.*  
 1887 *Helix (Pella) rivularis*, Krs., Tryon, Man. of Conch. iii. p. 107.  
 pl. 20, f. 85-87. *D.F.*

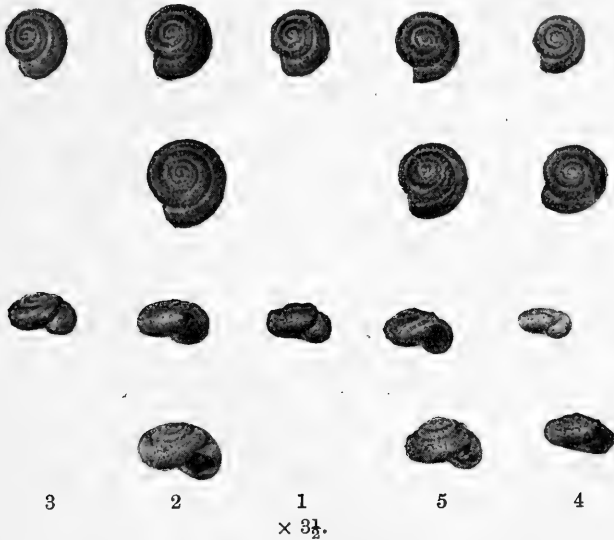
Type in Stockholm Museum.

*Hab.* NATAL. Source of Mooi River (Wahlberg).

var. DENSESTRIATA, nov.

[S.A.M.]

Shell small, rather depressed, umbilicate, thin, bright fulvo-cor-  
 neous, covered on both sides with *close*, prominent, regular, curved,



1. *Trachycystis rivularis*, Krs. (Type).  
 2. " " var. *densestriata*, Zwart Kop.  
 3. " " " Pietersburg.  
 4. " *ordinaria*, M. & P., Bloemfontein.  
 5. " " " *lirate* var., Rustfontein.

transverse striæ. Whorls  $4\frac{1}{2}$ , rounded, gradually increasing. Suture impressed. Aperture lunate, descending a little in front; peristome thin, simple; columella weak, concave, margin slightly reflexed, but in no way covering the umbilicus, which, though not wide, is deep, extending to the apex.

Diam. maj. 4·5; min. 3·5; alt. 2·2; Apert., lat. 1·8, alt. 1·6 mm.

Type in British Museum.

*Hab.* TRANSVAAL. Zwart Kop, Pretoria; Buiskop; Pietersburg (Connolly).

The foregoing photographs give some idea of the form of *rivularis* and its variety, compared with *ordinaria*, M. & P. *Densestriata* differs from Krauss' type in having slightly, though very noticeably, closer striation, but agrees with it in all other respects, and does not appear to be specifically separable.

Nobré has recently recorded *rivularis* from Angola, but this is unlikely to be correct.

271. TRACHYCYSTIS RUTILANS, Melv. & Pons. [S.A.M.]

1908 *Trachycystis rutilans*, M. & P., A.M.N.H. i. p. 135. pl. 7, f. 9. *D.F.*

Type in British Museum.

*Hab.* NATAL. Alexandra Park, Pietermaritzburg (Burnup).

272. TRACHYCYSTIS SABULETORUM (Benson). [S.A.M.]

1851 *Helix sabuletorum*, Bs., A.M.N.H. vii. p. 105. *D.*

1853 " " Pfr., Mon. Hel. iii. p. 96. *D.*

" " " Rve., Conch. Icon. pl. 174, f. 1180. *D.F.*

1854 " " Pfr., Conch. Cab. p. 414. pl. 147 (1853), f. 16, 17. *D.F.*

1887 *Helix (Pella) sabuletorum*, Bs., Tryon, Man. of Conch. iii. p. 107. pl. 20, f. 83. *D.F.*

Specimens ex auct. in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Hout Bay; Strand not far from Somerset; Kalk Bay (fide Benson). Stumpnose (Gould). Hermanus (Lightfoot). Generally distributed along the coast of the Cape Peninsula.

273. TRACHYCYSTIS SCOLOPENDRA, Melv. & Pons. [S.A.M.]

1903 *Trachycystis scolopendra*, M. & P., A.M.N.H. xii. p. 603. pl. 32, f. 3. *D.F.*

Type in British Museum.

*Hab.* NATAL. Port Shepstone; Equeefa; Durban; Lower Umkomaas (Burnup). Umzimkulu (Purcell).

CAPE OF GOOD HOPE. Port St. John's (Shortridge). Pirie (Godfrey).



274. TRACHYCYSTIS SIMPLEX, Melv. & Pons.

1903 *Trachycystis simplex*, M. & P., A.M.N.H. xii. p. 604. pl. 32, f. 7. D.F.  
Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Pondoland (Farquhar).

275. TRACHYCYSTIS SOMERSETENSIS (Melv. & Pons).

1893 *Helix (Patula) somersetensis*, M. & P., A.M.N.H. xi. p. 19. pl. 3,  
f. 2. D.F.

“ “ “ Pilsb., Man. of Conch. viii.  
p. 295. pl. 43, f. 63. D.F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Somerset East (Miss Bowker).

276. TRACHYCYSTIS SPISSICOSTA, Melv. & Pons. [S.A.M.]

1907 *Trachycystis spissicosta*, M. & P., A.M.N.H. xix. p. 100. pl. 6,  
f. 13. D.F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

ORANGE FREE STATE. Thaba N'chu (Connolly).

Rather near, but smaller than, *T. simplex*, M. & P.

277. TRACHYCYSTIS TERETIUSCULA, Melv. & Pons.

1897 *Trachycystis teretiuscula*, M. & P., A.M.N.H. xix. p. 635. pl. 17,  
f. 5. D.F.

Type in British Museum.

*Hab.* NATAL. Howick; Pietermaritzburg; Equeefa (Burnup).  
Majuba (Connolly).

ORANGE FREE STATE. Platberg, Harrismith (Connolly).

CAPE OF GOOD HOPE. East London (var.) (Godfrey).

A very variable species.

278. TRACHYCYSTIS TOLLINI (Albers.) [S.A.M.]

1855 *Nanina afra*, Pfr., Mal. Blätt. ii. p. 119. (*Without characters.*)

1856 *Helix tollini*, Alb., Bs., A.M.N.H. xviii. p. 436. D.

1857 “ “ “ Mal. Blätt. iv. p. 94. D.

1859 “ “ “ Pfr., Mon. Hel. iv. p. 171. D.

“ “ *afra*, Pfr., Mon. Hel. iv. p. 124. D.

1860 “ *roseri*, Krs., von Mts., Die Helic., p. 84. L.

1886 “ *tollini*, Alb., Kob., Conch. Cab. p. 618. pl. 178, f. 13-15. D.F.

1887 “ (*Pella*) *tollini*, Alb., Tryon, Man. of Conch. iii. p. 108.  
pl. 21, f. 92-94. D.F.

1892 *Helix (Pella) tuguriolum*, M. & P., A.M.N.H. ix. p. 88. pl. 5, f. 5. *D.F.*

1893 *Phasis (Trachycystis) tuguriolum*, M. & P., Pilsb., Man. of Conch. viii. p. 145. pl. 35, f. 1. *D.F.*

1898 *Pella tollini*, Alb., Stur., S.A. Moll. pp. 39, 40. *N.*

Originals of *tollini* in University Museum of Zoology, Cambridge; types of *afra* and *tuguriolum* in British Museum; *roseri* in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE (*afra*, McGillivray, fide Pfeiffer). Table Mountain (*tollini*, Tollin; Layard). Stellenbosch (Purcell). Kalk Bay; Simonstown; Kommetje; Houw Hoek; Caledon (Connolly). Gordon's Bay; Hermanus (Lightfoot). Bredasdorp (Layard). Swellendam District (*roseri*, Krauss).

*Helix afra*, Pfr., is identical with *tollini*, Alb., and must yield priority to the latter, which was the earliest name under which the species was either described or figured. The type set of *tuguriolum*, labelled "South Africa" (coll. Layard), are also immature, rather pale examples of the same species.

The type, and only authentic example, of *roseri*, Krauss, is a semi-bleached shell, in form exactly resembling immature *tollini*. Its colour is paler, and the surface, being considerably worn, shows only the cross striation of *tollini* and not the fainter spiral sculpture. The columellar fold is slightly broken, which gives a more open appearance to the umbilical region than is usual in *tollini*, but the underside of the shell and the peculiar shape of the peristome agree with that species. After careful consideration, I think I may safely declare them to be one and the same.

#### 279. TRACHYCYSTIS TRICHOSTIROMA (Melv. & Pons.).

1892 *Helix (Pella) trichosteiroma*, M. & P., A.M.N.H. ix. p. 84. pl. 4, f. 9. *D.F.*

1893 ,, *strobilodes*, M. & P., A.M.N.H. xi. p. 19. pl. 3, f. 1. *D.F.*

,, *Phasis (Trachycystis) strobilodes*, M. & P., Pilsb., Man. of Conch. viii. p. 147. pl. 43, f. 62. *D.F.*

,, ,, *trichosteiroma*, M. & P., Pilsb., Man. of Conch. viii. p. 143. pl. 35, f. 3. *D.F.*

1898 *Trachycystis trichostirioma*, M. & P., Proc. Mal. Soc. iii. p. 174. Types in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (fide M. & P.). Tharfield (Miss Bowker).

The type of *strobilodes* is badly figured, but agrees with the original description. It is quite inseparable from *trichostirioma*.

280. TRACHYCYSTIS TURMALIS (Morelet).

- 1889 *Helix turmalis*, Morel., J. de C. xxxvii. p. 5. pl. 1, f. 1. *D.F.*  
 1893 *Phasis (Trachycystis) turmalis*, Morel., Pilsb., Man. of Conch. viii. p. 144. pl. 43, f. 53, 54. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Zwartkops River, Uitenhage, 19 miles N.N.W. of Port Elizabeth (Crawford).

281. TRACHYCYSTIS VORTICIALIS (Benson). [S.A.M.]

- 1850 *Helix vorticialis*, Bs., A.M.N.H. v. p. 216. *D.*  
 1853 " " " Pfr., Mon. Hel. iii. p. 108. *D.*  
 " " " Rve., Conch. Icon. pl. 174, f. 1181. *D.F.*  
 1854 " *vorticialis* " Pfr., Conch. Cab. p. 382. pl. 141 (1852), f. 28-30. *D.F. (pessima).*  
 1887 " (*Pella*) *vorticialis*, Bs., Tryon, Man. of Conch. iii. p. 107. pl. 20, f. 84. *D.F.*

Type in British Museum.

*Hab.* CAPE PENINSULA. Three Anchor Bay; Rondebosch; Strand, False Bay (fide Benson). "Generally distributed" (Layard).

? CAPE OF GOOD HOPE. Port Elizabeth (fide Sturany).

FAMILY ACAVIDÆ, Pilsbry, 1902.

(Man. of Conch. xiv. p. iv.)

(= Macroogona, Pilsbry, 1895.)

GENUS DORCASIA, Gray, 1838.

(Alexander's Expedition, ii. p. 268.)

Type of Genus, *D. alexandri*, Gray.

282. DORCASIA ALEXANDRI, Gray. [S.A.M.]

- 1838 *Dorcasia alexandri*, Gray, Alexander's Expedition, ii. p. 268. *D.*  
 1845 *Helix (Dorcasia) alexandri*, Gray, Pfr., Zeitschr. f. Malak. p. 87. *D.*  
 1848 " " " " Mon. Hel. i. p. 332. *D.*  
 1854 " *alexandri*, Gray, Rve., Conch. Icon. pl. 208, f. 1470. *D.F.*  
 1877 " " " Pfr., Novit. Conch. v. p. 34. pl. 144, f. 9-12. *D.F.*  
 1887 " (*Dorcasia*) *alexandri*, Gray, Mouss., J. de C. xxxv. p. 292. *N.*  
 " " " Tryon, Man. of Conch. iii. p. 213. pl. 49, f. 3. *D.F.*  
 1894 " " " Srth., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 94. *A.*

- 1895 *Dorcasia alexandri*, Gray, Pilsb., Man. of Conch. ix. p. 172.  
 pl. 60, f. 6. *R.* Frontisp. f. 3. *A.*  
 1905           "           "           Pilsb., Proc. Mal. Soc. vi. p. 286. *N.*  
 1910 *Helix (Dorcasia) alexanderi*, Gray, Bttg., Abh. Senckenb.  
 Naturf. Ges. Frankfurt, xxxii. p. 439. *N.*

Type in British Museum.

*Hab.* GREAT NAMALAND. Near the Great Fish River (Alexander).  
 DAMARALAND. Ussab (fide von Martens). "Kurikaubmund am  
 Swakop (Kurikop bei Otjikango)" (Rintelen).

LITTLE NAMALAND. Henkries (Lightfoot).

var. MINOR, Böttger.

- 1886 *Helix (Dorcasia) alexandri*, Pfr., var. *minor*, Bttg., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 22. pl. 2, f. 1. *D.F.*  
 1893 *Dorcasia alexandri*, Gray, var. *minor*, Bttg., Pilsb., Man. of Conch. viii. p. 261. pl. 28, f. 98-100. *D.F.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* BRITISH BECHUANALAND. "Ghous, Gordonia, bed of Hygap, probably W. of Zwart Modder" (Nolte).

GREAT NAMALAND. Geitsi-Gubel, near Bersaba (Schenck).

var. ROTUNDATA, Mousson.

- 1887 *Helix alexandri*, Gray, var. *rotundata*, Mouss., J. de C. xxxv. p. 292. pl. 12, f. 1. *D.F.*  
 1893 *Dorcasia alexandri*, Gray, var. *rotundata*, Mouss., Pilsb., Man. of Conch. viii. p. 261. *D.*  
 1895 *Dorcasia alexandri*, Gray, var. *rotundata*, Mouss., Pilsb., Man. of Conch. ix. p. 172. pl. 38, f. 6, 7. *N.F.*

Type in Zurich Museum.

*Hab.* DAMARALAND. Rehoboth (Schinz).

var. TRIVIA, Böttger.

- 1910 *Helix (Dorcasia) alexanderi*, Gray, var. *trivia*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 439. pl. 28, f. 3. *D.F.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* DAMARALAND. Khomas-Hochland (Schultze).

### 283. DORCASIA BULBUS (Menke).

- 1848 *Helix bulbus*, Mke., Pfr., Zeitschr. f. Malak. v. p. 116. *D.*  
 1853           "           "           "           Conch. Cab. p. 268. pl. 122 (1852),  
 f. 4-6. *D.F.*

1887 *Helix (Dorcasia) bulbus*, Pfr., Tryon, Man. of Conch. iii. p. 213.  
pl. 49, f. 10-12. *D.F.*

Type—*ubi?*

*Hab.* CAPE OF GOOD HOPE (in coll. Menke).

284. DORCASIA CERNUA (von Martens).

1889 *Helix cernua*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 161. *D.*

1894 " " Conch. Mitth. iii, 3. p. 2. *D.*

1897 " " Archiv. f. Naturg. lxiii, 1. p. 36. pl. 7, f. 8-10. *D.F.*

1910 *Helix (Dorcasia) cernua*, von Mts., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 439. *N.D.*

Type in Zool. Mus. Berlin.

*Hab.* GREAT NAMALAND. Angamthal (type) and Rooiberg, near Bethany (Schenck, 1884). Guibes (Schultze).

285. DORCASIA LUCANA (Müller).

[S.A.M.]

1774 *Helix lucana*, Müll., Verm. ii. p. 75. *D.*

1786 " " Chem., Conch. Cab. ix, 2. p. 124. pl. 130, f. 1155. *D.F. (pessima).*

1788 " *lucana* " Gmel., Syst. Nat., Ed. 13. i, 6. p. 3636. *D.*

1817 " *lucana* " Dillw., Descr. Cat. ii. p. 924. *D.*

1839 " " Jonas, Archiv. f. Naturg. v, 1. p. 338. pl. 9, f. 1, 2. *D.F.*

1848 " " Pfr., Mon. Hel. i. p. 331. *D.*

1850 " " " " Conch. Cab. p. 338. pl. 60, f. 1, 2. *D.F.*

" " " " Desh., Hist. Nat. Moll. i. p. 166. pl. 10 B, f. 3-5. *D.F.*

1851 " " " Rve., Conch. Icon. pl. 41, f. 187. *D.F.*

1856 " " " Bs., A.M.N.H. xviii. p. 436. *N.*

1887 " (*Dorcasia lucana*), Müll., Tryon, Man. of Conch. iii. p. 213. pl. 49, f. 2. *D.F.*

Original in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. George District; Bredasdorp; Mossel Bay (Layard). Montagu (Connolly). Avontuur (fide Pfr.).

CAPE PENINSULA. Distributed along the coast south of Kalk Bay and Hout Bay.

Layard wrote: "This species is found chiefly along the southern seaboard. The brown variety with white band along the suture is found pretty abundantly about Kalk Bay. A smaller var. with a brownish purple mouth is found in the George District; a small var.

(axis 6''' , diam. 8''') with a white mouth is not uncommon at Bredasdorp, while a large white form (axis 1'' , diam. 1'' 3''') exists at Mossel Bay."

Chemnitz's figure (1786) is almost unrecognisable, while Lamarck (1822) described *globulus* for *lucana*, and Rossmässler (1837) figured *globulus* as the last-mentioned species. Krauss (1848) included *lucana*, Lam., in the synonymy of *globulus*, Müll., but unaccountably omitted *lucana*, Müll., altogether from his catalogue.

286. *DORCASIA PONSONBYI*, Fulton.

1910 *Dorcasia ponsonbyi*, Fulton, A.M.N.H. vi. p. 212. *D.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE (fide Fulton). Mossel Bay (Gibbons).

SUB-GENUS *TULBAGHINIA*, Melv. & Pons., 1898.

(A.M.N.H. i. p. 28.)

Type of Sub-Genus, *D. isomerioides*, M. & P.

287. *DORCASIA ISOMERIOIDES*, Melv. & Pons. [S.A.M.]

1898 *Dorcasia (Tulbaghinia) isomerioides*, M. & P., A.M.N.H. i. p. 28. pl. 8, f. 10. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Winterhoek Mt., Tulbagh (Marloth).

Owing to its considerable divergence from the type, I append the description of a fine specimen in the South African Museum.

Shell depressed-globose, deeply and openly umbilicate, thin, translucent, thickly covered above with rough, curved striæ, which are continued more smoothly beneath. The upper portion moderately glossy, of dark olive-brown horn colour, beautifully marked on the earlier whorls with pale yellow dots and blotches, merging later into irregular, interrupted concentric streaks; the earlier whorls similarly marked on the underside, but the last is paler, of a greener tint, glossy and unmottled. The interior shows plainly the colour and markings of the epidermis. Spire but little produced, apex flattened. Whorls  $4\frac{1}{2}$ , rapidly increasing, rounded, with no trace of carination. Aperture ovate, peristome white and glossy, a little thickened and reflexed. The columellar margin, half-way up between the base of the aperture and the umbilicus, shows trace of two small protuberances on its inner side; above these it becomes more widely reflexed, and forms a sharp angle of about 95 degrees, projecting

over, but in no way concealing the umbilicus, before rejoining the base of the shell.

Diam. max. 28, min. 21.5; alt. 16 mm. Apert. 16×11 mm. Distance between angle of columellar margin and its junction with base of shell, 2.5 mm.

GENUS TRIGONEPHRUS, Pilsbry, 1905.

(Proc. Mal. Soc. vi. p. 286.)

Type of Genus, *T. globulus* (Müll.).

288. TRIGONEPHRUS COAGULUM (von Martens).

- 1889 *Helix coagululum*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 160. *D.*  
 1894 " " " Conch. Mitth. iii, 3. p. 3. *D.*  
 1897 " " " Archiv. f. Naturg. lxiii, 1. p. 37. pl. 7,  
 f. 11-14. *D.F.*

Type in Zool. Mus. Berlin.

*Hab.* GREAT NAMALAND. On the road from Aos to the Orange River, and near the Lower Orange River (Schenck).

289. TRIGONEPHRUS GLOBULUS (Müller). [S.A.M.]

- 1774 *Helix globulus*, Müll., Verm. ii. p. 68. *D.*  
 1786 " " " Chem., Conch. Cab. ix, 2. p. 126. pl. 130,  
 f. 1159, 60. ? *D.F.*  
 " " *pomatia*, var., Chem., Conch. Cab. ix, 2. pl. 130, f. 1138. *F.*  
 1788 " *globulus*, Müll., Gmel., Syst. Nat., Ed. 13. i, 6. p. 3629. *D.*  
 1817 " " " Dillw., Descr. Cat. ii. p. 923. *D.*  
 1822 " *lucana*, "Müll.," Lam., Hist. nat. An. s. Vert. vi, 2. p. 71. *D.*  
 1838 " " " Desh., Hist. nat. An. s. Vert. viii. p. 37. *D.*  
 1841 " *globulus*, Müll., Pfr., Conch. Cab. p. 33. pl. 3, f. 11, 12. ? *D.F.*  
 1846 " " " (cum var. *rosacea*, Müll.), Pfr., Conch.  
 Cab. p. xiii. *D.N.*  
 1848 " " " (= *lucana*, Lam., and *rosacea*, Müll.), Krs.,  
 Südafr. Moll. p. 77. *N.*  
 " " " " Pfr., Mon. Hel. i. p. 319. *D.*  
 1850 " " " (cum var. *rosacea*, Müll.), Bs., A.M.N.H. v.  
 p. 217. *N.*  
 " " " " (= *rosacea*), Desh., Hist. nat. Moll. i.  
 p. 250. pl. 26, f. 10-12. pl. 28, f. 11, 12. *D.F.*  
 1851 " " " " Rve., Conch. Icon. pl. 41, f. 186. *D.F.*  
 1859 " " " " Pfr., Mon. Hel. iv. p. 249. *D.*

- 1879 *Helix globulus*, Müll., Binn., Ann. N.Y. Acad. Sci. i. p. 361. pl. 14, f. K. *R.*
- 1880 „ *globosus* „ Crvn., P.Z.S. p. 619. (*Err. typ.*) *N.*
- 1884 *Dorcasia globulus*, Müll., Binn., Ann. N.Y. Acad. Sci. iii. p. 106. pl. 6, f. M. *R.*
- 1887 *Helix (Dorcasia) globulus*, Müll., Tryon, Man. of Conch. iii. p. 213. pl. 49, f. 1. *D.F.*
- 1889 „ *globulus*, Müll., von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 160. *N.*
- 1895 *Dorcasia globulus*, Müll., Pilsb., Man. of Conch. ix. pp. 172, 173. pl. 38, f. 8. *N.F.* pl. 51, f. 3. *R.*
- 1905 *Trigonephrus globulus*, Müll., Pilsb., Proc. Mal. Soc. vi. p. 286. pl. 13, f. 6-9. pl. 14, f. 13, 15. *A.*
- 1910 *Helix (Trigonephrus) globulus*, Müll., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. pp. 440, 441. *N.*

Original in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. Widely distributed along the coastline from Algoa Bay, westward round the Cape Peninsula, and thence northward as far as Port Nolloth. Robben and Dassen Islands.

Craven collected on Robben Island a fully developed sinistral specimen, which is now in the British Museum.

There is a very wide range of variety in this species. Krauss brought into the synonymy *H. rosacea*, Müll., and many later authorities have followed his example; in fact, until more is known of the animals, it is not possible to decide whether all species of *Trigonephrus*, hitherto described, are not merely forms of *globulus*.

Much confusion existed among the early authors with regard to it. Chemnitz (1786) figured *H. semirugata*, Beck, from Ceylon as *globulus*, while Lamarek (1822) described *semirugata* as *globulus* and *globulus* as *lucana*. *H. globulus*, Lam., of Deshayes' earlier writings is also *semirugata*, and his *lucana, globulus*, Müll., an error corrected in Hist. nat. Moll., 1850.

290. TRIGONEPHRUS GYPSINUS (Melv. & Pons). [S.A.M.]

- 1891 *Helix (Dorcasia) gypsina*, M. & P., A.M.N.H. viii. p. 238. *D.*
- 1892 „ „ „ ix. p. 94. pl. 4, f. 10. *F.*
- 1893 „ „ Pilsb., Man. of Conch. viii. p. 262. pl. 28, f. 2. *D.F.*

Type in British Museum.





- 1841 *Helix rosacea*, Müll., Pfr., Conch. Cab. p. 40. pl. 4, f. 5, 6. pl. 55  
(1849), f. 7, 8. *D.F.*
- 1859 " " Pfr., Mon. Hel. iv. p. 248. *D.*
- 1887 *Helix (Dorcasia) rosacea*, Müll., Tryon, Man. of Conch. iii.  
p. 213. pl. 49, f. 100. *D.F.*
- 1910 " (*Trigonephrus*) *rosacea*, Müll., Bttg., Abh. Senckenb.  
Naturf. Ges. Frankfurt, xxxii. p. 440. pl. 28, f. 4. *D.F.*
- Specimen ex coll. Müller in University Zool. Mus. Copenhagen.
- Hab.* CAPE OF GOOD HOPE. Widely distributed along the western  
seaboard from the south as far as Namaland, often in company with,  
and apparently merging into, *T. globulus*, Müll., of which it is  
probably a variety.

## FAMILY HELICIDÆ, Gray, 1824.

(Ann. of Philos. viii. p. 107.)

## GENUS EULOTA, Hartmann, 1842.

(Erd-u. Sussw.-Gast. Schweiz, p. 179.)

Type of Genus, *E. fruticum* (Müll.).

## 294. EULOTA SIMILARIS (Férussac).

- 1821 *Helix similaris*, Fér., Tabl. Syst. Moll. pt. 3. p. 47 (or 43). *L.*
- " " *addita*, Fér., Tabl. Syst. Moll. pt. 3. p. 71 (or 67).
- 1834 " *woodiana*, Lea, Obs. G. Unio, i. p. 169. pl. 19, f. 69. *D.F.*
- 1835 " *translucens*, King, Zool. Journ. v. p. 339. *D.*
- 1836 " *cestus*, Bs., Journ. As. Soc. Bengal, v. p. 353. *D.*
- 1848 " " " A.M.N.H. ii. pp. 160, 161. *D.N.*
- " " *similaris*, Fér., Pfr., Mon. Hel. i. p. 336. *D.*
- 1849 " " " (= *squalida*, Zglr.), Mouss., Moll. von  
Java, p. 21. pl. 2, f. 4, 5. *D.F.*
- 1850 " " " Pfr., Conch. Cab. p. 341. pl. 60 (1849),  
f. 13-16. *D.F.*
- " " " " Desh., Hist. nat. Moll. i. p. 171. pl. 25B,  
f. 1-4. pl. 27A, f. 1-5. *D.F.*
- 1851 " " " Rve., Conch. Icon. pl. 34, f. 149. *D.F.*,  
and pl. 127 (1852), f. 767. *F.*
- " " *brardiana*, Pfr., P.Z.S. p. 253. *D.*
- 1852 " " " Rve., Conch. Icon. pl. 108, f. 604. *D.F.*
- " " *cestus*, Bs., Rve., Conch. Icon. pl. 125, f. 751. *D.F.*
- 1853 " *brardiana*, Pfr., Mon. Hel. iii. p. 228. *D.*
- 1854 " " " Conch. Cab. p. 385. pl. 142 (1852), f. 7, 8. *D.F.*

- 1854 *Helix brardiana*, Pfr., A.M.N.H. xiii. p. 142. *D.*  
 „ „ *stimpsoni* „ P.Z.S., p. 149. *D.*  
 „ „ „ „ Rve., Conch. Icon. pl. 195, f. 1370. *D.F.*  
 1859 „ „ „ „ Mon. Hel. iv. p. 289. *D.*  
 1860 „ *similaris*, Fér. (= *addita*, Fér., and *brardiana*, Pfr.),  
 Morel., Séries Conch. ii. p. 58. *N.*  
 1861 „ *gemulabris*, von Mts., Mal. Blätt. vii. p. 33. *D.*  
 1863 „ *borbonica*, Desh., Notes sur l'île Réunion, ii. E. p. 85.  
 pl. 37, f. 9-11. *D.F.*  
 „ „ *arcasiana*, Crosse & Debeaux, J. de C. xi. p. 386. *D.*  
 1864 „ „ „ „ „ xii. p. 316. pl. 12,  
 f. 4. *D.F.*  
 1867 „ *similaris*, Fér., von Mts., Ost-Asien, Zool. ii. pp. 7, 19,  
 43, 76, 270. *D.N.*  
 1868 „ „ „ „ Cox, Mon. Austral. Landshells, p. 58.  
 pl. 9, f. 14. *D.F.*  
 „ „ *borbonica*, Desh., Pfr., Mon. Hel. v. p. 504. *D.*  
 1874 „ (*Rhagada*) *similaris*, Fér., Jick., Fauna N.-O.-Afr. p. 70. *D.*  
 1875 „ *similaris*, Fér., Morel., Séries Conch. iv. p. 251. *N.*  
 1887 „ (*Dorcasia*) *similaris*, Fér. (= *epixantha*, Pfr., Conch. Icon.  
 f. 454, and *squalida*, Zglr.), Tryon, Man. of Conch.  
 iii. p. 205. pl. 46, f. 27-30. pl. 47, f. 33-37. *D.F.*  
 1895 *Eulota similaris*, Fér., Pilsb., Man. of Conch. ix. p. 203. pl. 55,  
 f. 19. *N.F.* pl. 65, f. 3, 4. pl. 66, f. 20. *A.*  
 1905 *Helix (Eulota) similaris*, Fér., Dautz. & Fischer, J. de C. liii.  
 p. 95. *N.* and Synonymy.

Type—*ubi*?

*Hab.* NATAL. Durban (Plant; Quekett).

A species of almost world-wide distribution.

GENUS COCHLICELLA, Férussac, 1821.

(Tabl. Syst. Moll. pt. 3. pp. 28 (or 24), 56 (or 52).)

Type of Genus, *H. conoidea* (Drap.).

295. COCHLICELLA ACUTA (Müller). [S.A.M.]

- 1774 *Helix acuta*, Müll., Verm. ii. p. 100. *D.*  
 1801 *Bulimus ventricosus*, Drap. (= *H. acuta*, Müll.), Drap., Tabl.  
 Moll. Fr. p. 68. *D.*  
 1805 „ „ „ „ Hist. Moll. Fr. p. 78. pl. 4, f. 31, 32. *D.F.*  
 1821 *Helix (Cochlicella) ventrosa*, Fér. (= *ventricosus*, Drap., and  
*acuta*, Müll.), Fér., Tabl. Syst. Moll. pt. 3, pp. 56 (or 52), 74 (or 70). *N.*

- 1822 *Bulimus ventricosus*, Drap., Lam., Hist. nat. An. s. Vert. vi, 2.  
p. 125. *D.*
- 1826 *Cochlicella ventrosa*, Fér., Risso, Hist. nat. Eur. mérid. iv. p. 77. *D.*
- 1838 *Bulimus ventricosus*, Drap., Desh., Hist. nat. An. s. Vert. viii.  
p. 235. *D.*
- 1841 " " " Küst., Conch. Cab. p. 30. pl. 12,  
f. 10-12. *D.F.*
- 1848 " *ventrosus*, Fér., Pfr., Mon. Hel. ii. p. 215. *D.*
- 1849 " " " (= *variabilis*, Hartm.), Rve., Conch.  
Icon. pl. 69, f. 499. *D.F.*
- 1855 *Helix (Cochlicella) bulimoides*, Moq.-Tand., Hist. Nat. Moll. Fr.  
ii. p. 277. pl. 20, f. 21-26. *D.F.A.*
- 1864 " *barbara*, Bgt., Mal. Algérie, i. p. 286. pl. 32, f. 36-41. *D.F.*
- 1874 " (*Cochlicella*) *ventricosa*, Drap., Jick., Fauna N.-O.-Afr.  
p. 96. *D.*
- 1883 " *acuta*, Müll. (= *B. ventricosus*, Drap.), Fagot, Glanages  
Malac. iii. p. 29. *D.N.*
- 1889 " " " Westerl., Fauna Paläarct. Reg. ii, 1. p. 366. *D.*
- 1894 " *ventricosa*, Drap., Coutagne, Mém. Soc. Agr. Sci. et Ind.  
Lyon, ii. p. 454. *N.*
- 1895 *Bulimus ventricosus*, Drap., Locard, Ipsa Draparnaudi  
Conchyliia, p. 100. *N.*
- 1908 *Helix (Cochlicella) acuta*, Müll., Germain, Voy. Zool. Khrou-  
mirie, p. 233. *N.*

Originals of *ventricosa* in Naturh. Hofmus. Vienna; *acuta*—*ubi?*  
*Hab.* CAPE PENINSULA. St. James (Connolly).

A South European species, probably of recent introduction. Also  
recorded from North Africa, Cape Verde Islands, and West Indies.

GENUS PUPISOMA, Stoliczka, 1873.  
(Journ. Asiatic Soc. Bengal, xiii, 2. p. 32.)

Type of Genus, *P. lignicola*, Stol.

296. PUPISOMA JAPONICUM, Pilsbry. [S.A.M.]

- 1902 *Pupisoma japonicum*, Pilsb., Nautilus, xvi. p. 21. *D.*
- 1909 " " Hirase, Conch. Mag. iii, 4. pl. 9,  
f. 32, 33. *F.*
- 1912 " " Bnp., Proc. Mal. Soc. x, p. 46. *N.*  
Type in Academy of Natural Science, Philadelphia.  
*Hab.* NATAL. Pietermaritzburg; Ntimbankulu; Edendale;  
Karkloof; Game Pass (Burnup).  
Described from Japan.

The subjoined figure shows *Trach. microscopica* (Krs.), which may very possibly belong to the present Genus, in the centre, with the larger *orcula* on the left and *japonicum* on the right. ( $\times 4\frac{2}{3}$ .)



297. PUPISOMA ORCULA (Benson). [S.A.M.]

- 1850 *Helix orcula*, Bs., A.M.N.H. vi. p. 251. D.  
 1853 " " Pfr., Conch. Cab. p. 357. pl. 136 (1852), f. 18-20. D.F.  
 " " " " Mon. Hel. iii. p. 42. D.  
 1855 *Nanina orcula*, Bs., Gray, Cat. Pulm. p. 75. D.  
 1886 *Pupisoma orcula*, Bs., Tryon, Man. of Conch. ii. p. 177. pl. 53, f. 67. D.F.  
 1909 " " Hirase, Conch. Mag. iii. 4. pl. 9, f. 30, 31. F.  
 1912 " " Bnp., Proc. Mal. Soc. x. p. 45. N.

Co-types in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford). Grahams-town (Farquhar).

NATAL. Pietermaritzburg; Ntimbankulu; Dargle; Edendale; Game Pass (Burnup). Richmond (Wakefield; Cooper). Karkloof (Taynton).

TRANSVAAL. Pretoria (Connolly).

RHODESIA. Victoria Falls (Warren).

Originally described from India.

GENUS VALLONIA, Risso, 1826.

(Hist. nat. Eur. mérid. iv. p. 101.)

Type of Genus, *V. rosalia*, Risso (*pulchella*, Müll.).

298. VALLONIA EXCENTRICA, Sterki. [S.A.M.]

- 1850 *Helix pulchella*, Müll., Bs., A.M.N.H. v. p. 217. L.  
 1864 *Vallonia minuta*, Say, Morse, Journ. Portland Soc. Nat. Hist. i, 1. p. 21 (*pars*).  
 1893 " *excentrica*, Sterki, Proc. Acad. Nat. Sci. Phila. pp. 252, 278. pl. 8, f. B, M. D.A.  
 " " " " Pilsb., Man. of Conch. viii. p. 249. pl. 32, f. 6-9. D.R.F.  
 1904 " " " " B. B. Woodw., Journ. of Conch. xi. p. 82. D.

Type in coll. Sterki.

*Hab.* CAPE OF GOOD HOPE. High Constantia (Benson, 1846). Cape Town (Layard). Wynberg (Lightfoot). Somerset East (Miss Bowker). King Williamstown (Miss Ross). Grahamstown (Farquhar). Port Elizabeth (Crawford).

NATAL. Pietermaritzburg (Burnup).

TRANSVAAL. Pretoria (McBean).

Very widely distributed over most parts of the globe.

Mr. B. B. Woodward has identified specimens from Wynberg, Pretoria, Grahamstown, Port Elizabeth, and Pietermaritzburg as *excentrica*, and it is probable that the other occurrences of *Vallonia* in South Africa refer to the same species. Of course, many early reports of *pulchella*, such as Benson's in 1850, were made long before *excentrica* was differentiated.

GENUS HELIX, Linné, 1758.

(Syst. Nat., Ed. 10. i. pp. 645, 768.)

Type of Genus, *H. pomatia*, Lin.

SUB-GENUS CRYPTOMPHALUS, Agassiz, 1837.

(Nouv. Mém. Soc. Helv. Sci. Nat. i. 2. p. 5.)

Type of Sub-Genus, *H. aspersa*, Müll.

299. HELIX ASPERSA, Müller.

[S.A.M.]

1774 *Helix aspersa*, Müll., Verm. ii. p. 59. *D.*

1777 „ *hortensis*, Pennant, Brit. Zool. iv. p. 136. pl. 84, f. 129. *D.F.*

1778 *Cochlea vulgaris*, Da Costa, Test. Brit. p. 72. pl. 4, f. 1. *D.F.*

1786 *Helix aspersa*, Müll., Chem., Conch. Cab. ix, 2. p. 125. pl. 130, f. 1156-58. *D.F.*

1788 „ „ „ Gmel., Syst. Nat., Ed. 13. i. 6. p. 3631. *D.*

„ „ *grisea*, Gmel., Syst. Nat., Ed. 13. i. 6, p. 3649. *D.*

1797 „ *restitutoris*, Humph., Mus. Calonn. p. 60. *D.*

1803 „ *aspersa*, Gmel., Mont., Test. Brit. ii. p. 407. *D.*

1805 „ „ Müll., Drap., Hist. Moll. Fr. p. 89. pl. 5, f. 23. *D.F.*

1807 „ *hortensis*, Penn., Mat. & Rack., Linn. Trans. viii. p. 208. *D.*

1815 „ *aspersa*, Brard, Hist. Coq. Paris, p. 7. pl. 1, f. 1. *D.F.*

1826 „ „ Lin., Risso, Hist. nat. Eur. mérid. iv. p. 63. *D.*

1828 „ „ Lam., Stark, Elem. Nat. Hist. ii. p. 58. *D.*

1837 „ (*Pomatia adpersa*, Beck, Index Moll. p. 44.

1840 „ (*Acavus aspersa*, Müll., Gray, Turton's Man. p. 128. pl. 4, f. 35. *D.F.*

- 1841 *Helix aspersa*, Müll., Pfr., Conch. Cab. p. 34. pl. 3, f. 6-10. *D.F.*  
 1846 " " " " " p. xi. *D.*  
 1848 " " " " Mon. Hel. i. p. 241. *D.*  
 1850 " " " Desh., Hist. Nat. Moll. i. p. 269. pl. 18,  
 f. 1-13. pl. 19, f. 1-9. pl. 21B, f. 6, 7.  
 pl. 24, f. 3. pl. 24A, f. 1-7. *D.F.*  
 1855 " " " Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 174.  
 pl. 13, f. 14-32. *D.F.A.*  
 1861 " *spumosa*, Lowe, A.M.N.H. vii. p. 111. *D.*  
 1879 " *aspersa*, Müll., Layard, The Field, Jan. 11th. *N.*  
 1883 " (*Pomatia aspersa*, Müll., Tayl., Journ. of Conch. iv. p. 89.  
*D.N.A.*  
 1898 *Pomatia aspersa*, Müll., Stur., S.A. Moll. p. 52. *N.*  
 1903 *Helix (Helicogena) aspersa*, Müll., Kob., Conch. Cab. p. 96.  
 pl. 319, f. 14-20. pl. 320, f. 1-12. *D.F.*  
 1910 " (*Cryptomphalus) aspersa*, Müll., Tayl., Mon. Brit. Moll.  
 p. 236. pl. 23 (1911). *D.F.A.E.*  
 " " (*Helicogena) aspersa*, Müll., Bttg., Abh. Senckenb. Naturf.  
 Ges. Frankfurt, xxxii. p. 456. *N.*

Specimen ex coll. Müller in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (in coll. Ponsonby).

CAPE PENINSULA. Very common. Robben Island (in coll. Ponsonby).

Several sinistral specimens have been found at Cape Town (Lightfoot).

This species, said to have been introduced into Cape Town by Mons. Dastre, as a table delicacy, about 1870, has now become one of the greatest pests in gardens throughout the Cape Peninsula. It appears also to thrive on the peculiar local type of wild herbage, and thus threatens to oust many of the rarer, indigenous species from their last foothold, by eating them out of house and home.

SUB-GENUS OTALA, Schumacher, 1817.

(Essai d'un Nouveau Système des . . . Vers. p. 191.)

(= *Archelix*, Albers, 1850.)

Type of Sub-Genus, *H. atomaria*, Schum. (*lactea*, Müll.)

300. HELIX LACTEA, Müller.

1774 *Helix lactea*, Müll., Verm. ii. p. 19. *D.*

1786 " " Chem., Conch. Cab. ix, 2. p. 127. pl. 130,  
 f. 1161. *D.F.*

- 1822 *Helix lactea*, Müll., Lam., Hist. nat. An. s. Vert. vi, 2. p. 75. *D.*  
 1848     "     "     Pfr., Mon. Hel. i. p. 272. *D.*  
 1850     "     "     Desh., Hist. Nat. Moll. i. p. 291. pl. 39A,  
           f. 7, 8. pl. 45, f. 1-10. *D.F.*  
 1864     "     "     Bgt., Mal. Algérie, i. p. 122. pl. 11, f. 1-9. *D.F.*  
 1888     "     "     Tryon, Man. of Conch. iv. p. 130. pl. 39,  
           f. 89-97. *D.F.*

Type—*ubi*?

*Hab.* CAPE OF GOOD HOPE. Kowie (Barber, in coll. Layard).

A well-known Mediterranean species, whose sole claim to inclusion in South African lists rests on a fine adult specimen, which was taken alive, together with a smaller, empty shell, in a garden on the bank of the Kowie River in 1897.

Tryon (1888) places in the synonymy *irrorata*, Say; *punctatissima*, Jeniss; *flattersiana*, Ancey; *tagina*, Servain; *axia*, Bgt.; *jacquemebana*, Bgt.; and ? *hispanica*, Mich.

#### SUB-GENUS EUPARYPHA, Hartmann, 1842.

(Erd-und-Sussw.-Gast. Schweiz, p. 204.)

Type of Sub-Genus, *H. rhodostoma*, Drap. (*pisana*, Müll.).

#### 301. HELIX PISANA, Müller.

[S.A.M.]

- 1774 *Helix pisana*, Müll., Verm. ii. p. 60. *D.*  
 1777     "     *zonaria*, Pennant, Brit. Zool. iv. p. 137. pl. 85, f. 133. *D.F.*  
 1792     "     *petholata*, Olivier, Zool. Adriat. p. 178. *D.*  
 1801     "     *rhodostoma*, Drap., Tabl. Moll. Fr. p. 74. *D.*  
 1803     "     *cingenda*, Mont., Test. Brit. ii. p. 418, & Suppl. (1808),  
           pl. 24, f. 4. *D.F.*  
 1805     "     *rhodostoma*, Drap., Hist. Moll. Fr. p. 86. pl. 5, f. 13-15. *D.F.*  
 1807     "     *cingenda*, Penn., Turton, Brit. Fauna, p. 188. *D.*  
 1827     "     "     Mont., Brown, Illustr. Conch. Gt. Brit. pl. 40,  
           f. 27, 28, 33, 35, 58. *F.*  
 1840     "     *pisana*, Müll., Gray, Turton's Man. p. 158. *D.*  
 1848     "     "     "     Pfr., Mon. Hel. i. p. 152. *D.*  
        "     "     "     "     "     Conch. Cab. p. 161. pl. 37, f. 1-12.  
                           pl. 22 (1843), f. 1-6. *D.F.*  
 1855     "     "     "     Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 259.  
                           pl. 19, f. 9-20. *D.F.A.*  
 1864     "     "     "     Bgt., Mal. Algérie, i. p. 234. pl. 26, f. 1-10. *D.F.*  
 1874     "     (*Euparypha*) *pisana*, Müll., Jick., Fauna N.-O.-Afr.  
                           p. 85. *D.N.*



- 1895 *Helix (Euparypha) pisana*, Müll., Pilsb., Man. of Conch. ix.  
p. 335. pl. 43, f. 37, 38. pl. 61, f. 1-5. *D.F.A.*  
1902 *Xerophila pisana*, Müll., Swanton, Journ. of Conch. x. p. 194. *N.*  
1910 *Helix (Euparypha) pisana*, Müll., Bttg., Abh. Senckenb. Naturf.  
Ges. Frankfurt, xxxii. p. 456. *N.*  
1911, 12           ,,           ,,   Müll., Tayl., Mon. Brit. Moll. p. 368.  
pl. 30, f. 1-21. pl. 31, f. 1-21. *D.F.A.E.*

Specimen ex coll. Müller in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. Cape Peninsula (very common).  
Stellenbosch (Miss Lightfoot). Somerset West; Gordon's Bay  
(Connolly). Port Elizabeth (Crawford). Robben Island (in coll.  
Ponsonby).

NATAL. Durban (Longstaff).

The earliest recorded appearance of *H. pisana* in South Africa was  
in 1881, when Mr. W. G. Fairbridge took three specimens on the  
now demolished Gallows Hill, near Cape Town Docks. Since that  
date it has spread enormously along the seaboard of the Peninsula,  
and its arrival at Stellenbosch appears to denote that it is extending  
its travels inland.

Taylor (1911) includes in its synonymy *strigata*, Dillw., 1817;  
*maculata*, Mke., 1828; *catocyphia*, Bgt., 1860; *pisanshipis* and *hyper-*  
*plata*, Bgt., 1880; *agaroi*, *carpiensis*, *djerbanica*, *gergisensis*, *hama-*  
*danica*, *salemensis*, *monroi*, *zitanensis*, Letourneux and Bgt., 1887;  
*chambardi*, Let., 1887; *couturieri*, *cuttati*, *lenoleuca*, *subpisana*, and  
*thinophila*, Bgt., 1887; *donatii* and *levesquei*, Berthier, 1887; *byrsæ*  
and *radesiana*, Marès, 1887; *dermoi*, *pisanelle*, and *olivaresi*, Servain,  
1887; *barbozana*, *bocagei*, and *machadoi*, Locard, 1899; while imma-  
ture examples appear to have been named *æstivalis*, Bgt.; *cinæ*,  
Klett; and *leucostoma*, Risso.

#### FAMILY ENIDÆ, B. B. Woodward, 1903.

(Journ. of Conch. x. pp. 354, 358.)

(= Buliminidæ, Auctt.)

GENUS ENA, Leach (Mss. 1820), 1831.

(Turton's Manual, 1831, p. 80, and 1840, p. 181.)

(= *Bulimina*, Ehrenberg, 1831 (*Buliminus*, Auctt.), nec d'Orbigny,  
in Foraminifera, 1826.)

Type of Genus, *E. montana* (Drap.).

The South African *Enidæ* can be divided, on form alone, into  
certain well-marked groups, in the following manner:—

(i) *Pachnodus*, Albers, 1860 (Die Helic. p. 230, Type, in error, *velutina*, Pfr.; *emend.*, Bgt., 1889, Moll. de l'Afr. équat. p. 64, Type *spadicea*, Mke.).

Bourguignat's rejection of *velutina* as type of *Pachnodus* seems perfectly sound. If *spadicea* is not acceptable, a new name is necessary for the group, which comprises—

*arenicola*, Bs.; *carinifera*, M. & P.; *drakensbergensis*, Smith; *mcbeaniana*, Bnp.; *natalensis*, Krs. and *spadicea*, Mke. (= *vitellina*, Pfr.).

(ii) *Conulinus*, von Martens, 1895 (Nachr. d. Deutsch. Mal. Ges. p. 180, Type, *conulus*, Rve.).

*conulus*, Rve.; *metuloides*, Smith; *transvaalensis*, M. & P., and probably *burnupi*, *dimeria*, and *maritzburgensis*, M. & P., and *meridionalis*, Pfr.

(iii) *Xerocerastus*, Kob. & Mlldff., 1902 (Conch. Cab. p. 1021, Type, *damarensis*, Ad.).

(= *Eburnea*, Mousson, 1887 (J. de C. p. 295), nec *Eburna*, Lam., 1801, nec *Eburnea*, Flem., 1828).

*burchelli*, Gray; *damarensis*, Ad.; *hottentota*, Gray (= *pygmæa*, Ad.); *layardi*, M. & P.; *opposita*, Mouss.; *psammophila*, *schultzei*, and *subteres*, Bttg., and *zuluensis*, M. & P.

(iv) *Rhachisellus*, Bourguignat, 1889 (Moll. de l'Afr. équat. p. 68, as *Rachisellus*. Type *punctata*, Anton.)

Thiele (Deutsch. Zent.-afr.-Exp., 1911, p. 201) shows that *punctata* is not acceptable as type of *Rhachis*, Albers, but is rightly placed in *Rhachisellus*. Although possibly not belonging to the same Sub-genus, the following shells fall, roughly, into the same group:—

*dubiosa*, Stur.; *melanacme*, *mozambicensis*, and *petersi*, Pfr.; *punctata*, Ant. (= *jejuna*, M. & P.); *spilogramma* and *sticta*, von Mts.

Thiele (*l.c.*) has, on account of radular peculiarities, proposed to include *melanacme* and *mozambicensis* in a new Sub-genus *Rhachidina*, the type of which is the West African *tumefacta* (Rve.).

(v) *Ena pentheri* (Stur.).

(vi) Group of *E. bowkeri* (Sow.).

*bowkeri*, Sow., and *nuptialis*, M. & P.

(vii) *Ena boivini* (Morel.) (= *movenensis*, Stur.).

In the following pages the species are arranged in alphabetical order.

NOTE.—*Eulimoides*, Gray, and *namibicus*, Bttg., were described as *Enidæ*, but apparently belong to *Zootecus*, Westerl., a Genus of *Stenogyrinæ*.

302. ENA (PACHNODUS) ARENICOLA<sup>2</sup> (Benson). [S.A.M.]

- 1856 *Bulimus arenicola*, Bs., A.M.N.H. xviii. p. 433. *D.*  
1859     "             "             " Pfr., Mon. Hel. iv. p. 481. *D.*  
1901 *Buliminus (Pachnodes) arenicola*, Bs., Kob., Conch. Cab. p. 757.  
      pl. 111, f. 5, 6. *D.F.*

Specimen ex auct. in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Caffraria, near Waterloo Bay; near Mossel Bay (Layard).

NATAL. Durban; Pietermaritzburg; Lower Umkomaas; Port Shepstone; Tongaat (Burnup).

ZULULAND. Dukuduku (Toppin).

303. ENA BOIVINI (Morelet).

- 1860 *Glandina boivini*, Morel., Séries Conch. ii. p. 72. pl. 5, f. 5. *D.F.*  
1887 *Bulimus*     "             " Grandidier, Bull. Soc. Mal. Fr. iv.  
      p. 187. *N.*  
1890     "     (*Cerastus*) *mamboiensis*, Smith, A.M.N.H. vi. p. 153.  
      pl. 5, f. 7. *D.F.*  
1897 *Buliminus boivini*, Morel., von Mts., D.-O.-Afr. p. 61. *N.*  
1898     "     *movenensis*, Stur., S.A. Moll. p. 66. pl. 2, f. 44-51. *D.F.*  
1899     "     *boivini*, Morel. (= *mamboiensis*), Smith, P.Z.S.  
      p. 587. *N.*  
1900     "     (*Cerastus*) *boivini*, Morel., Kob., Conch. Cab. p. 635.  
      pl. 97, f. 2. *D.F.*  
"     "     (*Pachnodes*) *movenensis*, Stur., Kob., Conch. Cab.  
      p. 632. pl. 96, f. 19-21. *D.F.*

Type of *boivini* in British Museum; *movenensis* in Naturh. Hofmus. Vienna.

*Hab.* EASTERN ZULULAND. Elsheleselwanhla (Toppin).

LORENZO MARQUES. Delagoa Bay (Connolly). *Movene (movenensis*, Penther).

Also from several localities in East Africa, the type of *boivini* coming from Mombasa.

There seems no reason for separating *movenensis*, Stur., from the present species. Until connecting links are known, *E. ptychaxis*, Smith (A.M.N.H. vi. 1890, p. 147), which von Martens has placed in the synonymy, appears separable by its more elongate shell and very distinct columellar fold, which is only just traceable in *boivini*.

304. ENA BOWKERI (Sowerby). [S.A.M.]

- 1889 *Buliminus (Mesembrinus ?) bowkeri*, Sow., P.Z.S. p. 581. pl. 56,  
      f. 5. *D.F.*

- 1900 *Buliminus (Pachnodes) bowkeri*, Sow., Kob., Conch. Cab. p. 657.  
pl. 101, f. 2. *D.F.*

Originals in British Museum, type not specified.

*Hab.* CAPE OF GOOD HOPE. Glen Avon Falls, Somerset East (Miss Bowker).

305. ENA (*XEROCERASTUS*) *BURCHELLI* (Gray). [S.A.M.]

- 1834 *Bulimus burchellii*, Gray, P.Z.S. p. 66. *D.*

1848 ,, ,, ,, Pfr., Mon. Hel. ii. p. 162. *D.*

1849 ,, ,, ,, Rye., Conch. Icon. pl. 76, f. 548. *D.F.*

1902 ,, (*Xerocerastus?*) *burchellii*, Gray, Kob., Conch. Cab.  
p. 962. *D.*

Type in British Museum.

*Hab.* BRITISH BECHUANALAND. Near Lattakoo (Takun), (fide Gray). Kuruman (Moffatt).

BECHUANALAND. Kalahari (Penderill-Longlands).

CAPE OF GOOD HOPE. Prieska (Gibbons). Douglas (Miss Orpen).

GRIQUALAND WEST. Blaauwbosch Poort, Hay District (Day).  
Griquatown (Barrett Hamilton). Griquatown (Gibbons). Riverton (Miss Wilman).

The loc. "Natal," given by Sturany is improbable.

306. ENA (*CONULINUS*) *BURNUPI* (Melv. & Pons.).

- 1903 *Buliminus (Pachnodus) burnupi*, M. & P., A.M.N.H. xii. p. 605.  
pl. 31, f. 5. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Lower Umfolosi Drift (Burnup). Makowe (Crosly).

307. ENA (*PACHNODUS*) *CARINIFERA* (Melv. & Pons.). [S.A.M.]

- 1897 *Buliminus (Pachnodus) carinifer*, M. & P., A.M.N.H. xix. p. 637.  
pl. 17, f. 8. *D.F.*

1901 ,, (*Pachnodes*) *carinifer*, M. & P., Kob., Conch. Cab.  
p. 762. pl. 111, f. 21. *D.F.*

Type in British Museum.

*Hab.* NATAL. Gordon Falls; Pietermaritzburg (Burnup).

CAPE OF GOOD HOPE. Knysna (Purcell). Grahamstown; Bedford; Port Elizabeth (Farquhar). Pirie (Miss Ross).

Although perfectly distinct, this species is at times very closely

approached by *E. natalensis* (Krs.), and it may possibly happen that localities given for it really refer to the latter.

In *carinifera* the keel, especially in mature shells, is always more pronounced, and the whorls, convex below the suture, become concave both immediately above and beneath the keel.

A pretty milk-white variety is found at Gordon Falls.

308. *ENA* (*CONULINUS*) *CONULUS* (Reeve).

1849 *Bulinus conulus*, Rve., Conch. Icon. pl. 78, f. 577. *D.F.*

1853 " " " Pfr., Mon. Hel. iii. p. 440. *D.*

1902 *Buliminus (Conulinus) conulus*, Rve., Kob., Conch. Cab. p. 952.  
pl. 133, f. 8. *D.F.*

Type in British Museum.

*Hab.* NATAL. "Port Natal" (Mus. Cuming).

LORENZO MARQUES. Rikatla (Junod).

ZULULAND. Entendweni (var.; Toppin).

309. *ENA* (*XEROCERASTUS*) *DAMARENSIS*, H. Adams.

1870 *Bulinus damarensis*, H. Ad., P.Z.S. p. 9. pl. 1, f. 17. *D.F.*

" " *dammarensis*, Pfr., Mal. Blätt. xvii. p. 93. *D.*

" " " " Novit. Conch. iv. p. 3. pl. 109, f. 7, 8.  
*D.F.*

1877 " *damarensis*, Pfr., Mon. Hel. viii. p. 177. *D.*

1887 *Buliminus (Eburnea) damarensis*, H. Ad., Mouss., J. de C. xxxv.  
p. 295. *N.*

1889 " *damarensis*, H. Ad., von Mts., Sitz.-Ber. Ges. Nat.  
Fr. Berlin, p. 162. *N.*

1900 " (*Zootecus*) *damarensis*, H. Ad., Kob., Conch. Cab.  
p. 662. pl. 101, f. 17, 18. *D.F.*

1910 *Ena (Eburnea) damarensis*, H. Ad., Bttg., Abh. Senckenb.  
Naturf. Ges. Frankfurt, xxxii. p. 443. *N.*

Type in British Museum.

*Hab.* DAMARALAND (coll. Adams). Ussab (fide von Martens) and Ubeb, on the Khan River, N. of Tsoachaul (Schenck). Omaruru (Schinz). "Kurikaubmund am Swakop (Kurikop bei Otjikango)" (Rintelen).

OVAMPOLAND. Ovambonde (Chapman, fide Layard). Grootfontein, near Upingtonia, and Epitonna, S.E. of Ondonga (Schinz).

This species was described by H. Adams in January, 1870, and by Pfeiffer in July of the same year; hence the English author has priority.

## var. MINOR, Pfeiffer.

- 1870 *Bulimus dammarensis*, var. *minor*, Pfr., Mal. Blätt. xvii. p. 94. *D.*  
 „ „ „ „ Novit. Conch. iv. p. 4.  
 pl. 109, f. 5, 6. *D.F.*  
 1887 *Buliminus (Eburnea) damarensis*, H. Ad., var. *expectata*,  
 Mouss., J. de C. xxxv. p. 295. pl. 12, f. 4. *N.F.*  
 1904 „ *damarensis*, (?) var. *expectatus*, Mouss., von Mts.,  
 Die Kalahari, p. 754. *N.*  
 1910 *Ena (Eburnea) damarensis*, H. Ad., var. *minor*, Pfr. (=var.  
*expectata*, Mouss.), Bttg., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 443.

Type in Stettin Museum.

*Hab.* DAMARALAND (fide Pfeiffer). Ubeb on the Khan River  
 (Schenck). Omaruru (Schinz).

OVAMPOLAND. Uprisingtonia (Schinz).

BECHUANALAND. Meno a kwena (about 24° E. long. and 20° S. lat.),  
 in marly sandstone (Passarge).

## var. SUBRADIATA, Böttger.

- 1910 *Ena (Eburnea) damarensis*, H. Ad., var. *subradiata*, Bttg., Abh.  
 Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 443. *D.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* DAMARALAND. "Kurikaubmund am Swakop (Kurikop bei  
 Otjikango)" (Rintelen).

## 310. ENA (CONULINUS) DIMERA (Mely. &amp; Pons.). [S.A.M.]

- 1901 *Buliminus (Rhachis) dimerus*, M. & P., A.M.N.H. viii. p. 320.  
 pl. 2, f. 13. *D.F.*

Type in British Museum.

*Hab.* NATAL. Karkloof Bush (McBean).

CAPE OF GOOD HOPE. King Williamstown (Godfrey).

## 311. ENA (PACHNODUS) DRAKENSBERGENSIS (Smith).

- 1877 *Bulimus (Pachnodus) drakensbergensis*, Smith, A.M.N.H. xx.  
 p. 538. *D.*  
 1879 *Buliminus natalensis*, Krs., var. *draakensburgensis*, Smith, Binn.,  
 Ann. N.Y. Acad. Sci. i. p. 362. pl. 14, f. J. *R.*  
 1901 „ (*Pachnodes*) *drakensbergensis*, Smith, Kob., Conch.  
 Cab. p. 758. pl. 111, f. 7, 8. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. East slope of Drakensberg, near Lydenburg Goldfields (ex coll. Sowerby). Pilgrim's Rest (Craven).

312. *ENA* (? *RHACHISELLUS*) *DUBIOSA* (Sturany).

1898 *Buliminus* (*Rhachis*) *dubiosus*, Stur., S.A. Moll. p. 64. pl. 2, f. 45, 46. *D.F.*

1900                   "   "   Kob., Conch. Cab. p. 632. pl. 96, f. 17, 18. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* LORENZO MARQUES. Matolla (Penther).

313. *ENA* (*XEROCERASTUS*) *HOTTENTOTA* (Gray).

1838 *Bulimus hottentota*, Gray, Alexander's Expedition, ii. p. 269. *D.*

1870 *Bulimulus pygmaeus*, H. Adams, P.Z.S. p. 9. pl. 1, f. 18. *D.F.*

1877                   "   "   Pfr., Mon. Hel. viii. p. 123. *D.*

1910 *Ena* (*Eburnea*) *pygmaea*, H. Adams, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 442. *N.*

Types in British Museum.

*Hab.* GREAT NAMALAND. Near Great Fish River (Alexander).

DAMARALAND (in coll. H. Adams). Flats by the Khan River, N. of Tsoachaul (Schenck). Ussab (fide von Mts.). 140 kilos from Swakopmund (Rintelen).

OVAMPOLAND. Ovambonde (Chapman, fide Layard).

314. *ENA* (*XEROCERASTUS*) *LAYARDI* (Melv. & Pons.).

1892 *Buliminus layardi*, M. & P., A.M.N.H. ix. p. 90. pl. 5, f. 11. *D.F.*

1901                   "   "   Kob., Conch. Cab. p. 793. pl. 117, f. 3. *D.F.*

Type in British Museum.

*Hab.* BECHUANALAND. Kobis, probably just S. of Lake Ngami (in coll. Layard).

315. *ENA* (*PACHNODUS*) *MCBEANIANA*, Burnup. [S.A.M.]

1905 *Ena* (*Pachnodus*) *mcbeaniana*, Bnp., Proc. Mal. Soc. vi. p. 302. pl. 16, f. 1, 2. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Pretoria District (McBean). Pietpotgietersrust (Connolly).

*Bulimus spadiceus*, var., quoted by Krauss (Südafr. Moll., 1848, p. 79) from Mt. Mohapaani, is possibly referable to this species.

316. ENA (CONULINUS) MARITZBURGENSIS (Melv. & Pons.). [S.A.M.]  
 1893 *Buliminus (Pachnodus) maritzburgensis*, M. & P., A.M.N.H. xii.  
 p. 105. pl. 3, f. 5. *D.F.*  
 1901 *Buliminus (Pachnodes) maritzburgensis*, M. & P., Kob., Conch.  
 Cab. p. 760. pl. 111, f. 16, 17. *D.F.*

Type in British Museum.

*Hab.* NATAL. Thornybush, and other localities near Pietermaritzburg (Burnup).

317. ENA (RHACHIDINA) MELANACME (Pfeiffer).

- 1855 *Bulimus melanacme*, Pfr., P.Z.S. p. 96. pl. 31, f. 8. *D.F.*  
 1859 " " " Mon. Hel. iv. p. 486. *D.*  
 " " (*Rhachis*) *melanacme*, Pfr., von Mts., Mal. Blätt. vi.  
 p. 212. pl. 2, f. 8. *N.F.*  
 1860 *Buliminus (Rhachis) melanaeme*, Pfr., von Mts., Die Helic.  
 p. 231. (*Err. Typ.*)  
 1869 " " *melanacme*, Pfr., von Mts., Nachrichtsbl.  
 d. Deutsch. Mal. Ges. p. 152. *N.*  
 1889 *Pachnodus sesamorum*, Ancy in Mss., Bgt., Moll. de l'Afr.  
 équat. p. 66. pl. 3, f. 2, 3. *D.F.*  
 1897 *Buliminus (Rhachis) melanacme*, Pfr., von Mts., D.-O.-Afr. p. 75. *N.*  
 1900 " " " Kob., Conch. Cab. p. 623.  
 pl. 95, f. 8. *D.F.*

Type in British Museum.

*Hab.* MOZAMBIQUE. Tette (Peters).

Also found in East Africa. Pfeiffer's loc. Tette is of doubtful authenticity. von Martens (1897) remarks: Pfeiffer gives Tette, on the Zambesi, as the finding-place of the specimens found by Peters; but on Peters' labels in the Berlin Museum only Querimba, not Tette, is written, while for *B. punctatus* both localities are vouched for in his handwriting."

Melvill and Standen (1907) quote this species from Petauke, Northern Rhodesia.

318. ENA (CONULINUS) MERIDIONALIS (Pfeiffer). [S.A.M.]

- 1847 *Bulimus meridionalis*, Pfr., P.Z.S. p. 231. *D.*  
 1848 " " " Mon. Hel. ii. p. 108. *D.*  
 " " " Rve., Conch. Icon. pl. 56, f. 370. *D.F.*  
 1898 *Buliminus (Rhachis) meridionalis*, Pfr., Stur., S.A. Moll. p. 64. *N.*  
 1901 " (*Conulinus*) *meridionalis*, Pfr., Kob., Conch. Cab.  
 p. 759. pl. 111, f. 14, 15. *D.F.*



Type in British Museum.

*Hab.* "SOUTH AFRICA" (in coll. Cuming, fide Pfeiffer).

CAPE OF GOOD HOPE. Port Elizabeth (Crawford; Farquhar).

? LORENZO MARQUES. Matolla (Penther, fide Sturany).

319. ENA (CONULINUS) METULOIDES, Smith. [S.A.M.]

1899 *Buliminus (Conulinus) metuloides*, Smith, P.Z.S. p. 587. pl. 33, f. 43. *D.F.*

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Becker).

Described from Zomba, Nyassaland.

The Rhodesian specimens are a little stouter than the type, but do not appear separable.

320. ENA (RHACHIDINA) MOZAMBISENSIS (Pfeiffer).

1846 *Bulimus mozambicensis*, Pfr., Symb. iii. p. 85. *D.*

1848 " " " Mon. Hel. ii. p. 177. *D.*

1849 " " " Rve., Conch. Icon. pl. 58, f. 328. *D.F.*

1859 " *mozambicensis*, Pfr., Mon. Hel. iv. p. 473. *D.*

1869 " (*Rhachis mozambicensis*, Pfr., von Mts., Nachrichtsbl. d. Deutsch mal. Ges. i. p. 150. *D.*

1879 *Buliminus mozambicensis*, Pfr., Gibbons, Journ. of Conch. ii. p. 144. *N.*

" " *spekei*, Bgt., Moll. de l'Égypte, p. 4. *D.*

1897 " (*Rhachis mossambicensis*, Pfr. (cum var. *spekei*, Bgt.), von Mts., D.-O.-Afr. p. 74. *N.D.*

1899 " " *mozambicensis*, Pfr., Junod, Bull. Soc. Vaudoise, xxxv. p. 279. *N.*

1901 " " *mozambicensis*, Pfr., Kob., Conch. Cab. p. 748. pl. 110, f. 7, 8. *D.F.*

Type in British Museum.

*Hab.* LORENZO MARQUES. Rikatla (Junod).

Originally described from Mozambique (coll. Cuming).

321. ENA (PACHNODUS) NATALENSIS (Krauss). [S.A.M.]

1846 *Bulimus natalensis*, Krs., Pfr., Symb. iii. p. 86. *D.*

1848 " " " Südafr. Moll. p. 78. pl. 5, f. 1. *D.F.*

" " " Pfr., Mon. Hel. ii. p. 48. *D.*

1849 " " " Rve., Conch. Icon. pl. 62, f. 430. *D.F.*  
(*pessima*).

- 1898 *Buliminus (Pachnodus) natalensis*, Krs., Stur., S.A. Moll. p. 63. *N.*  
 1899 „ „ (*Pachnodes*) „ „ „ Kob., Conch. Cab. p. 621.  
 pl. 94, f. 14, 15. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL. Near Natal Bay (Krauss). Drakensberg (Wahlberg). Umkomaas; Pietermaritzburg; Tongaat; Pinetown; Krantz Kloof (Burnup).

CAPE OF GOOD HOPE. Port Elizabeth; Springfields (Reeve). Kowie (Farquhar). Port St. John's (Shortridge). Knysna (Layard).

LORENZO MARQUES. Rikatla (Junod). Delagoa Bay (smaller var., fide Sturany).

322. *ENA NUPTIALIS* (Melv. & Pons.). [S.A.M.]

- 1894 *Buliminus nuptialis*, M. & P., A.M.N.H. xiv. p. 92, pl. 1, f. 5. *D.F.*  
 1901 „ „ (*Pachnodes nuptialis*, M. & P., Kob., Conch. Cab.  
 p. 762. pl. 111, f. 22. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Craigie Burn, Somerset East (Mrs. Barber). Elandsberg Mountain, Cradock (Farquhar).

323. *ENA (XEROCERASTUS) OPPOSITA* (Mousson).

- 1887 *Helix (Cochlicella) opposita*, Mouss., J. de C. xxxv. p. 293. pl. 12,  
 f. 2. *D.F.*  
 1900 *Buliminus (Zooteucus?) oppositus*, Mouss., Kob., Conch. Cab.  
 p. 661. pl. 101, f. 13. *D.F.*  
 1904 *Cochlicella opposita*, Mouss., von Mts., Die Kalahari, p. 755. *N.*  
 1910 *Ena opposita*, Mouss., Bttg., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 444. *N.*

*Hab.* OVAMPOLAND. Upingtonia (subfossil, Schinz).

BECHUANALAND. Meno a kwena (subfossil, Passarge).

Described from a single specimen, compared to *Cochlicella ventricosa*, Drap., and *terveriana*, Webb.

324. *ENA PENTHERI* (Sturany).

- 1898 *Buliminus (Rhachis) pentheri*, Stur., S.A. Moll. p. 65. pl. 2, f. 47,  
 48. *D.F.*  
 1900 „ „ „ „ Kob., Conch. Cab. p. 631.  
 pl. 96, f. 15, 16. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* LORENZO MARQUES. Matolla (Penther).

325. ENA (? RHACHISELLUS) PETERSI, Pfeiffer.

- 1855 *Bulimus petersi*, Pfr., P.Z.S. p. 97. D.  
 1859 " " von Mts., Mal. Blätt. vi. p. 213. N.  
 " " " Mon. Hel. iv. p. 496. D.  
 1902 *Buliminus (Rhachis) petersi*, Pfr., Kob., Conch. Cab. p. 986. D.  
 Type in British Museum.  
*Hab.* LORENZO MARQUES. Tette (Peters).

326. ENA (XEROCERASTUS) PSAMMOPHILA (Böttger).

- 1886 *Buliminus (Mastus) psammophilus*, Bttg., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 23. pl. 2, f. 2. D.F.  
 1887 " *psammophilus*, Bttg., Mouss., J. de C. xxxv. p. 295. N.  
 1900 " (*Zootecus psammophilus*, Bttg., Kob., Conch. Cab. p. 663. pl. 101, f. 19-21. D.F.  
 1910 *Ena (Eburnea) psammophila*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 443. N.  
 Type in Senckenberg Mus. Frankfurt.  
*Hab.* BECHUANALAND. Khuis, western border of Kalahari (Nolte).  
 GREAT NAMALAND. Choarib (Hermann).

327. ENA (RHACHISELLUS) PUNCTATA (Anton). [S.A.M.]

- 1839 *Bulimus punctatus*, Ant., Verz. Conch. Samml. p. 42. D.  
 1848 " " Pfr., Mon. Hel. ii. p. 212. D.  
 1849 " " Rve., Conch. Icon. pl. 55, f. 452. D.F.  
 1851 " " Desh., Hist. Nat. Moll. ii, 2. p. 86. pl. 157, f. 7, 8. D.F.  
 1854, 55 " " (= *solatus*, Bs. in Mss.), Pfr., Conch. Cab. p. 229. pl. 62, f. 22-24. D.F.  
 1859 *Bulimus (Rhachis) punctatus*, Ant., von Mts., Mal. Blätt. vi. p. 213. N.  
 1869 *Buliminus (Rhachis) punctatus*, Ant., von Mts., Nachrichtsbl. d. Deutsch. Mal. Ges. i. p. 153. N.  
 1876 *Bulimus punctatus*, Ant., Hanley & Theobald, Conch. Indica, p. 10. pl. 20, f. 10. F.  
 1879 " " Gibbons, Journ. of Conch. ii. p. 144. N.  
 1889 *Rachisellus ledoulxi*, Bgt., Moll. de l'Afr. équat. p. 70. pl. 5, f. 10, 11. D.F.  
 1893 *Buliminus (Pachnodus) jejunus*, M. & P., A.M.N.H. xii. p. 106. pl. 3, f. 7. D.F.  
 1897 " (*Rhachis) punctatus*, Ant. (cum varr. *ledoulxi*, Bgt., and *variolosus*, Morel.), von Mts., D.-O.-Afr. p. 76. N.

1901 *Buliminus* (*Pachnodes*?) *jejunus*, M. & P., Kob., Conch. Cab. p. 794. pl. 117, f. 5. *D.F.N.*

Type in British Museum.

*Hab.* LORENZO MARQUES. Tette (Peters). Lebombo Mountains (Barber).

RHODESIA. Near Gwelo (Dodds).

NORTHERN TRANSVAAL (*jejuna*, Bowker).

? OVAMPOLAND. Upingtonia; Epitonna (fide Sturany).

? DAMARALAND. Omaruru (fide Sturany).

An Indian species imported through commerce, and rather widely distributed in East Africa. Very careful comparison has been made of the type set of *jejuna*, in the British Museum, with immature specimens of *punctata* from Daressalam, and no specific difference can be found between them.

*Ena* (*Rhachisellus*) *férussaci* (Dkr.), which some writers have included in the synonymy, appears to be a distinct species.

328. *ENA* (*XEROCERASTUS*) *SCHULTZEI*, Böttger.

1910 *Ena* (*Eburnea*) *schultzei*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 442. pl. 28, f. 9. *D.F.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* BECHUANALAND. Kooa; Sekuma District; Kang; Kakir and Lekututu Districts (Schultze).

GRIQUALAND WEST. Near Cypher Krantz (Day).

329. *ENA* (*PACHNODUS*) *SPADICEA* (Menke). [S.A.M.]

1846 *Bulimus spadiceus*, Mke., Pfr., Symb. iii. p. 87. *D.*

„ „ „ „ Phil., Abb. u. Besch. ii. p. 123. pl. 13, 1. f. 3. *D.F.*

1848 „ „ „ „ Krs., Südafr. Moll. p. 79. *D.*

„ „ „ „ Pfr., Mon. Hel. ii. p. 192. *D.*

1854, 55 „ „ „ „ Conch. Cab. p. 223. pl. 61, f. 13, 14. *D.F.*

1854 „ *vitellinus*, Pfr., P.Z.S. p. 57. *D.*

1859 „ „ „ „ Mon. Hel. iv. p. 480. *D.*

1902 *Buliminus* (*Pachnodes*) *vitellinus*, Pfr., Kob., Conch. Cab. p. 997. *D.*

Type of *spadicea* in Stettin Museum; *vitellina* in British Museum.

*Hab.* NATAL. "In the forests" (Krauss). Umlaas River (fide Sturany). Port Shepstone; Durban (Burnup).

CAPE OF GOOD HOPE. Somerset East (Miss Bowker). Kentani (Kolbe). Port Elizabeth (Crawford). East London (fide Layard).

TRANSVAAL. Barberton (Cregoe).

*Vitellina* was described from "Natal." The type is simply an example of *spadicea*.

var. MINOR, Pfeiffer.

- 1848 *Bulinus spadiceus*, Mke. var., Krs., Südafr. Moll. p. 79. D.  
 " " " var. *minor*, Pfr. (*Bulinus caffer*, Krs.,  
 in litt.), Pfr., Mon. Hel. ii. p. 192. D.

Krauss' type in Stockholm Museum.

If the above two quotations refer to the same shell, which is not quite certain, the Hab. is Mt. Mohapaani, probably in the Northern Transvaal, and the variety may possibly be identical with *E. mcbeaniana*, Bnp.

330. ENA (? RHACHISELLUS) SPILOGRAMMA (von Martens).

- 1859 *Bulinus spilogrammus*, von Mts., Mal. Blätt. vi. p. 214. pl. 2, f. 9. D.F.  
 1860 " (*Pachnodus*) *spilogrammus*, von Mts., Die Helic. p. 230. D.  
 1868 " *spilogrammus*, von Mts., Pfr., Mon. Hel. vi. p. 56. D.  
 1900 *Buliminus (Pachnodus) spilogrammus*, von Mts., Kob., Conch.  
 Cab. p. 624. pl. 95, f. 9. D.F.

Type in Zool. Mus. Berlin.

Hab. LORENZO MARQUES. Tette (Peters).

331. ENA (? RHACHISELLUS) STICTA (von Martens). [S.A.M.]

- 1859 *Bulinus (Rhachis) stictus*, von Mts., Mal. Blätt. vi. p. 211. pl. 2,  
 f. 6. D.F.  
 1860 " " Die Helic. p. 232. D.  
 1868 " " Pfr., Mon. Hel. vi. p. 131. D.  
 1899 *Buliminus* " " Smith, P.Z.S. p. 586. N.  
 1900 " " Kob., Conch. Cab. p. 623.  
 pl. 95, f. 7. D.F.

Type in Zool. Mus. Berlin.

Hab. LORENZO MARQUES. Tette (Peters). Manica Land (Selous).  
 RHODESIA. Three miles east of Umtali (Dodds).

ZULULAND. Umbonambi (Toppin). White Umfolosi Flats (Gibson).  
 Also reported from Angoni Land and other localities in Central  
 Africa and Northern Rhodesia.

332. ENA (XEROCERASTUS) SUBTERES, Böttger.

- 1910 *Ena (Eburnea) subteres*, Bttg., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 444. pl. 28, f. 8. D.F.

Type in Senckenberg Museum, Frankfurt.

*Hab.* DAMARALAND. 140kilos inland from Swakopmund (Rintelen.)  
Founded on a single, dead specimen.

333. *ENA* (*CONULINUS*) *TRANSVAALENSIS* (Melv. & Pons.).

- 1893 *Buliminus transvaalensis*, M. & P., A.M.N.H. xii. p. 105. pl. 3,  
f. 6. *D.F.*  
1901 „ „ Kob., Conch. Cab. p. 794.  
pl. 117, f. 4. *D.F.*

Type in British Museum.

*Hab.* NORTHERN TRANSVAAL (Bowker).

334. *ENA* (*XEROCERASTUS*) *ZULUENSIS* (Melv. & Pons.).

- 1898 *Buliminus zuluensis*, M. & P., A.M.N.H. ii. p. 127. pl. 7, f. 5. *D.F.*  
1902 „ (*Xerocerastus*) *zuluensis*, M. & P., Kob., Conch. Cab.  
p. 895. pl. 128, f. 3. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Inseyi River (fide M. & P.).

FAMILY VERTIGINIDÆ, B. B. Woodward, 1903.

(Journ. of Conch. x. pp. 354, 360.)

(=Pupidæ, Pupæ, &c., auctt.)

GENUS *LEUCOCHILOIDES*, Pfeiffer, 1881.

(Nomenclator, p. 292.)

Type of Genus, *L. lardeus* (Pfr.).

Adequate discussion of this Genus and the species attributed to it would fill far too much space for inclusion in the present work. Pilsbry and Vanatta, in their "Partial Revision of the Pupæ of the United States" (Proc. Acad. Nat. Sci. Phila., 1900, p. 582), considered both *Leucochila*, Albers, 1860, and *Leucochiloides* to be identical with the older *Pupoides*, Pfr. (Mal. Blätt. i. 1854, p. 192). There is, however, an earlier *Pupoides*, proposed by Férussac (Tabl. Syst. pt. 3. 1821, p. 61) as a section of *Cochlodina*, but on an equal footing with *Clausilia*, *Pupa*, and *Cyclostoma*. Hence there is room for doubt both as to the validity of *Pupoides*, Pfr., and as to whether it is actually equivalent to *Leucochiloides*, so that it may be advisable to retain for the present the later name, which is applied by most continental authorities to the species which follow.

With regard to the South African representation, specimens

attributable to *calaharicus*, Bttg., have often been identified with the West African *senegalensis*, Morel., which was described from Goree. In my opinion, they very possibly are that species; but *senegalensis* was admitted by Morelet himself to be identical with the East Indian *cœnopictus*, Hutton, while the latter, with some twenty other names, has been placed by various authors in varying synonymy, including that of the American *marginatus*, Say (= *fallax*, auctt., nec Say).

It will hence be seen that the whole question of the synonymy of *senegalensis* is an extremely difficult one, and, as it is not yet settled, I prefer to leave this West Coast species altogether out of calculation, and restrict the South African list to the narrowest possible limits, as set forth below.

335. LEUCOCHILOIDES CALAHARICUS, Böttger.

1886 *Buliminus* (*Leucochiloides*) *calaharicus*, Bttg., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 24. pl. 2, f. 3. *D.F.*

1900 *Buliminus* (*Leucochiloides*) *calaharicus*, Bttg., Kob., Conch. Cab. p. 664. pl. 101, f. 22, 23. *D.F.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* BRITISH BECHUANALAND. Ghous (Nolte).

GRIQUALAND WEST. Blaauwbosch Poort, Hay District (Day).

Hartz River, Taungs (Miss Wilman).

DAMARALAND (Geale, in British Museum).

RHODESIA. Victoria Falls (Connolly).

CAPE OF GOOD HOPE. Jansenville (Farquhar; Crawford). Prieska (Gibbons). Karroo (in British Museum)

A variable species, both as to size and form.

336. LEUCOCHILOIDES MINUSCULUS, Mousson.

1887 *Buliminus* (*Leucochiloides*) *minusculus*, Mouss., J. de C. xxxv. p. 295. pl. 12, f. 5. *D.F.*

1902 ,, (*Pupoides*) *minusculus*, Mouss., Kob., Conch. Cab. p. 956. pl. 133, f. 18, 19. *D.F.*

1904 ,, (*Leucochiloides*) *minusculus*, Mouss., von Mts., Die Kalahari, p. 754. *N.*

1910 *Leucochiloides minusculus*, Mouss., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 445. *N.*

Type in Zurich Museum.

*Hab.* OVAMPOLAND. Ku-Ganab, S.E. of Ondonga (Schinz). Hoëis (Hermann). Sodanna (Passarge).

BECHUANALAND. *Meno a kwena* (fossil, Passarge).

Separable by its smaller size, if a constant feature, from *calaharicus*, Bttg.

SUB-GENUS MICROSTELE, Böttger, 1886.

(Ber. Senckenb. Naturf. Ges. Frankfurt, p. 26.)

Type of Sub-Genus, *L. noltei*, Bttg.

337. LEUCOCHILOIDES NOLTEI, Böttger.

1886 *Pupa (Microstela) noltei*, Bttg., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 25. pl. 2, f. 4. *D.F.*

1908 „ *noltei*, Bttg., M. & P., A.M.N.H. i. p. 78. pl. 2, f. 14, 15. *D.F.*

N.B.—The height line, which should be 3.75 mm., is omitted on this plate.

Type in Senckenberg Museum, Frankfurt.

*Hab.* BRITISH BECHUANALAND. Ghaus (Nolte).

Founded on a single specimen.

338. LEUCOCHILOIDES OBLONGUS, Böttger.

1910 *Leucochiloides (Microstela) oblongus*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, p. 445. pl. 28, f. 11. *D.F.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* DAMARALAND. 140 kilom. inland from Swakopmund (Rintelen).

Founded on a single, live specimen, which, as the author recognises, may be a local form of *noltei*.

GENUS JAMINIA, Leach in Risso, 1826.

(Hist. nat. de l'Europe mérid. iv. p. 88.)

(=*Pupa*, Drap., 1801, nec *Pupa*, Bolten, 1798, nec Lam., 1801.)

Type of Genus, *J. muscorum* (Müll.).

I have adopted the nomenclature suggested by B. B. Woodward in Journ. of Conch. x. 1903, p. 358 et seq. On p. 361 he points out that the Sub-genus *Pupilla*, Leach in Turton, 1831, by the adoption of *Jaminia*, becomes a synonym for *Jaminia* s.s.

339. JAMINIA BISULCATA (Jickeli).

[S.A.M.]

1872 *Pupa bisulcata*, Jick., Mal. Blätt. xx. p. 107. *D.*

1874 „ „ Fauna N.-O.-Afr. p. 119. pl. 5, f. 10. *D.F.*

1877 „ „ Pfr., Mon. Hel. viii. p. 380. *D.*

Type in Zool. Mus. Berlin.



*Hab.* RHODESIA. Victoria Falls (Connolly).

Described from Abyssinia.

It has not been possible to compare the Rhodesian shells with Jickeli's type, but they agree very well with his figure and description of *bisulcata*.

340. JAMINIA CORRUGATA, Preston.

1912 *Jaminia corrugata*, Prest., A.M.N.H. ix. pp. 70, f. 4; 71. *F.D.*

Type in coll. Preston.

*Hab.* RHODESIA. Victoria Falls (Connolly).

341. JAMINIA CRAWFORDIANA (Melv. & Pons.).

1903 *Fauxulus crawfordianus*, M. & P., A.M.N.H. xii. p. 605. pl. 31, f. 6. *D.F.*

1908 *Pupa crawfordiana*, M. & P., A.M.N.H. i. p. 71. *N.*

1911 " " Bnp., A.M.N.H. vii. p. 402. pl. 10, f. 1, 2. *N.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Mossel Bay (Crawford).

342. JAMINIA CRYPTOPLAX (Melv. & Pons.). [S.A.M.]

1899 *Pupa cryptoplax*, M. & P., A.M.N.H. iv. p. 198. pl. 3, f. 11. *D.F.*

1903 " " " i. p. 71. pl. 1, f. 1, 2. *N.F.*

1911 " " Bnp., A.M.N.H. vii. p. 402. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Kragga Kama, Port Elizabeth (Crawford; Reeve).

343. JAMINIA DADION (Benson). [S.A.M.]

1864 *Pupa dadion*, Bs., A.M.N.H. xiii. p. 495. *D.*

1868 " " Pfr., Mon. Hel. vi. p. 320. *D.*

1908 " " M. & P., A.M.N.H. i. p. 72. pl. 1, f. 3. *N.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Simonstown; Ravine near Newlands (Layard). Bedford (Farquhar).

NATAL. Umvoti Country (Lightfoot). Karkloof; Nottingham Road; Inhluzani Mountain; Game Pass (Burnup).

344. JAMINIA DAMARICA (Ancey). [S.A.M.]

1888 *Pupa damarica*, Ancey, Le Naturaliste, x. p. 200. *D.*

1892. " *ovampoensis*, M. & P., A.M.N.H. ix. p. 91. pl. 6, f. 11. *D.F.*

- 1901 *Pupa ridibunda*, M. & P., A.M.N.H. viii. p. 320. pl. 2, f. 11. *D.F.*  
 1908 „ *damarica*, Ancey, M. & P., A.M.N.H. i. p. 72. *D.*  
 „ „ *ovampoensis*, M. & P. (= *ridibunda*), M. & P., A.M.N.H.  
 i. p. 79. pl. 2, f. 16. *D.F.*  
 1910 *Leucochilus damaricum*, Ancey (= *ovampoensis*, M. & P.), Bttg.,  
 Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 446. *N.*  
 1911 *Pupa damarica*, Ancey, Bnp., A.M.N.H. vii. p. 403. *N.*  
 Type of *damarica*—*ubi*?; *ridibunda* and *ovampoensis* in British  
 Museum.  
*Hab.* OVAMPOLAND (*ovampoensis*, in coll. Layard). Disappoint-  
 ment Vlei (*damarica*, Andersson & Chapman).  
 TRANSVAAL. Rustenberg (McBean). Potchefstroom (Miss Living-  
 ston). Pretoria; Heidelberg; Buiskop; Pietersburg; Pruizen  
 (Connolly).  
 ORANGE FREE STATE. Bloemfontein (Connolly).  
 CAPE OF GOOD HOPE. Prieska (Gibbons). Elandsberg Mountain,  
 Cradock (*ridibunda*); Port Elizabeth (Farquhar).

## 345. JAMINIA DYSORATA (Melv. &amp; Pons.).

- 1893 *Pupa dysorata*, M. & P., A.M.N.H. xi. p. 20. pl. 3, f. 4. *F.* and  
*faulty description.*  
 „ „ „ „ „ xii. p. 111. (*Emend. Descr.*)  
 1898 „ *dysorata* „ „ Stur., S.A. Moll. p. 71. (*Err. typ.*)  
 1908 „ *dysorata* „ „ A.M.N.H. i. p. 73. pl. 1, f. 4. *D.F.*  
 1911 „ „ „ „ Bnp., A.M.N.H. vii. p. 403. *N.D.*  
 Type in coll. Sykes.  
*Hab.* CAPE OF GOOD HOPE. Griqualand East (in coll. Sykes).

## 346. JAMINIA FARQUHARI (Melv. &amp; Pons.). [S.A.M.]

- 1898 *Pupa farquhari*, M. & P., A.M.N.H. ii. p. 128. pl. 7, f. 7. *D.F.*  
 1908 „ „ „ „ „ i. p. 74. pl. 1, f. 7. *N.F.*  
 Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Elandsberg Mountain, Cradock  
 (Farquhar).

## 347. JAMINIA FONTANA (Krauss). [S.A.M.]

- 1841 *Pupa fontana*, Krs., Küst., Conch. Cab. p. 122. pl. 16, f. 9-12. *D.F.*  
 1848 „ „ „ „ „ Südafr. Moll. p. 80. pl. 5, f. 6. *D.F.*  
 „ „ „ „ „ Pfr., Mon. Hel. ii. p. 355. *D.*  
 1866 „ „ „ „ „ von Mts., Mal. Blätt. xiii. p. 96. *N.*  
 1870 „ „ „ „ „ Blanf., Obs. Geol. & Zool. Abyss. p. 477. *N.*  
 1874 „ „ „ „ „ Jick., Fauna N.-O.-Afr. p. 120. pl. 5, f. 11. *D.F.*

- 1894 *Pupa charybdica*, M. & P., A.M.N.H. xiv. p. 94. pl. 1, f. 13. *D.F.*  
 „ „ *custodita* „ „ xiv. p. 93. pl. 1, f. 9. *D.F.*  
 „ „ *frustillum* „ „ xiv. p. 94. pl. 1, f. 14. *D.F.*  
 „ „ *keroea* „ „ xiv. p. 94. pl. 1, f. 12. *D.F.*  
 „ „ *omicronaria* „ „ xiv. p. 93. pl. 1, f. 11. *D.F.*  
 1896 „ *amphodon* „ „ xviii. p. 317. pl. 16, f. 6, 7. *D.F.*  
 1898 „ *fontana*, Krs., Stur., S.A. Moll. p. 69. *D.*  
 1901 „ *endoplax*, M. & P., A.M.N.H. viii. p. 319. pl. 2, f. 10. *D.F.*  
 1908 „ *fontana*, Krs. (= *elizabethensis*, *charybdica*, *custodita*,  
*frustillum*, *keroea*, *omicronaria*, *amphodon* and *endo-*  
*plax*), M. & P., A.M.N.H. i. p. 74. *N.*  
 1910 *Pupilla fontana*, Krs., Bttg., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 445. *N.*  
 1911 *Pupa fontana*, Krs., Bnp., A.M.N.H. vii. p. 404. *N.*

Types of *amphodon*, *charybdica*, *custodita*, *endoplax*, *frustillum*, *keroea*, and *omicronaria* in British Museum; *fontana* in Stuttgart Museum.

*Hab.* TRANSVAAL. Source of Mooi River (Wahlberg). Pretoria District (*custodita*, *keroea*, *omicronaria*, &c., very plentiful). Johannesburg (McBean; Johnson). Potchefstroom; Heidelberg (Miss Livingston). Buiskop (Connolly).

ORANGE FREE STATE. Bloemfontein; Rustfontein (Connolly).

NATAL. Karkloof (McBean). Edendale; Tongaat (Burnup).

CAPE OF GOOD HOPE. Prieska (Lightfoot). Cradock (*endoplax*, Farquhar). Port Elizabeth (*amphodon*, *charybdica*, *frustillum*, Crawford; Penther). East London (Miss Bowker). Victoria East; Pirie Forest (Godfrey).

GRIQUALAND WEST. Blaauwbosch Poort, Hay District (Day).

DAMARALAND. Gobabis (sub-fossil, Hermann).

Also known from Abyssinia and other countries. Nevill cites a variety of this species as collected by Blanford at Agula, Adignat, and Meshek, in North-East Africa. Jickeli (1874) describes and figures a var. *globulosa*, which he collected in Abyssinia in company with the typical form.

var. ELIZABETHENSIS (Melv. & Pons.).

- 1892 *Pupa elizabethensis*, M. & P., A.M.N.H. ix. p. 91. pl. 5, f. 13. *D.F.*  
 Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford).

The albino form of *fontana*, and, as such, entitled to varietal rank.

## 348. JAMINIA GRIQUALANDICA (Melv. &amp; Pons.). [S.A.M.]

- 1893 *Pupa griqualandica*, M. & P., A.M.N.H. xi. p. 22. pl. 3, f. 9. *D.F.*  
 1908 " " " " i. p. 76. pl. 1, f. 8-10. *D.F.*  
 1911 " " " Bnp., A.M.N.H. vii. p. 405. *N.*

Type in coll. Sykes.

*Hab.* CAPE OF GOOD HOPE. Griqualand East (Sykes). Cradock (Farquhar). Port Elizabeth (in coll. Ponsonby).

NATAL. Pietermaritzburg; Dargle; Tongaat; Edendale (Burnup).

ZULULAND. Dukuduku (Toppin).

TRANSVAAL. Pretoria District (Farquhar). Heidelberg (Miss Livingston). Buiskop (Connolly).

## 349. JAMINIA IOTA (Melv. &amp; Pons.). [S.A.M.]

- 1894 *Pupa iota*, M. & P., A.M.N.H. xiv. p. 93. pl. 1, f. 10. *D.F.*  
 1908 " " " " i. p. 77. pl. 1, f. 11. *D.F.*  
 1911 " " " Bnp., A.M.N.H. vii. p. 406. *N.*

Type in British Museum.

*Hab.* TRANSVAAL. Pretoria (Farquhar; McBean). Heidelberg (Miss Livingston). Standers Kop (Connolly).

ZULULAND. Dukuduku Forest (Toppin).

## var. LIVINGSTONÆ, Burnup.

- 1908 *Pupa iota*, M. & P., var. *livingstonæ*, Bnp., M. & P., A.M.N.H. i. p. 77. pl. 1, f. 12. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Pretoria; Standerton (Connolly).

## 350. JAMINIA LAYARDI (Benson). [S.A.M.]

- 1856 *Pupa layardi*, Bs., A.M.N.H. xviii. p. 435. *D.*  
 1859 " " Pfr., Mon. Hel. iv. p. 674. *D.*  
 1864 " " A.M.N.H. xiii. p. 496. *N.*  
 1868 " " Pfr., Mon. Hel. vi. p. 318. *D.*  
 1876 " " Sow., Conch. Icon. pl. 15, f. 141. *D.F.*  
 1908 " " M. & P., A.M.N.H. i. p. 78. pl. 2, f. 13. *N.F.*  
 1911 " " Bnp., A.M.N.H. vii. p. 407. pl. 10, f. 3, 4. *N.F.*

Originals in University Museum of Zoology, Cambridge.

*Hab.* CAPE OF GOOD HOPE. Cape Point (Layard). Hermanus (Lightfoot).

## var. MINOR, Benson.

- 1864 *Pupa layardi*, var. *minor*, Bs., A.M.N.H. xiii. p. 496. *D.*  
 1868 " " " " Pfr., Mon. Hel. vi. p. 318. *D.*

*Pupa stoaphora*, Bs., in litt.

- 1889 ,, ,, ,, Paetel, Catalog, ii. p. 305.  
1908 ,, *layardi*, var. *minor*, Bs., M. & P., A.M.N.H. i. p. 78. *N*.  
1911 ,, ,, ,, ,, Bnp., A.M.N.H. vii. p. 408.  
pl. 10, f. 5, 6. *N.F.*

Originals of var. *minor* in University Museum of Zoology, Cambridge; *stoaphora* in British Museum.

*Hab.* CAPE OF GOOD HOPE. Bredasdorp, at the roots of grasses among stones (*stoaphora*, Layard).

351. JAMINIA PERPLEXA (Burnup). [S.A.M.]

- 1908 *Pupa perplexa*, Bnp., M. & P., A.M.N.H. i. p. 80. pl. 2, f. 17, 18. *D.F.*  
1911 ,, ,, ,, ,, A.M.N.H. vii. p. 408. *D.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Cradock; Port Elizabeth (Farquhar).

TRANSVAAL. Johannesburg (McBean). Pretoria (in coll. Ponsonby). Potchefstroom (Miss Livingston). Heidelberg (Connolly).

ORANGE FREE STATE. Bloemfontein (Connolly).

352. JAMINIA PRETORIENSIS (Melv. & Pons.). [S.A.M.]

- 1893 *Pupa pretoriensis*, M. & P., A.M.N.H. xi. p. 21. pl. 3, f. 8. *D.F.*  
1908 ,, ,, ,, ,, i. p. 81. *N*.  
,, ,, *dysorata*, M. & P., var. *intradentata*, Bnp., M. & P.,  
A.M.N.H. i. p. 73. pl. 1, f. 5, 6. *D.F.*  
1911 ,, *intradentata*, Bnp., A.M.N.H. vii. p. 405. *D.*

Types in British Museum.

*Hab.* TRANSVAAL. Pretoria and District (Farquhar; Connolly).

The type of *pretoriensis*, which was not available when the revision of the South African *Pupidae* was being prepared (1908), proves to be a slightly immature example of the species better known as *intradentata*, Bnp. *Pretoriensis*, of course, has priority.

353. JAMINIA QUANTULA (Melv. & Pons.).

- 1893 *Pupa quantula*, M. & P., A.M.N.H. xi. p. 20. pl. 3, f. 5. *D.F.*  
1908 ,, ,, ,, ,, i. p. 81. pl. 2, f. 19. *N.F.*  
1911 ,, ,, ,, Bnp., A.M.N.H. vii. p. 409. *N.*

Type—*ubi?*

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth, South of Baakens River to Schoenmakers Kop (Crawford).

## 354. JAMINIA SYKESI (Melv. &amp; Pons.). [S.A.M.]

- 1893 *Pupa sykesii*, M. & P., A.M.N.H. xi. p. 21. pl. 3, f. 6. *F.*  
 & faulty description.  
 " " " " " " xii. p. 111. (*Emend. Descr.*)  
 1898 " *pentheri*, Stur., S.A. Moll. p. 70. pl. 2, f. 34-36. *D.F.*  
 1908 " " " M. & P., A.M.N.H. i. p. 80. *N.*  
 " " *sykesii*, M. & P., *ibid.* p. 81. pl. 2, f. 20. *N.F.*  
 1911 " *sykesii* " (= *pentheri*, Stur.), Bnp., A.M.N.H. vii.  
 p. 410. *N.*

Type of *sykesii* in coll. Sykes; *pentheri* in Naturh. Hofmus. Vienna.

*Hab.* CAPE OF GOOD HOPE. Griqualand East (in coll. Sykes).  
 Port Elizabeth (Reeve). Pirie (Godfrey). Grahamstown (Farquhar).  
 NATAL. Majuba (Connolly). Durban; Umbilo Road (*pentheri*,  
 Penther). Edendale; Game Pass; Ntimbankulu (Burnup).

ZULULAND. Dukuduku (*pentheri*, Toppin).

## var. INCONSPICUA, Burnup.

- 1908 *Pupa sykesii*, M. & P., var. *inconspicua*, Bnp., M. & P., A.M.N.H.  
 i. p. 81. pl. 2, f. 21. *D.F.*  
 1911 " " " Bnp., A.M.N.H. vii. p. 410. *N.*  
 Type in British Museum.  
*Hab.* NATAL. Dargle (Miss Livingston).

## 355. JAMINIA TABULARIS (Melv. &amp; Pons.). [S.A.M.]

- 1893 *Pupa tabularis*, M. & P., A.M.N.H. xi. p. 20. pl. 3, f. 3. *D.F.*  
 1908 " " " " i. p. 82. pl. 2, f. 22. *N.F.*  
 Type in British Museum.

*Hab.* CAPE PENINSULA. Cape Town (Lightfoot). Rondebosch  
 (Connolly).

## 356. JAMINIA TETRODUS (Böttger). [S.A.M.]

- 1870 *Pupa tetrodus*, Bttg., Ber. Offenbach. Ver. f. Naturk. xi. p. 46.  
 pl. 1, f. 1. *D.F.*  
 1880 " (*Vertigo*) *sinistrorsa*, Crvn., P.Z.S. p. 618. pl. 57, f. 8. *D.F.*  
 1891 " " *thaumasta*, M. & P., A.M.N.H. viii. p. 239. *D.*  
 1892 " " " " " " ix. p. 94. pl. 6,  
 f. 7. *F.*  
 1898 " " " " and *sinistrorsa*, Crvn., Stur.,  
 S.A. Moll. p. 68. *N.*  
 1908 " " *sinistrorsa*, Crvn. (= *thaumasta*), M. & P., A.M.N.H.  
 i. p. 83. pl. 2, f. 26. *N.F.*

1910 *Pupilla tetrodus*, Bttg. (= *sinistrorsa* and *thaumasta*), Bttg.,  
Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 446. N.

Types of *sinistrorsa* and *thaumasta* in British Museum; *tetrodus*  
in Senckenberg Museum, Frankfurt.

*Hab.* BECHUANALAND. Gokwe River, 22° S. lat. and 28° E. lon.,  
about 30 miles N. of Palapye Road (sub-fossil, Hübner).

CAPE OF GOOD HOPE. Cape Récif; Klein Setjes Bosch, near  
Beaufort (*sinistrorsa*, Craven). Port Alfred (Penther). King  
Williamstown; Lovedale; Burns Hill (Godfrey). Port Elizabeth  
(*thaumasta*, Crawford). Prieska (Gibbons). Grahamstown; Cradock;  
Jansenville; Somerset East (Farquhar). Coega (Miss Hickey).

BRITISH BECHUANALAND. Hartz River, Taungs (Miss Wilman).

TRANSVAAL. Pretoria (Connolly). Potchefstroom (Miss Livingston).

ORANGE FREE STATE. Bloemfontein (Godfrey). Kroonstad (Miss  
Hickey).

OVAMPOLAND. Disappointment Vlei (in coll. Layard).

SUB-GENUS FAUXULUS, Schaufuss, 1869.

(Paetel's Catalog, p. 15.)

(= *Faula*, H. & A. Adams, 1855, nec Blanchard, 1850.)

Type of Sub-Genus, *J. capensis* (Kurr).

357. JAMINIA (FAUXULUS) CAPENSIS (Kurr). [S.A.M.]

- 1841 *Pupa capensis*, Kurr, Küst., Conch. Cab. p. 10. pl. 1, f. 19, 20. *D.F.*  
 „ „ *ovularis* „ „ *ibid.* p. 10. pl. 1, f. 16–18. *D.F.*  
 „ „ *pottebergensis*, Krs., Küst., *ibid.* p. 17. pl. 2, f. 20–22. *D.F.*  
 „ „ *kurrii*, Krs. (= *ovularis*, Kurr, nec Oliv.), Küst., *ibid.*  
 p. 111. pl. 15, f. 5, 6. *D.F.*  
 1842 „ *capensis*, Kurr, Pfr., Symb. ii. p. 53. *D.*  
 „ „ *kurrii* and *pottebergensis*, Krs., Pfr., *ibid.* p. 54. *D.*  
 1848 „ *capensis*, Kurr, *kurrii* and *pottebergensis*, Krs., Pfr., Mon.  
 Hel. ii. p. 331. *D.*  
 1851 „ *fonticola*, Desh., Hist. nat. Moll. ii. p. 220. pl. 156, f. 26–  
 28. *D.F.*  
 1878 „ *pottebergensis*, Krs., Sow., Conch. Icon. pl. 18, f. 166. *D.F.*  
 „ „ *kurrii*, Krs. (= *fonticola*), Sow., *ibid.* pl. 19, f. 182. *D.F.*  
 1898 „ *pottenbergensis*, Krs., Stur., S.A. Moll. p. 67. (*Err. typ.*)  
 1908 „ *capensis*, Kurr (cum varr. *kurri* and *pottebergensis*, Krs.),  
 M. & P., A.M.N.H. i. p. 83.  
 1911 „ „ „ (= *kurri* and *pottebergensis*), Bnp.,  
 A.M.N.H. vii. p. 411. *N.*

Types of *capensis*, *kurrii*, and *pottebergensis* in Stuttgart Museum.  
*Hab.* CAPE OF GOOD HOPE. Zoetendals Valley and Potteberg, Swellendam District (Krauss). Port Elizabeth (Crawford). Gordon's Bay (Connolly). St. Helena Bay; recent and fossil at Saldanha Bay (Lightfoot).

BRITISH BECHUANALAND. Kuruman (Moffatt, fide Layard).

CAPE PENINSULA. Widely distributed. A pretty variety with bright yellow brown band below the suture and yellow base comes from Buffelsfontein, Cape Point, where shells of uniform pale orange colour are also found.

*Fonticola* was described from "Cape of Good Hope" (Verreaux).

358. JAMINIA (FAUXULUS) FRYANA (Benson).

1864 *Pupa fryana*, Bs., A.M.N.H. xiii. p. 495. *D.*

1868 " " Pfr., Mon. Hel. vi. p. 319. *D.*

1908 *Pupa (Fauxulus) fryana*, Bs., M. & P., A.M.N.H. i. p. 83. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Bredasdorp (Fry; At the roots of grasses among stones, Layard).

359. JAMINIA (FAUXULUS) GLANVILLEANA (Ancey).

1888 *Pupa glanvilliana*, Ancey, Le Naturaliste, x. p. 200. *D.*

1908 " (*Fauxulus) glanvilleana*, Ancey, M. & P., A.M.N.H. i. p. 83. *D.*

1911 " " " " Bnp., A.M.N.H. vii. p. 411. *N.*

Type—*ubi*?

*Hab.* CAPE OF GOOD HOPE. East London (Miss Glanville; Miss Bowker).

var. DARGLENSIS, Burnup.

1908 *Pupa (Fauxulus) glanvilleana*, Ancey, M. & P., A.M.N.H. i. pl. 2, f. 23. *F.*

1911 " " " " Ancey, var. *darglensis*, Bnp., A.M.N.H. vii. p. 412. *D.*

Type in British Museum.

*Hab.* NATAL. Dargle; Game Pass, near Giant's Castle, Drakensberg; Inhluzani Mountain; Karkloof; Ntimbankulu (Burnup).

var. TOMLINI, Burnup.

1911 *Pupa (Fauxulus) glanvilleana*, Ancey, var. *tomlini*, Bnp., A.M.N.H. vii. p. 413. pl. 10, f. 7. *D.F.*

Type in British Museum.



*Hab.* CAPE OF GOOD HOPE. Albany (Miss Glanville). East London (Radford). Gamtoos (Reeve).

360. JAMINIA (FAUXULUS) MCBEANIANA, Melv. & Pons. [S.A.M.]  
 1901 *Fauxulus (Anisoloma) mcbeanianus*, M. & P., A.M.N.H. viii.  
 p. 319. pl. 2, f. 9. *D.F.*  
 1911 *Pupa (Fauxulus) mcbeaniana*, M. & P., Bnp., A.M.N.H. vii.  
 p. 414. pl. 10, f. 8. *N.F.*

Type in British Museum.

*Hab.* NATAL. Karkloof Bush (McBean). Majuba (Connolly). Dargle; Nottingham Road (Burnup).

361. JAMINIA (FAUXULUS) PAMPHORODON (Benson). [S.A.M.]  
 1864 *Pupa pamphorodon*, Bs., A.M.N.H. xiii. p. 495. *D.*  
 1868 " " " Pfr., Mon. Hel. vi. p. 320. *D.*  
 1876 " " " Sow., Conch. Icon. pl. 13, f. 120. *D.F.*  
 1908 " (*Fauxulus*) *pamphorodon*, Bs., M. & P., A.M.N.H. i. p. 84.  
 pl. 2, f. 24. *N.F.*  
 1911 " " " " Bnp., A.M.N.H. vii. p. 414. *N.*

Type in British Museum.

*Hab.* CAPE PENINSULA. Simonstown (Layard). Kalk Bay; Slang Kop; Paul Berg; Cape Point (Connolly).

362. JAMINIA (FAUXULUS) PEREXIMIA (Melv. & Pons.).  
 1897 *Pupa (Faula) pereximia*, M. & P., A.M.N.H. xix. p. 638. pl. 17,  
 f. 3. *D.F.*  
 1908 " (*Fauxulus*) *pereximia*, M. & P., A.M.N.H. i. p. 85. pl. 2,  
 f. 25. *N.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Buffalo River (fide M. & P.).

363. JAMINIA (FAUXULUS) PONSONBYANA (Morelet).  
 1889 *Pupa (Faula) ponsonbyana*, Morel., J. de C. xxxvii. p. 9. pl. 1, f. 5. *D.F.*  
 1901 " (*Anisoloma*) *ponsonbyana*, Morel., Ancy, J. de C. xlix.  
 p. 140. *N.*  
 1908 " (*Fauxulus*) *ponsonbyana*, Morel., M. & P., A.M.N.H. i. p. 85. *N.*  
 1911 " " " " Bnp., A.M.N.H. vii. p. 415.  
 pl. 10, f. 9-12. *N.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford; Reeve).

Somerset East (Miss Bowker). Grahamstown; Bathurst; Kowie (Farquhar). Alexandria District (Crawford). Pirie (Godfrey).

NATAL. Hilton Road; Zwaart Kop, near Pietermaritzburg (Burnup).

FAMILY CLAUSILIIDÆ, B. B. Woodward, 1903.

(Journ. of Conch. x. pp. 355, 361.)

GENUS BALEA (Prideaux MSS.), Gray, 1824.

(Zool. Journ. i. p. 61.)

Type of Genus, *B. fragilis*, Drap. (*perversa*, Lin.).

364. BALEA AFRICANA, Melv. & Pons. [S.A.M.]

1899 *Balea africana*, M. & P., A.M.N.H. iv. p. 198. pl. 3, f. 10. *D.F.*

Type in British Museum.

*Hab.* NATAL. Van Reenen (Quekett). Karkloof (Burnup).

CAPE OF GOOD HOPE. Bedford (Farquhar). Pirie Forest (Godfrey).

FAMILY ACHATINIDÆ, von Martens, 1879.

(Zoological Record, Moll. p. 65.)

(= Achatinida, Pfr., 1879, Nomenclator, p. 260.)

SUB-FAMILY ACHATININÆ, H. & A. Adams, 1855.

(Gen. rec. Moll. ii. p. 131.)

GENUS METACHATINA, Pilsbry, 1904.

(Man. of Conch. xvi. p. 307.)

Type of Genus, *M. kraussi* (Pfr.).

365. METACHATINA KRAUSSI (Pfeiffer). [S.A.M.]

1846 *Bulimus kraussi*, Pfr., Symb. iii. p. 85. *D.*

1848 " " " Krs., Südafr. Moll. p. 78. pl. 5, f. 4. *D.F.*

" " " Mon. Hel. ii. p. 184. *D.*

1849 " " " Rve., Conch. Icon. pl. 63, f. 436. *D.F.*

1860 *Achatina fuscolabris*, von Mts., Die Helic. pp. 202, 204. *N.*

1889 " (*Bulimus kraussi*, Pfr.), von Mts., Sitz-Ber. Ges. Nat. Fr. Berlin, p. 163. *N.*

" *Livinhacia kraussi*, Pfr. (= *fuscolabris*, von Mts.), Crosse, J. de C xxxvii. p. 111. *D.*

- 1893 *Livinhacia kraussi*, Pfr., Kob., Conch. Cab. p. 7. pl. 2, f. 1. *D.F.*  
1899 " " Junod, Bull. Soc. Vaudoise, xxxv.  
p. 279. *N.*

- 1904 *Metachatina kraussi*, Pfr., Pilsb., Man. of Conch. xvi. p. 308.  
pl. 23, f. 46, 48. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL. Natal Bay (Krauss; Penther). Woods near the Umlaas River (fide Pfeiffer). Tongaat; Alexandra (now renamed Kelso) Junction (Burnup).

LORENZO MARQUES. Rikatla (Junod).

EASTERN ZULULAND (Toppin).

var. PLANTI, Pfeiffer.

- 1861 *Achatina planti*, Pfr., P.Z.S. p. 25. pl. 3, f. 6. *D.F.*  
" " " Novit. Conch. ii. p. 160. pl. 42, f. 1, 2. *D.F.*  
1868 " " Mon. Hel. vi. p. 218. *D.*  
1898 *Livinhacia kraussi*, var. *planti*, Pfr., M. & P., Proc. Mal. Soc. iii. p. 178.  
1904 *Metachatina planti*, Pfr., Pilsb., Man. of Conch. xvi. p. 309.  
pl. 37, f. 10, 11. *D.F.*

Type in British Museum.

*Hab.* NATAL. Cape Natal (Plant).

ZULULAND. Kosi Bay (Toppin).

GENUS BURTOA, Bourguignat, 1889.

(Moll. de l'Afr. équat., March, 1889, p. 88.)

(= *Livinhacia*, Crosse, April, 1889).

Type of Genus, *B. nilotica* (Pfr.).

366. BURTOA NILOTICA (Pfeiffer). [S.A.M.]

- 1861 *Bulimus niloticus*, Pfr., P.Z.S. p. 24. *D.*  
" " " " Mal. Blätt. viii. p. 14. *D.*  
1868 " " " " Mon. Hel. vi. p. 86. *D.*  
1870 *Limicolaria nilotica*, Pfr., Novit. Conch. iv. p. 5. pl. 110, f. 1-3. *D.F.*  
" *Achatina nilotica*, Pfr., von Mts., Mal. Blätt. xvii. p. 32. *N.*  
1874 " " " " Jick., Fauna N.-O.-Afr. p. 151. *D.N.*  
1889 *Burtoa* " " Bgt., Moll. de l'Afr. équat. p. 89. *N.*  
" *Livinhacia* " " Crosse, J. de C. xxxvii. p. 109. *D.*  
1891 *Achatina (Livinhacia) nilotica*, Pfr., von Mts., Sitz.-Ber. Ges.  
Nat. Fr. Berlin, p. 14. *N.*  
1893 *Livinhacia nilotica*, Pfr., Kob., Conch. Cab. p. 5. pl. 1, f. 1. *D.F.*  
1895 *Burtoa* " " Smith, Proc. Mal. Soc. i. p. 323. *N.*

- 1897 *Limicolaria (Livinhacia) nilotica*, Pfr., von Mts., D.-O.-Afr. pp. 94-98. *D.F. Varr. and Synonymy*.
- 1898 *Livinhacia arnoldi*, Stur., S.A. Moll. p. 59. pl. 2, f. 41. *D.F.*
- 1904 *Burtoa arnoldi*, Stur., Pilsb., Man. of Conch. xvi. p. 307. pl. 26, f. 14. *D.F.*
- „ „ *nilotica*, Pfr., Pilsb., *ibid.* p. 300. pl. 26, f. 15, 16. pl. 27, f. 5, 6. pl. 29, f. 7, 8. pl. 30, f. 18. pl. 35, f. 22, 23. *D.F.*
- 1906 „ *nilotica*, Pfr., Reynell, Proc. Mal. Soc. vii. p. 197. pl. 17, f. 1-3. *A.R.*
- 1907 *Burtoa nilotica*, Pfr. (= *arnoldi*, Stur.), Melv. & Standen, Manchester Memoirs, li, 4. p. 11. *N.*

Type of *nilotica* in British Museum; *arnoldi* in Naturh. Hofmus. Vienna.

*Hab.* MATEBILILAND. Near the Amanze Inyama River (*arnoldi*, Penther).

RHODESIA. Salisbury (Oakley). Victoria Falls (Soper). Insiza (French).

A most variable form, originally described from The Source of the White Nile (Petherick), and occurring in many parts of Eastern Africa. Crosse (1889) places *Bul. giraudi*, Bgt., in the synonymy, to which von Martens (1897) adds *jouberti*, *sebasmia*, *bridouxiana*, and *lavigeriana*, Bgt. The last-named author also identifies *pethericki*, Bgt., with var. *schweinfurthi*, von Mts., and describes varr. *emini*, *crassa*, *obliqua*, and *oblonga*. Pilsbry (1904) brings in as further varieties *reymondi*, Bgt., and *grandidieri*, Pilsb. (= *Limicolaria bourguignati*, Grandidier).

#### GENUS ACHATINA, Lamarck, 1799.

(Mém. Soc. Hist. Nat. Paris, p. 75.)

(= *Oncæa*, Gistel, 1850; *Urceus* (Klein), Jousseaume, 1884, and *Parachatina*, *Serpæa*, and *Pintoa*, Bourguignat, 1889.)

Type of Genus, *A. achatina* (Lin.).

Pilsbry (1904) places most of the South African forms previously attributed to this Genus in *Cochlitoma*, Fér. (Tabl. Syst. Moll. pt. 3, 1821, pp. 28, 52 (or 24, 48), Type *A. zebra*, Chem.), and Kobelt (1909) follows his example. Apparently there are no anatomical grounds for the subdivision, which rests on a very fragile conchological basis. As many of the leading British and South African authorities are averse to the change, I prefer to retain the older classification.

367. *ACHATINA AMPULLACEA*, Böttger.

1910 *Achatina ampullacea*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 447. pl. 28, f. 13. *D.F.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* BECHUANALAND. Banks of the Epukiro-Omuramba, 15 kilom. from Komeduve, south of Lake Ngami (Hermann).

A single specimen, likened by Böttger to *A. damarensis*, which, as he says, is found only 5 miles distant from it.

368. *ACHATINA AURORA*, Pfeiffer.

1854 *Achatina aurora*, Pfr., P.Z.S. p. 294. *D.*

1859 " " Mon. Hel. iv. p. 602. *D.*

1904 *Cochlitoma aurora*, Pfr., Pilsb., Man. of Conch. xvii. p. 102. *D.N.*

Type in British Museum.

*Hab.* NATAL. Durban (coll. Cuming).

The type, and only known specimen, is a semi-bleached, beach-rolled shell, recalling a West African rather than South African form, which may quite possibly have been dropped at Durban in ballast. It has not yet, however, been identified with any other known species.

369. *ACHATINA BISCUPTA*, Smith.

1878 *Achatina bisculpta*, Smith, Quart. Journ. of Conch. i. p. 349. *D.*

1902 " " " Ancey, J. de C. l. p. 280, f. 8. *N.F.*

1904 *Cochlitoma* " " Pilsb., Man. of Conch. xvii. p. 94. pl. 13, f. 44. *D.F.*

Type in British Museum.

*Hab.* "SOUTH AFRICA" (in British Museum).

370. *ACHATINA BURNUPI*, Smith. [S.A.M.]

1890 *Achatina burnupi*, Smith, A.M.N.H. vi. pp. 392, 393. *D.*

1904, 5. *Cochlitoma burnupi*, Smith, Pilsb. Man. of Conch. xvii. p. 97. pl. 32, f. 5. *D.F.*

Type in British Museum.

*Hab.* NATAL. Van Reenen's Pass, Drakensberg (Burnup). Giant's Castle (Mann).

TRANSVAAL. Carolina District (Horsbrugh).

371. *ACHATINA CHURCHILLIANA*, Melv. & Pons.

1895 *Achatina churchilliana*, M. & P., A.M.N.H. xv. p. 164. pl. 12, f. 3. *D.F.*

1904, 5 *Cochlitoma churchilliana*, M. & P., Pilsb., Man. of Conch. xvii. p. 101. pl. 33, f. 7, 10. *D.F.*

Type in Manchester Museum.

*Hab.* NATAL. "Port Natal" (Churchill; Grout).

372. *ACHATINA CINNAMOMEA*, Melv. & Pons.

1894 *Achatina cinnamomea*, M.&P., A.M.N.H. xiv. p. 92. pl. 1, f. 6. *D.F.*

1904, 5 *Cochlitoma cinnamomea*, M. & P., Pilsb., Man. of Conch. xvii.  
p. 94. pl. 29, f. 42. *D.F.*

Type in Natal Museum, Pietermaritzburg.

*Hab.* TRANSVAAL. Standerton (Burnup).

373. *ACHATINA CONNOLLYI*, Preston. [S.A.M.]

1912 *Achatina connollyi*, Prest., A.M.N.H. ix. p. 71, f. 5. *D.F.*

Type in coll. Preston.

*Hab.* RHODESIA. Victoria Falls (Connolly).

374. *ACHATINA CRAWFORDI*, Morelet. [S.A.M.]

1889 *Achatina crawfordi*, Morel., J. de C. xxxvii. p. 8. pl. 1, f. 3. *D.F.*

1897 " " Clapp, Nautilus, xi. p. 69. *N.*

1902 " " Smith, Proc. Mal. Soc. v. p. 169. *N.*

1904, 5 *Cochlitoma crawfordi*, Morel., Pilsb., Man. of Conch. xvii.  
p. 93. pl. 26, f. 27, 28. pl. 64, f. 69-71. *D.F.A.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Middleton; Kleinpoort (Crawford).  
Somerset East; Bedford (Farquhar). Douglas (Miss Orpen).

Morelet's original locality, Port Elizabeth, is incorrect.

375. *ACHATINA DAMARENSIS*, Pfeiffer.

1870 *Achatina damarensis*, Pfr., Mal. Blätt. xvii. p. 31. *D.*

" " " " Novit. Conch. iv. p. 2. pl. 109,  
f. 3, 4. *D.F.*

1877 " " " " Mon. Hel. viii. p. 274. *D.*

1904 " " " " Pilsb., Man. of Conch. xvii. p. 21.  
pl. 11, f. 32, 33. *D.F.*

1910 " *damarensis*, " Bttg., Abh. Senckenb. Naturf. Ges.  
Frankfurt, xxxii. p. 446. *N.*

Type in Stettin Museum.

*Hab.* DAMARALAND (Dohrn). Ubeb on the Khan River (Schenck).  
Omuramba-Omatuko River, near Okosongoho; Bank of the Black  
Nosob, near Gobabis (Hermann).

BECHUANALAND. Banks of the Epukiro-Omuramba, 10 kilom. east of Komeduve, south of Lake Ngami (Hermann).

GREAT NAMALAND. Choarib; Choa's District (Hermann).

376. *ACHATINA DIMIDIATA*, Smith.

1878 *Achatina dimidiata*, Smith, Quart., Journ. of Conch. i. p. 348. *D.*

1904, 5 *Cochlitoma dimidiata*, Smith, Pilsb., Man. of Conch. xvii. p. 95. pl. 32, f. 6. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Lydenburg (in British Museum; Craven). Piet Retief (Crawshay).

NATAL. Majuba (Connolly).

ORANGE FREE STATE. Near Kopjes Siding (Connolly).

377. *ACHATINA FULICA* (Férussac).

1821 *Helix (Cochlitoma) fulica*, Fér., Tabl. Syst. Moll. pt. 3. p. 53 (or 49).

„ „ „ *borbonica*, Fér., *ibid.* p. 53 (or 49).

„ „ „ *zebrina*, Fér., *ibid.* p. 53 (or 49).

1822 *Achatina mauritiana*, Lam. (= *fulica*, Fér.), Lam., Hist. nat. An. s. Vert. vi, 2. p. 129. *D.*

1830 „ *couropa*, Lesson, Voy. autour du Monde, Zool. ii. p. 318. pl. 9, f. 2. *D.F.*

1832 „ *mauritiana*, Lam., Quoy & Gaim., Voy. Astrolabe, Moll. p. 152. pl. 11, f. 10-15. pl. 49, f. 21. *D.F.A.*

1838 „ *mauritiana*, Lam. (*fulica*, Fér.), Desh., Hist. nat. An. s. Vert. viii. p. 297. *D.*

1848 „ *fulica*, Fér., Pfr., Mon. Hel. ii. p. 254. *D.*

1849 „ „ „ Rve., Conch. Icon. pl. 2, f. 8. *D.F.*

„ „ „ „ (= *couropa*, Less.), Phil., Abb. u. Beschr. iii. p. 30. pl. 21, 1, f. 3. *D.F.*

1851 „ „ „ (= *borbonica* and *mauritiana*), Desh., Hist. Nat. Moll. ii, 2. p. 162. pl. 124A, f. 1. pl. 125, f. 3-5. *D.F.*

1869 „ „ „ von Mts., von der Decken's Reisen, iii. p. 58. pl. 2, f. 1. *N.F.*

1870 „ „ „ Semp., Reis. im Arch. Philippin. ii, 3. p. 143. pl. 12, f. 17. *A.*

1880 „ „ „ Mts., Meeresfauna von Mauritius, p. 197. *N.*

1892 „ „ „ Brancsik, Jahrb. Naturwiss. Vereins Trencsiner Com. xv. p. 204. pl. 6, f. 6. *A.*

1897 „ „ „ von Mts., D.-O.-Afr. p. 89. *N.*

- 1904 *Achatina fulica*, Fér., Pilsb., Man. of Conch. xvii. p. 55. pl. 36,  
f. 18-20. pl. 37, f. 21-24. *D.F.*

Type—*ubi*?

*Hab.* Unknown to Férussac.

NATAL. Durban (Burnup).

A Mauritian species, distributed over East Africa and the neighbouring islands of the Indian Ocean. Its presence in Durban has been traced to introduction in flower-pots from Mauritius. von Martens considers *A. fulva* (Brug.) and *acuta*, Lam., to be nearly related to *fulica*.

378. *ACHATINA GLUTINOSA*, Pfeiffer.

- 1852 *Achatina glutinosa*, Pfr., P.Z.S. p. 86. *D.*  
 1853 " " " Mon. Hel. iii. p. 485. *D.*  
 1854 " " " A.M.N.H. xiii. p. 494. *D.*  
 1859 " *petersi*, von Mts., Mal. Blätt. vi. p. 214. *D.*  
 1860 " " " Die Helic. p. 294. *N.*  
 1865 " *glutinosa*, Pfr., Conch. Cab. p. 360. pl. 44 (1854), f. 1. *D.F.*  
 1868 " *petersi*, von Mts., Pfr., Mon. Hel. vi. p. 213. *D.*  
 1869 " " " " Novit. Conch. iii. p. 452. pl. 99,  
f. 13-15. *D.F.*  
 1894 " " " Ancey, Mém. Soc. Zool. Fr. vii.  
p. 218. *D.*  
 1899 " *glutinosa*, Pfr. (= *petersi*, von Mts.), Smith, P.Z.S.  
p. 589. *N.*  
 1904 " " " Pilsb., Man. of Conch. xvii. p. 61. pl. 9,  
f. 23, 24. *D.F.*

Type in British Museum.

*Hab.* LORENZO MARQUES. Tette (*petersi*, Peters).

*A. glutinosa* was described as from "West Africa."

379. *ACHATINA GRANULATA*, Pfeiffer.

[S.A.M.]

- 1852 *Achatina granulata*, Pfr., P.Z.S. p. 66. *D.*  
 1853 " " " Mon. Hel. iii. p. 484. *D.*  
 1861 " *semigranosa*, Pfr., P.Z.S. p. 25. *D.*  
 " " " " Mal. Blätt. viii. p. 78. *D.*  
 1868 " " " Mon. Hel. vi. p. 216. *D.*  
 1870 " *granulata*, Pfr., Semp., Reis. im Arch. Philippin. ii, 3.  
p. 143. pl. 12, f. 2. pl. 16, f. 14. *A.R.*  
 1889 " " " (= *zebra*, var. *granulata*, Krs.), von  
Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 164.



- 1890 *Achatina granulata*, Pfr. (= *semigranosa*, Pfr.), Smith, A.M.N.H.  
vi. p. 391. N.  
1897 „ *drakensbergensis*, M. & P., A.M.N.H. xix. p. 636. pl. 17,  
f. 7. D.F.  
1904, 5 *Cochlitoma* „ „ Pilsb., Man. of Conch. xvii.  
p. 103. pl. 32, f. 4. D.F.

All types in British Museum.

*Hab.* NATAL (coll. Cuming). Karkloof (McBean). Cape Natal (*semigranosa*, Plant). Inhluzani (*drakensbergensis*); Durban (Bowker). All along the coast from Port Shepstone to Tugela and beyond into Zululand, and at various inland localities as far as Van Reenen's Pass; common at Pietermaritzburg (Burnup and Quekett).

CAPE OF GOOD HOPE. Pondoland (Beyrich).

380. *ACHATINA GREYI*, da Costa.

- 1907 *Achatina greyi*, da Costa, Proc. Mal. Soc. vii. p. 226. pl. 20, f. 1. D.F.  
„ „ *ovata* „ „ p. 226. pl. 20, f. 2. D.F.  
„ „ *zebrina* „ „ p. 227. pl. 20, f. 5. D.F.  
„ „ *subovata* „ „ p. 227. pl. 20, f. 4. D.F.

Types in British Museum.

*Hab.* RHODESIA. Salisbury (Miss Weineck).

Described from the South Congo.

Judging from the types, the foregoing names all refer to forms of one variable species. Examples from Salisbury combine the attributes of two or more of the forms, but are not specifically distinct.

381. *ACHATINA IMMACULATA*, Lamarck. [S.A.M.]

- 1821 *Helix (Cochlitoma) immaculata*, Lam., Fér., Tabl. Syst. Moll.  
pt. 3. p. 73 (or 69).  
1822 *Achatina immaculata*, Lam., Hist. nat. An. s. Vert. vi. 2. p. 128. D.  
1830 „ „ Desh., Encycl. Méth. Vers. ii. p. 9. D.  
1838 „ „ „ Hist. nat. An. s. Vert. viii.  
p. 295. D.  
1848 „ „ Krs., Südafr. Moll. p. 81. N.D.  
„ „ „ Pfr., Mon. Hel. ii. p. 251. D.  
1851 „ „ „ Desh., Hist. Nat. Moll. ii. 2. p. 158.  
pl. 127, f. 1, 2. D.F.  
1859 „ „ „ Pfr., Mon. Hel. iv. p. 600. D.  
1879 „ „ „ Gibbons, Journ. of Conch. ii. p. 143. N.  
1899 „ „ „ Smith, Proc. Mal. Soc. iii. p. 309  
(*Epiphragm.*)

- 1899 *Achatina immaculata*, Lam., Smith, P.Z.S. p. 589. *N.*  
 1904-5        "                    "       Pilsb., Man. of Conch. xvii. p. 50.  
   pl. 11, f. 35. pl. 43, f. 50. *D.F.*  
 1907        "                    "       Melv. & Standen, Manchester Me-  
   moirs, li, 4. p. 12. *N.*

Type in Geneva Museum.

*Hab.* Unknown to Lamareck or Férussac.

TRANSVAAL. Barberton (Cregoe). Pietersburg District (Hewson).  
 Messina (Gordon). Pietpotgietersrust District (Money).

RHODESIA. Bulawayo; Zimbabwe (in coll. Crawford).

LORENZO MARQUES. Delagoa Bay (fide Pfeiffer). Inhambane  
 (Gibbons).

NATAL (Wahlberg). Tugela Valley (Quekett). Durban (in British  
 Museum).

ZULULAND (in British Museum).

Widely distributed as far north as Nyassaland.

E. A. Smith (P.Z.S., 1899, p. 589) remarks, "*A. layardi*, Pfr."  
 (Mal. Blätt. v. 1858, p. 238. *D.*), "is a variety of this species,  
 rather more profusely spotted than the type."

### 382. ACHATINA INDOTATA, Reeve.

- 1849 *Achatina indotata*, Rve., Conch. Icon. pl. 6, f. 18. *D.F.*  
 1853        "                    "       Pfr., Mon. Hel. iii. p. 483. *D.*  
 1860        "                    "       von Mts., Die Helic. p. 201. *L.*  
 1904 *Cochlitoma indotata*   "       Pilsb., Man. of Conch. xvii. p. 83. pl. 6,  
   f. 10. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Elim (in coll. Albers, fide von  
 Martens).

Described as from West Africa (coll. Cuming).

### 383. ACHATINA JACOBI, da Costa.

- 1906 *Achatina jacobi*, da Costa, Proc. Mal. Soc. vii. p. 11. *D.F.*  
 Type in British Museum.  
*Hab.* MASHONALAND. Rusape (Morrell).

### 384. ACHATINA LINTERÆ, Sowerby.

- 1889 *Achatina linteræ*, Sow., P.Z.S. p. 580. pl. 56, f. 11. *D.F.*  
 1904, 5 *Cochlitoma linteræ*, Sow., Pilsb., Man. of Conch. xvii. p. 102.  
   pl. 29, f. 43. *D.F.*

Type in Exeter Museum.

Reference List of South African Non-marine Mollusca. 197

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth, "in drift sand, extinct" (Crawford).

385. *ACHATINA LIVINGSTONEI*, Melv. & Pons. [S.A.M.]

1897 *Achatina livingstonei*, M. & P., A.M.N.H. xix. p. 636. pl. 17, f. 6. *D.F.*

1904 *Cochlitoma* ,, ,, Pilsb., Man. of Conch. xvii. p. 104.  
pl. 14, f. 1. *D.F.*

Type in British Museum.

*Hab.* BRITISH BECHUANALAND. Kuruman (Livingstone).

CAPE OF GOOD HOPE. Prieska (Gibbons). Buchu Berg, Hay District (Gould).

386. *ACHATINA MACHACHENSIS*, Smith.

1902 *Achatina machachensis*, Smith, Proc. Mal. Soc. v. p. 169. *D.F.*

1904, 5 *Cochlitoma* ,, ,, Pilsb., Man. of Conch. xvii.  
p. 84. pl. 41, f. 7. *D.F.*

Type in British Museum.

*Hab.* BASUTOLAND. Mount Machacha (Crawshay).

387. *ACHATINA NATALENSIS*, Pfeiffer. [S.A.M.]

1854 *Achatina natalensis*, Pfr., P.Z.S. p. 294. *D.*

1859 ,, ,, ,, Mon. Hel. iv. p. 602. *D.*

1904 *Cochlitoma* ,, ,, Pilsb., Man. of Conch. xvii. p. 102. *D.*

Type in British Museum.

*Hab.* NATAL. Port Natal (Plant).

CAPE OF GOOD HOPE. Somerset East (Miss Bowker).

TRANSVAAL. Wakkerstroom (Bowker).

ORANGE FREE STATE. Vredefort Road (Barrett Hamilton).

LORENZO MARQUES. Delagoa Bay (Plant).

388. *ACHATINA ŒDIGYRA*, Melv. & Pons.

1894 *Achatina œdigyra*, M. & P., A.M.N.H. xiv. p. 92. pl. 1, f. 7. *D.F.*

1904, 5 *Cochlitoma œdigyra*, M. & P., Pilsb., Man. of Conch. xvii.  
p. 94. pl. 26, f. 29. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Craigie Burn, Somerset East (Mrs. Barber).

RHODESIA. Salisbury (in British Museum).

389. *ACHATINA PANTHERA* (Férussac). [S.A.M.]

1821 *Helix (Cochlitoma) panthera*, Fér., Tabl. Syst. Moll. pt. 3, p. 53 (or 49).

1838 *Achatina panthera*, Fér., Desh., Hist. nat. An. s. Vert. viii. p. 309. *D.*

- 1846 *Achatina lamarckiana*, Pfr., P.Z.S. p. 115. *D.*  
 1847 " " " A.M.N.H. xix. p. 269. *D.*  
 1848 " " " Mon. Hel. ii. p. 253. *D.*  
 " " *panthera*, Fér., Pfr., Mon. Hel. ii. p. 252. *D.*  
 1849 " " " Rve., Conch. Icon. pl. 3, f. 12. *D.F.*  
 1851 " " " Desh., Hist. Nat. Moll. ii, 2. p. 159.  
 pl. 126, f. 1, 2. pl. 132, f. 1, 2. *D.F.*  
 1860, 63 " " " Pfr., Conch. Cab. p. 327. pl. 28, f. 1. *D.F.*  
 1879 " " " Pfr., Gibbons, Journ. of Conch. ii. p. 143. *N.*  
 " " " Fér., Bgt., Moll. de l'Égypte, p. 9. *N.*  
 1889 " " " von Mts., Sitz-Ber. Ges. Nat. Fr.  
 Berlin, p. 164. *N.*  
 1890 " " " von Mts., *ibid.* p. 86. *N.*  
 1894 " " " Ancey, Mém. Soc. Zool. Fr. vii. p. 219. *D.*  
 1897 " " " von Mts., D.-O.-Afr. p. 83. *N.*  
 1899 " " " Smith, P.Z.S. p. 589. pl. 34, f. 1. *N.F.*  
 " " " var. *minor*, Fér., Junod, Bull. Soc.  
 Vaudoise, xxxv. p. 278. *N.*  
 1904, 5 " " " Pilsb., Man. of Conch. xvii. p. 41.  
 pl. 38, f. 30, 31. pl. 39, f. 32. pl. 62,  
 f. 22-24. pl. 63, f. 30, 32. *D.F.A.R.*

*Hab.* Unknown to Férussac.

TRANSVAAL. Queensriver, near the Victoria Mine, Barberton District (Schenck). Lebombo Mountains, between Barberton and Delagoa; Kapaira (Beyrich).

LORENZO MARQUES. Inhambane (Gibbons; Bowker). Tette (Peters; Kirk). Rikatla (Junod).

RHODESIA. Sebakwe (Dodds).

Widely distributed through East and Central Africa and the islands of the Indian Ocean. *A. lamarckiana* was described from Madagascar.

In the South African Museum are two shells of this species, recorded as from "Port Elizabeth" (Fairbridge). If the locality is correct, the specimens were almost certainly introduced.

Pilsbry (1904) includes *A. mossambica*, Brancsik, and *A. lechaptoisi*, Ancey, in the synonymy.

### 390. ACHATINA PARTHENIA, Melv. & Pons. [S.A.M.]

- 1903 *Achatina parthenia*, M. & P., A.M.N.H. xii. p. 605. pl. 32, f. 10. *D.F.*  
 1904 *Cochlitoma* " " Pilsb., Man. of Conch. xvii. p. 100.  
 pl. 12, f. 38. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Lower Umfolosi Drift; Makowe (Burnup).  
Ubomba (Toppin).

391. *ACHATINA PASSARGEI*, von Martens.

1900 *Achatina passargei*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin,  
p. 119. *D.*

1904 " " " Die Kalahari, pp. 754, 755 (f. 1).  
*D.F.*

" " " Pilsb., Man. of Conch. xvii. p. 70. *D.*

Type in Zool. Mus. Berlin.

*Hab.* OVAMPOLAND. Sodanna (Passarge).

392. *ACHATINA PENESTES*, Melv. & Pons.

1893 *Achatina penestes*, M. & P., A.M.N.H. xii. p. 104. pl. 3, f. 3. *D.F.*

1904, 5 *Cochlitoma penestes*, M. & P., Pilsb., Man. of Conch. xvii.  
p. 100. pl. 28, f. 40. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Pretoria (ex coll. Wotton)

393. *ACHATINA PENTHERI*, Sturany.

1898 *Achatina pentheri*, Stur., S.A. Moll. p. 56. pl. 2, f. 40. *D.F.*

1904, 5 *Cochlitoma pentheri*, Stur., Pilsb., Man. of Conch. xvii. p. 81.  
pl. 30, f. 50. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Durban (Penther).

394. *ACHATINA RHABDOTA*, Melv. & Pons. [S.A.M.]

1898 *Achatina rhabdota*, M. & P., A.M.N.H. i. p. 29. pl. 8, f. 11. *D.F.*

1902 " " " Smith, Proc. Mal. Soc. v. p. 169. *N*

1904, 5 *Cochlitoma rhabdota*, M. & P., Pilsb., Man. of Conch. xvii.  
p. 91. pl. 27, f. 37. *D.F.*

Type in British Museum.

*Hab.* "SOUTH AFRICA" (fide M. & P.).

LITTLE NAMALAND. Port Nolloth (fide Watson).

395. *ACHATINA SCÆVOLA*, Melv. & Pons.

1893 *Achatina scævola*, M. & P., A.M.N.H. xii. p. 104. pl. 3, f. 2. *D.F.*

1904, 5 *Cochlitoma scævola*, M. & P., Pilsb., Man. of Conch. xvii.  
p. 98. pl. 34, f. 11. *D.F.*

Type in British Museum.

*Hab.* NORTHERN TRANSVAAL. Zoutpansberg (Bowker).

396. *ACHATINA SCHENCKI*, von Martens.

- 1889 *Achatina schencki*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin,  
p. 164. *D.*  
1894 „ „ „ Conch. Mitth. iii, 3. p. 8. *D.*  
1899 „ *schrencki* „ Gude, Journ. of Malac. vii. p. 90.  
(*Err. typ.*)  
1904 *Cochlitoma schencki* „ Pilsb., Man. of Conch. xvii. p. 96.  
pl. 5, f. 1. *D.F.*

Type in Zool. Mus. Berlin.

*Hab.* TRANSVAAL. “Macmac, near Lyderburg” (Schenk, 1886).

NOTE.—Macmac is in the Barberton District.

397. *ACHATINA SCHINZIANA*, Mousson.

- 1887 *Achatina schinziana*, Mouss., J. de C. xxxv. p. 294. pl. 12, f. 3. *D.F.*  
1889 „ „ Morel., J. de C. xxxvii. p. 9. *N.*  
1904 „ „ Pilsb., Man. of Conch. xvii. p. 16.  
pl. 17, f. 19. *D.F.*

Type in Zurich Museum.

*Hab.* OVAMPOLAND. Ondonga (Schinz). Sodanna (Passarge).

? LORENZO MARQUES. Rikatla (Junod).

NOTE.—Considerable doubt attaches to more than one of Junod's localities, as it appears almost certain that some of the species mentioned in his article on Delagoa Bay were wrongly identified.

var. *DEGENERATA*, Böttger.

- 1910 *Achatina schinziana*, Mouss., var. *degenerata*, Bttg., Abh.  
Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 447. pl. 28,  
f. 12. *D.F.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* BECHUANALAND. Kakir (Schultze).

398. *ACHATINA SEMIDECUSSATA*, Menke. [S.A.M.]

- 1846 *Achatina semidecussata*, Mke., Pfr., Symb. iii. p. 91. *D.*  
1847 „ „ „ Phil., Abb. u. Besch. ii. p. 213.  
pl. 16, 1, f. 1. *D.F.*  
1848 „ „ „ Krs., Südaf. Moll. p. 81. *N.*  
„ „ „ Pfr., Mon. Hel. ii. p. 257. *D.*  
1860, 63 „ „ „ „ Conch. Cab. p. 336. pl. 2,  
f. 2, 3. *D.F.*  
1889 „ „ „ von Mts., Sitz.-Ber. Ges. Nat.  
Fr. Berlin, p. 164. *L.*

1904, 5 *Cochlitoma semidecussata*, "Mke." Pfr., Pilsb., Man. of Conch. xvii. p. 80. pl. 30, f. 51-53. *D.F.*

Type in Stettin Museum.

*Hab.* NATAL (Menke). Durban (Penther). Tongaat (Burnup). Malvern (Miss Bowker).

TRANSVAAL. Upper Olifant River, north of Middelburg (fide von Martens).

399. *ACHATINA SIMPLEX*, Smith. [S.A.M.]

1878 *Achatina simplex*, Smith, Quart. Journ. of Conch. i. p. 350. *D.*

1904 *Cochlitoma* " " Pilsb., Man. of Conch. xvii. p. 98. pl. 12, f. 37. *D.F.*

Type in British Museum.

*Hab.* NATAL. Port Natal (Sutherland, 1860). Tugela Valley (fide Quekett). Ladysmith (Burnup).

TRANSVAAL. Between Delagoa Bay and Lydenburg (Wilms, fide von Martens).

400. *ACHATINA SMITHI*, Craven.

1880 *Achatina smithii*, Crvn., P.Z.S. p. 617. pl. 57, f. 1. *D.F.*

1889 " " " Morel., J. de C. xxxvii. p. 9. *N.*

1898 " " " Stur., S.A. Moll. p. 57. *N.*

1904 *Cochlitoma* " " Pilsb., Man. of Conch. xvii. p. 91. pl. 11, f. 36. *D.F.*

Original in British Museum.

*Hab.* TRANSVAAL. Lydenburg (Craven).

MATEBILILAND. Maitengue River (Penther, fide Sturany).

401. *ACHATINA SUBCYLINDRICA*, Preston.

1909 *Achatina subcylindrica*, Prest., A.M.N.H. iii. p. 182. pl. 7, f. 8. *D.F.*

Type in coll. Putzeys.

*Hab.* NATAL (fide Preston).

402. *ACHATINA TRANSVAALENSIS*, Smith.

1878 *Achatina transvaalensis*, Smith, Quart. Journ. of Conch. i. p. 351. *D.*

1904 *Cochlitoma* " " Pilsb., Man. of Conch. xvii. p. 99. *D.*

Type in British Museum.

*Hab.* TRANSVAAL. Lydenburg (in British Museum; Craven).

403. *ACHATINA USTULATA*, Lamarck.

1821 *Helix (Cochlitoma) ustulata*, Lam., Fér., Tabl. Syst. Moll. pt. 3. p. 74 (or 70).

- 1822 *Achatina ustulata*, Lam., Hist. nat. An. s. Vert. vi, 2, p. 130. *D.*  
 1838 " " " Desh., Hist. nat. An. s. Vert. viii.  
 p. 297. *D.*  
 1842 " " " Rve., Conch. Syst. ii. p. 86. pl. 177, f. 5. *F.*  
 1848 " " " Krs., Südafr. Moll. p. 81. *N.*  
 " " " Pfr., Mon. Hel. ii. p. 257. *D.*  
 1849 " " " Rve., Conch. Icon. pl. 12, f. 40. *D.F.*  
 1851 " " " Desh., Hist. Nat. Moll. ii, 2, p. 164.  
 pl. 125, f. 1, 2. *D.F.*  
 1890 " " " von Mts., Sitz.-Ber. Ges. Nat. Fr.  
 Berlin, p. 88. *N.*  
 1904, 5 *Cochlitoma ustulata*, Lam., Pilsb., Man. of Conch. xvii. p. 89.  
 pl. 28, f. 38. pl. 29, f. 45. *D.F.*  
 Type in Geneva Museum.  
*Hab.* Unknown to Lamarck or Férussac.  
 CAPE OF GOOD HOPE. George District (Krauss). Knysna (Farquhar; Crawford). Pondoland (Beyrich).  
 NATAL. Durban (Penther, fide Sturany).

404. *ACHATINA VARICOSA*, Pfeiffer.

- 1861 *Achatina varicosa*, Pfr., Mal. Blätt. viii. p. 73. pl. 2, f. 7, 8. *D.F.*  
 1868 " " " Mon. Hel. vi. p. 215. *D.*  
 1869 " " " Novit. Conch. iii. p. 490. pl. 106, f. 1, 2. *D.F.*  
 1904, 5 *Cochlitoma varicosa*, Pfr., Pilsb., Man. of Conch. xvii. p. 92.  
 pl. 26, f. 30-33. *D.F.*  
 Type in Stettin Museum.  
*Hab.* CAPE OF GOOD HOPE. Enon, north of Port Elizabeth (Hartvig). Grahamstown (Farquhar).

405. *ACHATINA VESTITA*, Pfeiffer.

[S.A.M.]

- 1854 *Achatina vestita*, Pfr., P.Z.S. p. 293. *D.*  
 " " " Novit. Conch. i. p. 35. pl. 9, f. 8, 9. *D.F.*  
 1859 " " " Mon. Hel. iv. p. 603. *D.*  
 1890 " " " von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin,  
 p. 87. *N.*  
 1904, 5 *Cochlitoma vestita*, Pfr., Pilsb., Man. of Conch. xvii. p. 81.  
 pl. 30, f. 46-49. *D.F.*  
 Type in British Museum.  
*Hab.* NATAL. Cape Natal (Plant).  
 CAPE OF GOOD HOPE. Pondoland (Beyrich). Port St. John's (Shortridge).



ZULULAND. Kosi Bay (Toppin).  
 LORENZO MARQUES. Delagoa Bay (Plant).

406. *ACHATINA ZEBRA* (Chemnitz). [S.A.M.]

- 1767 *Bulla achatina*, var. *livida*, Lin., Syst. Nat., Ed. 12. i, 2. p. 1186. *D.*  
 1780 „ „ „ „ „ Lin.,” Born, Test. Mus. Caes. Vind. p. 208.  
           pl. 10, f. 1. *D.F.*  
 1785 „ „ „ „ „ var. *livida*, Lin., Sparrman, A Voyage to the  
           Cape of Good Hope, ii. p. 347. *N.*  
 1786 „ „ *zebra*, Chem., Conch. Cab. ix, 2. p. 22. pl. 118, f. 1014. *D.F.*  
 1788 „ „ „ „ „ Müll., Gmel., Syst. Nat., Ed. 13. 1, 6. p. 3431. *D.*  
 1789 *Bulimus zebra*, Brug., Enc. Méth. Vers, i. p. 357. *D.*  
 1797 *Chersina* „ „ „ „ „ Humph., Mus. Calonn. p. 63. *N.*  
 1810 *Achatinus zebra*, de Roissy, de Montf., Conch. Syst. ii. p. 419.  
           pl. 105. *D.F.*  
 1817 *Bulla achatina*, Lin. (var. 4), Dillw., Descr. Cat. i. p. 495. *N.*  
 1822 *Achatina zebra*, Lam., Hist. nat. An. s. Vert. vi, 2. p. 128. *D.*  
 1837 „ „ „ „ „ *borniana*, Beck, Index Moll. p. 75. (*Emend. Nom.*)  
 1838 „ „ „ „ „ *zebra*, Lam., Desh., Hist. nat. An. s. Vert. viii. p. 295. *D.*  
 1840 „ „ „ „ „ Chem., Küst., Conch. Cab. pl. 2, f. 3. *F.*  
 1842 „ „ „ „ „ *chemnitziana*, Pfr., Symb. ii. p. 132. (*Emend.*)  
 „ „ „ „ „ *zebra*, Chem., Rve., Conch. Syst. ii. p. 88. pl. 179, f. 17. *F.*  
 1848 „ „ „ „ „ (= *chemnitziana*), Pfr., Mon. Hel. ii.  
           p. 250. *D.*  
 „ „ „ „ „ Lam., Krs., Südafr. Moll. p. 80. *D.*  
 1849 „ „ „ „ „ Chem., Rve., Conch. Icon. pl. 7, f. 23. *D.F.*  
 1851 „ „ „ „ „ Lam., Desh., Hist. Nat. Moll. ii, 2. p. 156. pl. 133.  
           *D.F.*  
 1853 „ „ „ „ „ Chem., Pfr., Mon. Hel. iii. p. 482. *Varr.*  
 1857 „ „ „ „ „ „ „ „ Conch. Cab. p. 291. pl. 23 (1853),  
           f. 1. *D.F.*  
 1860 „ „ „ „ „ (cum var. *borniana*, Beck), von Mts.,  
           Die Helic. pp. 203, 204. *D.N.*  
 „ „ „ „ „ *capensis*, Alb., von Mts., Die Helic. p. 203. *N.*  
 1868 „ „ „ „ „ *zebra*, Chem., var. *borniana*, Beck, Pfr., Mon. Hel. vi.  
           p. 212. *D.*  
 1870 „ „ „ „ „ Semp., Reis. im Arch. Philippin. ii, 3.  
           p. 144. pl. 12, f. 22. *Embryo.*  
 1890 „ „ „ „ „ Smith, A.M.N.H. vi. p. 392. *N.*  
 1898 „ „ „ „ „ Brug., M. & P., Proc. Mal. Soc. iii. p. 179.  
 1902 „ „ „ „ „ Chem., Smith, Proc. Mal. Soc. v. p. 169. *N.*

1904, 5 *Cochlitoma zebra*, Brug., Pilsb., Man. of Conch. xvii. p. 85.  
pl. 28, f. 39. pl. 64, f. 67. *D.F. & Embryo.*

Type—*ubi?*

*Hab.* CAPE OF GOOD HOPE (*capensis*, in coll. Albers). Sitsicamma (Sparman). George and Uitenhage Districts (Krauss). Caffraria (Delalande; *borniana*, fide Beck). Port Elizabeth; Alexandria; Mossel Bay; Grahamstown (Crawford). Lovedale; Pirie Forest; East London (Godfrey). Alicedale (Pillens). Toise River, Cathcart (Mrs. Gore). Stutterheim (French). Knysna (Purcell).

CAPE PENINSULA. Camps Bay (Dale; Morris).

var. FULGURATA, Pfeiffer.

[S.A.M.]

1851 *Achatina fulgurata*, Pfr., P.Z.S. p. 258. *D.*

1853 " " Mon. Hel. iii. p. 486. *D.*

1854 " " A.M.N.H. xiii. p. 147. *D.*

1860, 63 " " Conch. Cab. p. 319. pl. 26, f. 1. *D.F.*

1904, 5 *Cochlitoma fulgurata*, Pfr., Pilsb., Man. of Conch. xvii. p. 85.  
pl. 27, f. 34. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Somerset East (Miss Bowker). Grahamstown; Kowie (Farquhar).

Described as from "West Africa" (coll. Cuming).

var. GRANULATA, Krauss.

1848 *Achatina zebra*, Lam., var. *granulata*, Krs., Südafr. Moll. p. 80. *D.*

1904, 5 *Cochlitoma granulata*, Krs. (= *granulata*, Pfr.), Pilsb., Man. of Conch. xvii. p. 79. pl. 29, f. 44. *D.F.*

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Outeniqua, George District (Krauss).

NATAL (Wahlberg, fide Krauss).

var. KRAUSSI, Reeve.

1842 *Achatina kranzii*, Rve., P.Z.S. p. 55. *D.*

" " " " Conch. Syst. ii. p. 88. pl. 179, f. 19. *F.*

1848 " *kraussii* " Pfr., Mon. Hel. ii. p. 250. *D.*

" " " " Krs., Südafr. Moll. p. 81. *D.N.*

1849 " *kraussi* " Conch. Icon. pl. 6, f. 21. *D.F.*

1860 " " " Pfr., Conch. Cab. p. 329. pl. 23 (1853),  
f. 2. *D.F.*

1890 " " " von Mts., Sitz.-Ber. Ges. Nat. Fr.  
Berlin, p. 87. *N.*

1898 " " " Stur., S.A. Moll. p. 55. *N.*

1898 *Achatina zebra*, Brug., var. *kraussi*, Rve., M. & P., Proc. Mal. Soc. iii. p. 179.

1904, 5 *Cochlitoma kraussi*, Rve., Pilsb., Man. of Conch. xvii. p. 87. pl. 16, f. 10, 11. pl. 27, f. 36. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Coega River, Algoa Bay (Krauss). Reeve's original name and loc., Cape Natal (Krans, in coll. Cuming), are incorrect.

Crawford, in locating this shell from Coega (loc. sol.), writes: "I consider this a species, and have not seen it from anywhere else. The form is different from *A. zebra*, and can be intimated from colourless shells."

var. MINOR, Pfeiffer.

1853 *Achatina zebra*, Chem., var. *minor*, Pfr., Mon. Hel. iii. p. 482. *N.*

1857 " " " " Conch. Cab. p. 292. pl. 23 (1853), f. 1. *N.F.*

*Hab.* "MADAGASCAR and CAPE" (Krauss).

var. OBESA, Pfeiffer.

?1851 *Helix zebra*, Fér., Desh., Hist. Nat. Moll. pl. 133, middle figure.

1854 *Achatina obesa*, Pfr., Mal. Blätt. i. p. 224. *D.*

1859 " " Mon. Hel. iv. p. 600. *D.*

1890 " " " " "probably only a stunted form of *zebra*,"  
Smith, A.M.N.H. vi. p. 393. *N.*

1904, 5 *Cochlitoma zebra*, Fér., var. *obesa*, Pfr., Pilsb., Man. of Conch. xvii. p. 87. pl. 27, f. 35. *D.F.*

Type in Stettin Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth District (Crawford). Originally described as from West Africa.

407. *ACHATINA ZEBRULA*, von Martens.

1900 *Achatina zebra*, von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 118. *D.*

1904 *Cochlitoma* " " Pilsb., Man. of Conch. xvii. p. 90. *D.*

Type in Zool. Mus. Berlin.

*Hab.* TRANSVAAL. Between Delagoa and Lydenburg (Wilms).

GENUS *CÆCILIOIDES*, Férussac, 1817.

(de Blainv., Dict. Sci. Nat. v. Suppl. p. 129, as *Cæclionides*, and vii. p. 332, as *Cécilioide*, *emend.* Herrmannsen, 1846, *Indicis Generum Malac.* i p. 150)

(= *Cæcilionella*, Bgt., 1856.)

Type of Genus, *C. acicula* (Müll.).

## 408. CÆCILIOIDES ACICULA (Müller). [S.A.M.]

- 1774 *Buccinum acicula*, Müll., Verm. ii. p. 150. *D.*  
 1798 „ *longiusculum*, Adams, Essays on the Microscope,  
 p. 630. pl. 14, f. 26. *D.F.*  
 1801 „ *obtusulum*, Turt., Syst. Nat. (English Ed.), iv. p. 416. *D.*  
 1803 „ *terrestre*, Mont., Test. Brit. i. p. 248. pl. 8, f. 3. *D.F.*  
 1805 *Bulimus acicula*, Müll., Drap., Hist. Moll. Fr. p. 75. pl. 4, f. 25. *D.F.*  
 1821 „ „ C. Pfr., Syst. Anordn. deutsch. L.-u.  
 W.-Schn. p. 51. pl. 3, f. 8, 9. *D.F.*  
 1826 *Achatina eburnea*, Risso, Hist. Nat. Eur. mérid. iv. p. 81. *D.*  
 1827 „ *alba*, Brown, Illustr. Brit. Conch. pl. 41, f. 80. *F.*  
 1828 „ *acicula*, Mill., Flem., Hist. Brit. An. p. 267. *D.*  
 1831 „ „ Lam., Turton, Manual, p. 89. *D.*  
 1832 *Columna miliaris*, de Christ. & Jan, Cat. Mantissa, p. 2. *D.*  
 1833 *Cionella acicula*, Müll., Jeffr., Linn. Trans. xvi. p. 348. *D.*  
 1836 *Achatina pusilla*, Scacchi, Cat. Conch. Reg. Neapol. p. 16.  
 1847 *Acicula pellucida*, Leach in Gray, A.M.N.H. xx. p. 269.  
 1848 *Achatina acicula*, Müll., Pfr., Mon. Hel. ii. p. 274. *D.*  
 1856 *Cæcilionella acicula*, Müll., Bgt., Rev. et Mag. Zool. p. 382. *D.*  
 „ „ „ „ „ Amén. malac. i. p. 215. pl. 18,  
 f. 1-3. *D.F.*  
 1862 *Achatina acicula*, Müll., Jeffr., Brit. Conch. i. p. 297. pl. 7, f. 18-  
 21, and v (1869). pl. 18, f. 3. *D.F.*  
 1863 „ „ „ „ Pfr., Conch. Cab. p. 352. pl. 29 (1865),  
 f. 12, 13. *D.F.*  
 1908 *Cæcilioides acicula* „ Pilsb., Man. of Conch. xx. p. 9. pl. 1,  
 f. 1-10, 13, 14, 16-18. *D.F.*

Original of *acicula* in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. Cradock (in coll. Ponsonby). Wyn-  
 berg (Connolly). Prieska (Gibbons; Gould).

GRIQUALAND WEST. Kimberley (Miss Wilman).

TRANSVAAL. Pietpotgietersrust (Connolly).

ORANGE FREE STATE. Bloemfontein (Connolly).

## 409. CÆCILIOIDES ADVENA (Ancey).

- 1888 *Cæcilianella advena*, Ancey, Le Naturaliste, x. p. 215. *D.*  
 1908 *Cæcilioides* „ „ Pilsb., Man. of Conch. xx. p. 35. *D.*  
 Type—*ubi?*

*Hab.* OVAMPOLAND. Disappointment Vlei (Andersson & Chap-  
 man).

Ancey's locality, "Disappointment Key," is probably a slip. On labels in the Layard collection the spelling is Disappointment Vlei, which for many reasons seems the more likely name.

410. CÆCILIOIDES GOKWEANUS (Böttger).

1870 *Cionella gokweana*, Bttg., Ber. Offenbach. Ver. f. Naturk. xi.  
p. 47. pl. 1, f. 2. *D.F.*

1910 " " Abh. Senckenb. Naturf. Ges. Frank-  
furt, xxxii. p. 449. *N.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* BECHUANALAND. Sub-fossil at the Gokwe River, near 22°  
S. lat. and 28° E. long. (Hübner).

TRANSVAAL. Pienaars Poort (Connolly).

411. CÆCILIOIDES OVAMPOENSIS (Melv. & Pons.).

1892 *Cionella ovampoensis*, M. & P., A.M.N.H. ix. p. 91. pl. 6, f. 1. *D.F.*

1898 " (*Cæcilionella*) *ovampoensis*, M. & P., Stur., S.A. Moll.  
p. 62. *N.*

1908 *Cæcilioides ovampoensis*, M. & P., Pilsb., Man. of Conch. xx.  
p. 36. pl. 3, f. 52. *D.F.*

1910 *Cæcilianella ovampoensis*, M. & P., Bttg., Abh. Senckenb.  
Naturf. Ges. Frankfurt, xxxii. p. 448. *N.*

Type in British Museum.

*Hab.* OVAMPOLAND (in coll. Layard).

LORENZO MARQUES. Matolla (Penther).

After examination with a strong lens, I am unable to find any specific difference between the type set of this species and examples from Pietpotgietersrust, which appear to be *acicula* (Müll.).

As *advena*, Ancey, and *ovampoensis*, M. & P., were founded on shells gathered by the same collectors in the same locality, the two species are in all probability identical, but it has not been possible to compare the types.

SUB-FAMILY STENOGYRINÆ, Fischer, 1883.

(Man. de Conch. p. 486.)

GENUS CURVELLA, Chaper, 1885.

(Bull. Soc. Zool. de France, x. pp. 48, 49.)

(= *Hapalus*, Albers, 1850, nec Billberg, 1820.)

Type of Genus, *C. sulcata*, Chaper.

412. *CURVELLA CALOGLYPTA*, Melv. & Pons.

- 1901 *Curvella caloglypta*, M. & P., A.M.N.H. viii. p. 320. pl. 2, f. 12. *D.F.*  
 1906 " " Pilsb., Man. of Conch. xviii. p. 59.  
 pl. 8, f. 22. *D.F.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (Burnup).

413. *CURVELLA CATARRACTÆ* (Melv. & Pons.). [S.A.M.]

- 1897 *Hapalus catarractæ*, M. & P., A.M.N.H. xix. p. 635. pl. 17, f. 4. *D.F.*  
 1906 *Curvella* " " Pilsb., Man. of Conch. xviii. p. 59.  
 pl. 8, f. 23. *D.F.*  
 1910 " " " Conn., A.M.N.H. vi. p. 268. *N.*

Type in British Museum.

*Hab.* NATAL. Howick; Equeefa (Burnup). Durban (Penther).  
 CAPE OF GOOD HOPE. Pirie River (Godfrey).

414. *CURVELLA CROSLYI*, Burnup.

- 1905 *Curvella croslyi*, Bnp., Proc. Mal. Soc. vi. p. 302. pl. 16, f. 3, 4. *D.F.*  
 1906 " " Pilsb., Man. of Conch. xviii. p. 59. pl. 8,  
 f. 27, 28. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Makowe (Crosly).

415. *CURVELLA ELEVATA*, Burnup.

- 1905 *Curvella elevata*, Bnp., Proc. Mal. Soc. vi. p. 304. pl. 16, f. 10,  
 11. *D.F.*  
 1906 " " Pilsb., Man. of Conch. xviii. p. 60. pl. 8,  
 f. 29, 30. *D.F.*  
 1910 " " " Conn., A.M.N.H. vi. p. 269. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Farquhar).

416. *CURVELLA GLOBOSA* (Melv. & Pons.).

- 1898 *Hapalus globosus*, M. & P., A.M.N.H. ii. p. 128. pl. 7, f. 6. *D.F.*  
 1906 *Curvella globosa* " Pilsb., Man. of Conch. xviii. p. 61.  
 pl. 8, f. 31. *D.F.*  
 1910 " " " Conn., A.M.N.H. vi. p. 268. *N.*

Type in British Museum.

*Hab.* NATAL. Stella Bush (Burnup).

CAPE OF GOOD HOPE. York Drakensberg, Griqualand East  
 (Farquhar).

417. *CURVELLA MAJUBANA*, Connolly.

1910 *Curvella majubana*, Conn., A.M.N.H. vi. p. 270. pl. 6, f. 13. *D.F.*

Type in British Museum.

*Hab.* NATAL. Majuba (Connolly).

418. *CURVELLA MODESTA*, Connolly.

1910 *Curvella modesta*, Conn., A.M.N.H. vi. p. 271. pl. 6, f. 15. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown; Cradock (Farquhar).

419. *CURVELLA SAUNDERSÆ*, Connolly. [S.A.M.]

1910 *Curvella saundersæ*, Conn., A.M.N.H. vi. p. 270. pl. 6, f. 14. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Eshowe (Lady Saunders).

420. *CURVELLA SINUOSA*, Melv. & Pons.

1899 *Curvella sinuosa*, M. & P., A.M.N.H. iv. p. 198. pl. 3, f. 12. *D.F.*

1906 " " Pilsb., Man. of Conch. xviii. p. 61.  
pl. 8, f. 32. *D.F.*

Type in British Museum.

*Hab.* NATAL. Umkomaas (Burnup).

421. *CURVELLA STRAMINEA*, Burnup. [S.A.M.]

1905 *Curvella straminea*, Bnp., Proc. Mal. Soc. vi. p. 303. pl. 16, f. 5, 6. *D.F.*

1906 " " Pilsb., Man. of Conch. xviii. p. 62. pl. 8,  
f. 36, 37. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Walmer (Miss Hickey).

422. *CURVELLA SUCCINEA*, Burnup.

1905 *Curvella succinea*, Bnp., Proc. Mal. Soc. vi. p. 303. pl. 16, f. 7, 8. *D.F.*

1906 " " Pilsb., Man. of Conch. xviii. p. 62. pl. 8,  
f. 38, 39. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Maeström Forest, Bedford (Farquhar).

GENUS *HYPOLYSIA*, Melvill & Ponsonby, 1901.

(A.M.N.H. viii. p. 318.)

Type of Genus, *H. florentiæ*, M. & P.

423. *HYPOLYSIA FLORENTIÆ*, Melv. & Pons. [S.A.M.]

- 1901 *Hypolysia florentiæ*, M. & P., A.M.N.H. viii. p. 318. pl. 2, f. 8. *D.F.*  
 1903 " " " xii. p. 596. pl. 32, f. 13. *F.*  
 1906 " " Pilsb., Man. of Conch. xviii. p. 37.  
 pl. 10, f. 66, 67. *D.F.*  
 1910 " " Conn., A.M.N.H. vi. p. 271. *N.*

Type in British Museum.

*Hab.* NATAL. Durban (Burnup).

Widely distributed over the South-Eastern province of the CAPE OF GOOD HOPE from Grahamstown, East London, and Port Elizabeth, through NATAL to Eshowe in ZULULAND.

TRANSVAAL. Rustenberg District (McBean).

A very variable form, which will probably be found to embrace more than one species when larger series are available for comparison.

GENUS *SUBULINA*, Beck, 1837.

(Index Moll. p. 76, and Pilsb., 1906, Man. of Conch., xviii. p. 71.)

Type of Genus, *S. octona* (Brug.).

424. *SUBULINA MAMILLATA* (Craven). [S.A.M.]

- 1880 *Achatina mamillata*, Crvn., P.Z.S. p. 215. pl. 22, f. 8. *D.F.*  
 1907 *Opeas mamillata*, Crvn., Dixey & Longstaff, Trans. Entom. Soc.  
 p. 361. *L.*

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Dixey & Longstaff).

Described from Nossi Bé, and also known from Magila.

Quite distinct from the next species, in whose synonymy Pilsbry has placed it.

425. *SUBULINA OCTONA* (Bruguière). [S.A.M.]

- 1786 *Helix octona Indiæ Occidentalis*, Chem., Conch. Cab. ix, 2.  
 p. 190. pl. 136, f. 1264. *D.F.*  
 1792 *Bulinus octonus*, Brug., Encycl. Méth. Vers, i. p. 325. *D.*  
 1817 *Achatina crotallaria*, Schumacher, Essai d'un nouv. Syst. Vers  
 Test. p. 202. *D.*  
 1831 " *octona*, Lam., Turton, Manual, p. 90. *D.*  
 1838 *Bulime octonus*, Brug., Desh., Hist. nat. An. s. Vert. viii. p. 233. *D.*  
 1839 *Achatina novenaria*, Anton, Verz. Conch. Samml. p. 44.  
 1842 " *trochlea*, Pfr., Symb. ii p. 59. *D.*  
 1849 " *octona*, Chem., Rve., Conch. Icon. pl. 17, f. 84. *D.F.*  
 1854 *Subulina octona*, Chem., H.&A. Ad., Gen. rec. Moll. iii. pl. 71, f. 3a. *F.*



- 1863 *Achatina octona*, Chem., Pfr., Conch. Cab. p. 342. pl. 37 (1865),  
f. 19, 20. *D.F.*
- 1368 „ „ „ Morel., Voy. Welwitsch, Moll. p. 80.  
pl. 6, f. 5. *N.F.*
- 1897 *Subulina octona*, Chem., von Mts., D.-O.-Afr. p. 123. *N.*
- 1906 „ „ Brug., Pilsb., Man. of Conch. xviii. pp. 73, 222.  
pl. 12, f. 8, 9, 11, 12. pl. 39, f. 28-37, 39, 40. *D.F.*
- 1907 *Opeas octona*, Chem., Dixey & Longstaff, Trans. Entom. Soc.  
p. 361. *L.*

Type—*ubi?*

*Hab.* RHODESIA. Rain Forest, Victoria Falls (Dixey & Longstaff).

An American species, introduced into nearly every part of the globe. Pilsbry's synonymy is chiefly followed above.

426. SUBULINA VITREA, Mousson.

- 1887 *Stenogyra (Subulina) vitrea*, Mouss., J. de C. xxxv. p. 296.  
pl. 12, f. 6. *D.F.*
- 1892 „ *chapmani*, M. & P., A.M.N.H. ix. p. 90. pl. 6, f. 3. *D.F.*
- 1906 *Subulina vitrea*, Mouss., Pilsb., Man. of Conch. xviii. p. 94.  
pl. 14, f. 50. *D.F.*
- „ „ *chapmani*, M. & P., Pilsb., *ibid.* p. 92. pl. 14, f. 46. *D.F.*
- 1910 „ *vitrea*, Mouss. (= *chapmani*, M. & P.), Bttg., Abh.  
Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 148. *N.*

Type of *chapmani* in British Museum; *vitrea* in Zurich Museum.

*Hab.* OVAMPOLAND (*chapmani*, Chapman). Ku-Ganab, south-east of Ondonga (*vitrea*, Schinz).

Judging from the figures and descriptions, Böttger seems to have good reason for uniting the above-mentioned species, which came from the same district.

GENUS OPEAS, Albers, 1850.

(Die Helic. p. 175.)

Type of Genus, *O. subula*, Pfr. (*gracile*, Hutt.).

427. OPEAS CRAWFORDI (Melv. & Pons.).

- 1893 *Stenogyra crawfordi*, M. & P., A.M.N.H. xii. p. 105. pl. 3, f. 4. *D.F.*
- 1906 *Opeas crawfordi*, M. & P., Pilsb., Man. of Conch. xviii. p. 149.  
pl. 15, f. 74. *D.F.*
- 1910 „ „ Conn., A.M.N.H. vi. p. 265. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Van Staaden's River (Crawford).

428. OPEAS DURBANENSE, Sturany.

1898 *Opeas durbanense*, Stur., S.A. Moll. p. 61. pl. 2, f. 42-44. *D.F.*

1906        "                "       Pilsb., Man. of Conch. xviii. p. 149.  
  pl. 15, f. 75, 76. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* NATAL. Durban (Penther).

Founded on a single specimen.

429. OPEAS EULIMOIDE (Preston).

1909 *Subulina eulimoides*, Prest., A.M.N.H. iv. p. 499. *D.F.*

1910 *Opeas eulimoides*, Prest., Conn., A.M.N.H. vi. p. 267. *N.*

Type in British Museum.

*Hab.* NATAL. Howick (Cregoe).

430. OPEAS LEPIDUM, Connolly. [S.A.M.]

1910 *Opeas lepidum*, Conn., A.M.N.H. vi. p. 267. pl. 6, f. 12. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Fern Kloof, Grahamstown (Farquhar). Port Elizabeth (Crawford).

431. OPEAS MCBEANI, Melv. & Pons.

1903 *Opeas mcbeani*, M. & P., A.M.N.H. xii. p. 604. pl. 31, f. 8. *D.F.*

1906        "                "       Pilsb., Man. of Conch. xviii. p. 150.  
  pl. 15, f. 77. *D.F.*

1910        "                "       Conn., A.M.N.H. vi. p. 266. *N.*

Type in British Museum.

*Hab.* TRANSVAAL. Boksburg (McBean, per Burnup). Hennop's River (Connolly). Middelburg (in coll. Ponsonby).

432. OPEAS STRIGILE (Melv. & Pons.). [S.A.M.]

1901 *Subulina strigilis*, M. & P., A.M.N.H. viii. p. 318. pl. 2, f. 7. *D.F.*

1906 *Opeas strigilis*, M. & P., Pilsb., Man. of Conch. xviii. p. 150.  
  pl. 15, f. 79. *D.F.*

1910        "       *strigile*, M. & P., Conn., A.M.N.H. vi. p. 266. *N.*

Type in British Museum.

*Hab.* NATAL. Karkloof Bush (McBean). Dargle; Edendale; Pietermaritzburg; Enon Bush, Richmond; Hilton Road (Burnup).

433. OPEAS SUBLINEARE, Böttger. [S.A.M.]

1910 *Opeas sublinearis*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 448. pl. 28, f. 14. *D.F.*

Type in Senckenberg Museum, Frankfurt.

*Hab.* LITTLE NAMALAND. Muishond (Schultze). Henkries (Lightfoot).

GRIQUALAND WEST. Modder River (Miss Wilman).

434. OPEAS TUGELENSE (Melv. & Pons.).

1897 *Subulina tugelensis*, M. & P., A.M.N.H. xix. p. 637. pl. 17, f. 9. *D.F.*

1906 *Opeas tugelensis*, M. & P., Pilsb., Man. of Conch. xviii. p. 150. pl. 15, f. 78. *D.F.*

1910 ,, *tugelense*, M. & P., Conn., A.M.N.H. vi. p. 266. *N.*

Type in British Museum.

*Hab.* NATAL. Lower Tugela River; Tongaat; Pinetown; Pietermaritzburg (Burnup).

LORENZO MARQUES. Delagoa Bay (Connolly).

GENUS EUONYMA, Melv. & Pons., 1896.

(A.M.N.H. xviii. p. 316, and Pilsb., 1906, Man. of Conch. xviii. p. 38.)

Type of Genus, *Euonyma læocochlis*, M. & P.

435. EUONYMA CACUMINATA (Melv. & Pons.).

1892 *Stenogyra cacuminata*, M. & P., A.M.N.H. ix. p. 85. pl. 6, f. 2. *D.F.*

1906 *Euonyma* ,, ,, Pilsb., Man. of Conch. xviii. p. 42. pl. 10, f. 71, 73, 74. *D.F.N.*

1910 ,, ,, ,, Conn., A.M.N.H. vi. p. 259. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Bedford (Farquhar).

436. EUONYMA CRYSTALLINA (Melv. & Pons.). [S.A.M.]

1896 *Subulina crystallina*, M. & P., A.M.N.H. xviii. p. 316. pl. 16, f. 4. *D.F.*

1906 *Euonyma* ,, ,, Pilsb., Man. of Conch. xviii. p. 45. pl. 10, f. 81. *D.F.*

1910 ,, ,, ,, Conn., A.M.N.H. vi. p. 255. *N.*

Type in British Museum.

*Hab.* NATAL. Pietermaritzburg (Burnup). Widely distributed throughout Natal.

ZULULAND. Eshowe (Lady Saunders).

CAPE OF GOOD HOPE. King Williamstown (Godfrey). Widely distributed in the Eastern Province.

On account of its small size, it might be advisable to transfer the present species to *Opeas*, together with *linearis*, Krs., and *pietersburgensis*, Preston.

437. *EUONYMA GOULDI*, sp. nov., pl. 2, f. 7. [S.A.M.]

Shell elongate, turritiform, subrimate, olivaceous, thin, slightly glossy, semi-transparent. Spire produced, acute, apex bluntly rounded. Whorls 10, gradually increasing, becoming less convex as they grow in size; the first two smooth, remainder closely covered with faint, almost straight striæ, parallel to the slant of the outer lip. Suture well defined, but not deep. Aperture short, ovate, rounded at base. Peristome thin, simple. Outer lip curved outwards, slightly receding in an almost straight line to the base of the shell. Columella concave, margin very narrowly reflexed, forming a small rima. Shell  $19.5 \times 5.1$ ; apert.  $4.3 \times 2.2$ ; last whorl 7.1 mm.

Type in South African Museum.

*Hab.* CAPE OF GOOD HOPE. Prieska (Gould; van der Merve).

In all the specimens I have seen the sides of the spire are slightly convex about the sixth whorl.

Quite unlike any neighbouring species; *pruizenensis*, Conn., which resembles it in form, has curved, instead of straight, striation.

438. *EUONYMA LÆOCOCHLIS* (Melv. & Pons.).

1896 *Subulina læocochlis*, M.&P., A.M.N.H. xviii. p.316. pl.16, f.3. *D.F.*

1898 *Euonyma læocochlis* „ Stur., S.A. Moll. p. 62. (*Err. typ.*)

1906 „ *læocochlis* „ Pilsb., Man. of Conch. xviii. p. 39.  
pl. 10, f. 68. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Humansdorp, St. Francis Bay (Fraser).

439. *EUONYMA LANCEOLATA* (Pfeiffer). [S.A.M.]

1854, *Bulimus lanceolatus*, Pfr., P.Z.S. p. 292. *D.*

1857 „ *micans*, Pfr., Mal. Blätt. iv. p. 156. *D.*

1859 „ „ „ Mon. Hel. iv. p. 452. *D.*

„ „ *lanceolatus*, Pfr., Mon. Hel. iv. p. 455. *D.*

1906 *Euonyma lanceolata*, Pfr., Pilsb., Man. of Conch. xviii. p. 40. *D.N.*

1910 „ „ „ Conn., A.M.N.H. vi. p. 260, 261. *N.F.*

Types in British Museum.

*Hab.* NATAL. Cape Natal (Plant). Pietermaritzburg; Karkloof (Burnup).

ZULULAND (in British Museum).

LORENZO MARQUES. Delagoa Bay (in British Museum).

440. EUONYMA LINEARIS (Krauss).

- 1848 *Bulimus linearis*, Krs., Südafr. Moll. p. 78. pl. 5, f. 3. *D.F.*  
 " " " Pfr., Mon. Hel. ii. p. 157. *D.*  
 1856 " " " " Conch. Cab. p. 257. pl. 69 (1855),  
 f. 15-17. *D.F.*  
 1898 *Opeas lineare*, Krs., Stur., S.A. Moll. p. 61. *N.*  
 1906 *Euonyma linearis*, Krs., Pilsb., Man. of Conch. xviii. p. 44.  
 pl. 10, f. 79, 80. *D.F.*  
 1910 " " " Conn., A.M.N.H. vi. p. 252. pl. 6, f. 4.  
*D.N.F.*

Type in Stuttgart Museum.

*Hab.* ? TRANSVAAL. Mount Mohapaani, on the Limpopo (Wahlberg).

Not *B. linearis*, Rve., 1850, nor *O. lineare*, Stur., 1898.

Many different species have been attributed by various authorities to *E. linearis*. Morelet's loc., Port Elizabeth, is almost certainly wrong, while Reeve and Sturany appear to have regarded the then undescribed *Hypolysia florentiæ*, M. & P., as typical of Krauss' species; an error also followed by Preston (A.M.N.H. iv, 1909, p. 499). Craven's locs., Lydenburg, Transvaal, and Winburg, O.F.S., require further substantiation.

441. EUONYMA LYMNEÆFORMIS (Mely. & Pons.).

- 1901 *Obeliscus lymneæformis*, M.&P., A.M.N.H. viii. p. 317. pl. 2, f. 5. *D.F.*  
 1906 *Euonyma* " " Pilsb., Man. of Conch. xviii. p. 39.  
 pl. 10, f. 69. *D.F.*  
 1910 " " " " Conn., A.M.N.H. vi. p. 260. *N.*

Type in British Museum.

*Hab.* NATAL. Karkloof Bush (McBean).

Founded on two specimens; no more have occurred.

442. EUONYMA NATALENSIS (Burnup). [S.A.M.]

- 1905 *Obeliscus natalensis*, Bnp., Proc. Mal. Soc. vi. p. 304. pl. 16, f. 9. *D.F.*  
 1906 *Euonyma* " " Pilsb., Man. of Conch. xviii. pp. 41, 339.  
 pl. 10, f. 72. pl. 31, f. 12, 13. *D.N.F.*  
 1910 " " " " Conn., A.M.N.H. vi. p. 261. *N.*

Type in British Museum.

*Hab.* NATAL. Umbogintwini; Pietermaritzburg; Equeefa; Table Mountain (Burnup).

## 443. EUONYMA PIETERSBURGENSIS (Preston).

1909 *Subulina pietersburgensis*, Prest., A.M.N.H. iv. p. 499. *D.F.*1910 *Euonyma* " " Conn., A.M.N.H. vi. p. 254. *N.*

Type in British Museum.

*Hab.* TRANSVAAL. Pietersburg (fide Preston).

var. LEVIS, Connolly.

[S.A.M.]

1910 *Euonyma pietersburgensis*, Prest., var. *levis*, Conn., A.M.N.H.vi. p. 255. pl. 6, f. 8. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Buis Kop; Pienaar's Poort; Pietpotgietersrust (Connolly). Zoutpansberg (Cregoe).

## 444. EUONYMA PLATYACME, Melv. &amp; Pons.

[S.A.M.]

1907 *Euonyma platyacme*, M. & P., A.M.N.H. xix. p. 101. pl. 6, f. 15. *D.F.*" *Stenogyra beckeri*, Fulton, A.M.N.H. xix. p. 154. pl. 10, f. 7. *D.F.*1910 *Euonyma platyacme*, M. & P. (= *beckeri*, Fulton), Conn., A.M.N.H. vi. p. 259. *N.*

Both types in British Museum.

*Hab.* CAPE OF GOOD HOPE. Kei Road Bush (Miss Hickey). Pondoland (*beckeri*, Becker). Hog's-back Mountain, Queenstown (Farquhar). Pirie Forest (Godfrey).

## 445. EUONYMA PRUIZENENSIS, Connolly.

[S.A.M.]

1910 *Euonyma pruizenensis*, Conn., A.M.N.H. vi. p. 261. pl. 6, f. 11. *D.F.*

Type in British Museum.

*Hab.* NORTHERN TRANSVAAL. Pruizen; Pietpotgietersrust (Connolly).

## 446. EUONYMA PURCELLI (Melv. &amp; Pons.).

[S.A.M.]

1901 *Subulina purcelli*, M. & P., A.M.N.H. viii. p. 317. pl. 2, f. 6. *D.F.*1906 *Euonyma* " " Pilsb., Man. of Conch. xviii. p. 42. pl. 10, f. 75. *D.F.*1910 " " " Conn., A.M.N.H. vi. p. 259. *N.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Houw Hoek, Caledon Division (Purcell; Lightfoot).

Described from an immature specimen; the adult shell attains a length of 25 mm.

447. EUONYMA SILIQUA, Connolly.

- 1910 *Euonyma siliqua*, Conn., A.M.N.H. vi. p. 262. pl. 6, f. 10. *D.F.*  
 Type in British Museum.  
*Hab.* NATAL. O.R.C. Junction Station (Connolly).

448. EUONYMA STANDERI, Connolly.

- 1910 *Euonyma standeri*, Conn., A.M.N.H. vi. p. 264. pl. 6, f. 9. *D.F.*  
 Type in British Museum.  
*Hab.* TRANSVAAL. Stander's Kop (Connolly).

449. EUONYMA TURRIFORMIS (Krauss). [S.A.M.]

- 1848 *Bulimus turriiformis*, Krs., Südafr. Moll. p. 78. pl. 5, f. 2. *D.F.*  
 " " " Pfr., Zeitschr. f. Malak. v. p. 121. *D.*  
 1853 " " " Mon. Hel. iii. p. 392. *D.*  
 1898 *Opeas turriiforme*, Krs., Stur., S.A. Moll. p. 60. *N.*  
 1906 *Euonyma turriiformis*, Krs., Pilsb., Man. of Conch. xviii. p. 43.  
 pl. 10, f. 77, 78. *D.F.*  
 1910 " " " Conn., A.M.N.H. vi. p. 256. pl. 6,  
 f. 1. *D.N.F.*  
 1911 " " " " " vii. p. 224. (*Emend.*)  
 Not *Bulimus turriiformis*, Reeve, 1850.  
 Type in Stuttgart Museum.  
*Hab.* NATAL (Wahlberg). Widely distributed.  
 CAPE OF GOOD HOPE. Port Elizabeth (Crawford). Kowie (Penther).  
 Port St. John's (Shortridge). Grahamstown (var., Farquhar).  
 Craven's loc., Lydenburg, probably refers to another species.

var. ACUS, Morelet.

- 1889 *Stenogyra acus*, Morel., J. de C. xxxvii. p. 8. pl. 1, f. 6. *D.F.*  
 1896 *Subulina glaucocyanea*, M. & P., A.M.N.H. xviii. p. 317. pl. 16,  
 f. 5. *D.F.*  
 1906 *Euonyma acus*, Morel., Pilsb., Man. of Conch. xviii. p. 40.  
 pl. 10, f. 70. *D.F.*  
 " " *glaucocyanea*, M. & P., Pilsb., *ibid.*, p. 43. pl. 10, f. 76. *D.F.*  
 1910 " *turriiformis*, Krs., var. *acus*, Morel. (= *glaucocyanea*,  
 M. & P.), Conn., A.M.N.H. vi. p. 257. pl. 6, f. 2. *D.N.F.*  
 Types in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford; Fraser).

## var. SARISSA, Pilsbry.

- 1906 *Euonyma turriiformis sarissa*, Pilsb., Man. of Conch. xviii. p. 44.  
 pl. 10, f. 84, 85. *D.F.*  
 1910                    "                    "                    "                    Conn., A.M.N.H. vi. p. 258. *N.*  
 Type in Acad. Nat. Sci. Philadelphia.  
*Hab.* NATAL (Cassin).

## 450. EUONYMA UNICORNIS, Connolly. [S.A.M.]

- 1910 *Euonyma unicornis*, Conn., A.M.N.H. vi. p. 265. pl. 6, f. 3. *D.F.*  
 Type in coll. Connolly.  
*Hab.* TRANSVAAL. Schanz Kop, Pretoria (Connolly). Potchefstroom (Miss Livingston).  
 CAPE OF GOOD HOPE. Cradock (var., Farquhar).  
 ORANGE FREE STATE. Bloemfontein (var., Connolly).

## 451. EUONYMA VARIA, Connolly. [S.A.M.]

- 1910 *Euonyma varia*, Conn., A.M.N.H. vi. p. 263. pl. 6, f. 5-7. *D.F.*  
 Type in British Museum.  
*Hab.* TRANSVAAL. Pienaar's Poort; Pretoria District (Connolly).  
 Potchefstroom (Miss Cachet). Zoutpansberg (var., Cregoe).

## GENUS ZOOTEUCUS, Westerlund, 1887.

(Fauna Palæarct. Reg. iii. pp. 3, 75.)

(= *Chilogymnus*, Jousseaume, 1894.)Type of Genus, *Z. insularis* (Ehrnb.).

## 452. ZOOTEUCUS EULIMOIDES (Gray).

- 1838 *Bulimus eulimoide*, Gray, Alexander's Expedition, ii. p. 269. *D.*  
 Type in British Museum.  
*Hab.* GREAT NAMALAND. Near Great Fish River (Alexander).

## 453. ZOOTEUCUS NAMIBICUS (Böttger).

- 1910 *Ena (Eburnea) namibica*, Bttg., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 444. pl. 28, f. 10. *D.F.*  
 Type in Senckenberg Museum, Frankfurt.  
*Hab.* DAMARALAND. 140 kilom. inland from Swakopmund (Rintelen).



SUB-FAMILY CÆLIAXINÆ, Pilsbry, 1904.

(Man. of Conch. xvi. p. 194.)

GENUS CÆLIAXIS, Adams & Angas, 1865.

(P.Z.S. p. 54.)

(= *Bathyaxis*, Ancey, 1887, and *Sphalerostoma*, Girard, 1892.)

Type of Genus, *C. layardi*, Ad. & Ang.

454. CÆLIAXIS LAYARDI, Adams & Angas. [S.A.M.]

1865 *Subulina (Cæliaxis) layardi*, Ad. & Ang., P.Z.S. p. 54, pl. 2, f. 1. *D.F.*

1868 *Bulinus layardi*, Ad. & Ang., Pfr., Mon. Hel. vi. p. 95. *D.*

1881 *Cæliaxis* „ Angas, Layard, P.Z.S. p. 839. *N.*

1892 *Sphalerostoma layardi*, Ad. & Ang., Girard, Journ. de Sci. Lisbon,  
ii. p. 245. *N.D.*

1893 „ „ „ „ *ibid.* iii. pl. 1, f. 3. *F.*

1901 *Bathyaxis* „ „ Ancey, J. de C. xlix. p. 223. *N.*

1906 *Cæliaxis* „ „ Pilsb., Man. of Conch. xviii.  
p. 337. pl. 49, f. 11-14. *D.F.*

Type—*ubi* ?

*Hab.* CAPE OF GOOD HOPE (fide Adams & Angas). Tharfield (Layard). Kowie (Bowker). Port Alfred; East London (Farquhar). Port Elizabeth (Crawford).

TRANSVAAL. Traces of this, or of a larger, possibly extinct, species have been found at Pienaar's Poort (Connolly).

TRIBE ELASMOGNATHA, Mörch, 1863.

(Vidensk. Med. Naturh. Forenh. Copenhagen, p. 267.)

FAMILY SUCCINEIDÆ, Tryon, 1866.

(Amer. Journ. of Conch. ii. p. 222, as Succinidæ, *emend.* Fischer, 1874, J. de C. xxii. p. 137.)

GENUS SUCCINEA, Draparnaud, 1801.

(Tabl. Moll. Fr. p. 32.)

Type of Genus, *S. amphibia*, Drap. (*putris*, Lin.).

455. SUCCINEA AFRICANA, Krauss.

1848 *Succinea amphibia*, Drap., var. *africana*, Krs., Südafr. Moll. p. 73. *N.*

1856 „ *africana*, Krs., Bgt., Rev. et Mag. Zool. p. 11. *N.*



460. *Succinea delalandei*, Pfeiffer. [S.A.M.]

- 1821 *Helix (Cochlohydra) elongata*, var.  $\gamma$ , Fér., Tabl. Syst. Moll. pt. 3.  
p. 31 (or 27). L., and Hist. Nat. Moll. pl. 11A, f. 11. F.  
1851 *Succinea delalandii*, Pfr., Zeitschr. f. Malak. viii. p. 28. D.  
1853 „ *delalandei* „ Mon. Hel. iii. p. 11. D.  
1854, 5 „ „ „ Conch. Cab. p. 37. pl. 3, f. 38-40. D.F.  
1856 „ *delalandii* „ Bgt., Amén. malac. i. p. 135. D.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. “Près des marais salés” (Delalande).

CAPE PENINSULA. “Baszaarms” (Baas Harman’s) Kraal (Benson).  
Hout Bay; Seekoe Vlei; Maitland (Connolly).

BRITISH BECHUANALAND. Kuruman (Layard).

TRANSVAAL. Oliphants River (fide Craven).

var. *KURRI*, von Martens.

- 1869 *Succinea delalandei*, Pfr., var. *kurri*, von Mts., Mal. Blätt. xvi.  
p. 211. D.  
Type in Zool. Mus. Berlin.  
*Hab.* “SOUTH AFRICA” (Kurr).

461. *Succinea exarata*, Krauss.

- 1848 *Succinea exarata*, Krs., Südafr. Moll. p. 74. pl. 4, f. 15. D.F.  
„ „ „ Pfr., Mon. Hel. ii. p. 518. D.  
1856 „ „ „ Bgt., Amén. malac. i. p. 134. D.  
1910 „ „ „ Bttg., Abh. Senckenb. Naturf. Ges.  
Frankfurt, xxxii. p. 449. N.

Type in Stuttgart Museum.

*Hab.* NATAL. In swamps (Krauss). Near Pietermaritzburg (Burnup).

DAMARALAND. Gobabis (subfossil, Hermann, fide Böttger).

462. *Succinea moussoni*, von Martens.

- 1887 *Succinea*, ? Sp., Mouss., J. de C. xxxv. p. 298. N.  
1904 „ *moussoni*, von Mts., Die Kalahari, p. 755, f. 2. D.F.  
1910 „ Sp., Mouss., Bttg., Abh. Senckenb. Naturf. Ges.  
Frankfurt, xxxii. p. 449. N.

Type in Zool. Mus. Berlin.

*Hab.* OVAMPOLAND. Upingtonia, south-east of Ondonga (subfossil,  
Schinz). Sodanna (Passarge).

BECHUANALAND. South of Hardekol Drift, Botletle River, in marly  
sandstone (Passarge).

463. *SUCCINEA PATENTISSIMA*, Menke.

- 1853 *Succinea patentissima*, Mke., Pfr., Zeitschr. f. Malak. x. p. 52. *D.*  
 " " " " Mon. Hel. iii. p. 623. *D.*  
 1854, 55 " " " " Conch. Cab. p. 55. pl. 6, f. 26-  
 28. *D.F.*  
 1856 " " Bgt., Amén. malac. i. p. 135. *D.*  
 Type—*ubi* ?  
*Hab.* NATAL. Port Natal (Menke). Umgeni Lagoon (Burnup).  
 ZULULAND. Lake Sibayi (Toppin).

464. *SUCCINEA PISCINALIS*, Melv. & Pons.

- 1898 *Succinea piscinalis*, M. & P., A.M.N.H. ii. p. 127. pl. 7, f. 4. *D.F.*  
 Type in British Museum.  
*Hab.* CAPE OF GOOD HOPE. Fish River (Farquhar).

465. *SUCCINEA PLANTI*, Pfeiffer. [S.A.M.]

- 1856 *Succinea planti*, Pfr., P.Z.S. p. 326. *D.*  
 1859 " " " " Mon. Hel. iv. p. 805. *D.*  
 Type in British Museum.  
*Hab.* NATAL. Cape Natal (Plant). Pietermaritzburg (Burnup).

466. *SUCCINEA STRIATA*, Krauss. [S.A.M.]

- 1848 *Succinea striata*, Krs., Südafr. Moll. p. 73. pl. 4, f. 16. *D.F.*  
 " " " " Pfr., Zeitschr. f. Malak. v. p. 122. *D.*  
 1853 " " " " Mon. Hel. iii. p. 11. *D.*  
 1856 " " " " Bgt., Amén. malac. i. p. 134. *D.*  
 1866 " " " " von Mts., Mal. Blätt. xiii. p. 97. *N.*  
 1874 " " " " Jick., Fauna N.-O.-Afr. pp. 172, 173. *N.*  
 1910 " " " " (var.) Bttg., Abh. Senckenb. Naturf.  
 Ges. Frankfurt, xxxii. p. 449. *N.*

Type in Stuttgart Museum.

- Hab.* TRANSVAAL. River Limpopo (Wahlberg). Pretoria (McBean).  
 DAMARALAND. Gobabis (subfossil, Hermann).  
 NATAL. Pietermaritzburg (Burnup).  
 CAPE OF GOOD HOPE. Grahamstown (Farquhar). Zuurberg, near  
 Coerney (Crawford).  
 ORANGE FREE STATE. Kopjes Siding (Connolly). Bloemfontein  
 (Godfrey).

Also reported from North and Central Africa.

- Succinea limicola*, Morel. (Ann. Mus. Genova, 1872, iii. p. 191.

pl. 9, f. 8), described from Abyssinia, is considered by Jickeli to be a variety of the present species. *S. bowkeri*, M. & P., and *planti*, Pfr., are probably identical with *striata*.

TRIBE DITREMATA, Fischer & Crosse, 1878.

(Mission au Mexique, i. p. 698.)

FAMILY VERONICELLIDÆ, Gray, 1840.

(Syn. Brit. Mus. pp. 126, 149.)

GENUS VERONICELLA, de Blainville, 1817.

(Journ. de Physique, lxxxv. p. 440.)

Type of Genus, *V. laevis*, de Blainville.

467. VERONICELLA MAURA (Heynemann).

1885 *Vaginula maura*, Heynem., Jahrb. d. Deutsch. Mal. Ges. xii. pp. 7, 104. pl. 1, f. 6, 7. *D.F.*

Type in British Museum.

*Hab.* LORENZO MARQUES. Delagoa Bay (Mrs. Monteiro).

468. VERONICELLA NATALENSIS (von Rapp).

1848 *Vaginulus natalensis*, von Rapp, Krs., Südafr. Moll. p. 72. *D.*

1855 *Limax natalensis*, "Krs.," H. & A. Ad., Gen. rec. Moll. ii. p. 219.

1862 " " Heynem., Mal. Blätt. ix. p. 217. *N.*

1879 *Vaginula natalensis*, von Rapp, Gibb., Journ. of Conch. ii. p. 140. *N.*

1885 " " Heynem., Jahrb. d. Deutsch. Mal. Ges. xii. p. 103. *D.*

" *Limax natalensis*, Krs. (is *Vaginula ditto*), Tryon, Man. of Conch. i. p. 214.

1893 *Veronicella natalensis*, von Rapp, Ckll., Conchologist, ii. p. 216. *N.*

1910 " " Cllge., Ann. Natal Mus. ii. p. 170. *N.*

Type in Stuttgart Museum.

*Hab.* NATAL (Krauss). Port Shepstone (Burnup).

CAPE OF GOOD HOPE. Kowie District (Penther).

469. VERONICELLA PETERSI (von Martens).

1879 *Vaginula petersi*, von Mts., Monats-Ber. K. Preuss. Akad. Wiss. Berlin, p. 736. *D.*

1885 " " Heynem., Jahrb. d. Deutsch. Mal. Ges. xii. p. 105. *D.*

Type in Zool. Mus. Berlin.

*Hab.* LORENZO MARQUES. Inhambane (Peters).

470. VERONICELLA SAXICOLA, Cockerell.

1893 *Veronicella saxicola*, Ckll., Conchologist, ii. pp. 194, 216. *D.*

1910 " " Cllge., Ann. Natal Mus. ii. p. 171. *D.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Craven).

NATAL. Pietermaritzburg (Burnup).

FAMILY ONCHIDIIDÆ, Gray, 1824.

(Ann. of Philos. viii. p. 108, as Onchidiadæ, *emend.* H. & A. Adams, 1855, Gen. rec. Moll. ii. p. 232.)

GENUS ONCHIDIUM, Buchanan, 1800.

(Linn. Trans. v. p. 132.)

Type of Genus, *O. typhæ*, Buch.

471. ONCHIDIUM BURNUPI, Collinge.

1902 *Onchidium burnupi*, Cllge., Journ. of Malac. ix. p. 17, f. 1, 2. *D.F.*

1910 " " Ann. Natal Mus. ii. p. 171. *D.*

Type in University Museum of Zoology, Cambridge.

*Hab.* NATAL. Umlaas Lagoon (Burnup).

472. ONCHIDIUM PERONI, Cuvier. [S.A.M.]

1804 *Onchidium peronii*, Cuv., Ann. Mus. Nat. Hist. Paris, v. p. 38.  
pl. 6, f. 1-9. *D.A.*

1817 " " Mém. à l'Hist. et à l'Anat. Moll. 13.  
p. 1. pl. 1, f. 1-9. *D.A.*

1821 " " Fér., Tabl. Syst. Moll. pt. 2. p. 6. *N.*

1822 " " Lam., Hist. nat. An. s. Vert. vi. 2. p. 46. *D.*

1825 *Peronia mauritiana*, de Blainv., Man. de Malac. p. 489. pl. 46  
(1827), f. 7. *F.*

1832 *Onchidium tonganum*, Quoy & Gaim., Voy. Astrolabe, Moll.  
p. 210. pl. 15, f. 17, 18. *D.F.*

1836 " *peronii*, Cuv., Desh., Hist. nat. An. s. Vert. vii. p. 709. *N.*

" " *tonganum*, Quoy & Gaim., Desh., *ibid.* p. 709. *D.N.*

1848 " *peronii*, Cuv., Krs., Südafr. Moll. p. 72. *N.*

1870 " *tonganum*, Quoy & Gaim. (? *O. peronii*, Cuv.), Semp.,  
Reis. im Arch. Philippin. ii, 3. p. 258. pl. 19,  
f. 2, 9. pl. 22, f. 1, 2, 10. *D.F.A.*

- 1893 *Oncidium peroni*, Cuv. (= *O. melanopneumon*, Bergh, and *tonganum*, Q. & G.), Plate, Zool. Jahrb. Jena, vii, 1. p. 172. pl. 12, f. 85. *D.F.*  
1910 „ *tonganum*, Cunningham, Encycl. Brit. 11th Ed. xi. p. 525, f. 62. *F.*

Type—*ubi* ?

*Hab.* NATAL coast (Krauss). Congella, near Durban (Burnup).

LORENZO MARQUES. Inhambane (Peters).

CAPE PENINSULA. Green Point (Purcell).

Described from Mauritius.

473. ONCHIDIUM SAVIGNYI, Semper.

- 1870 *Onchidium savignyi*, Semp., Reis. im Arch. Philippin. ii, 3. p. 260. pl. 19, f. 6. pl. 20, f. 1. pl. 22, f. 5-9. *D.F.A.*  
1903 *Onchidium savignyi*, Semp., Smith, Proc. Mal. Soc. v. p. 401. *N.*  
1910 „ „ Cllge., Ann. Natal Mus. ii. p. 172. *L.*

Type—*ubi* ?

*Hab.* NATAL. Scottburgh (Burnup).

GENUS ONCHIDELLA, Gray, 1850.

(Fig. Moll. Anim. iv. p. 117.)

Type of Genus, *O. nigricans* (Q. & G.).

474. ONCHIDELLA MACULATA, Plate.

- 1893 *Oncidiella maculata*, Plate, Zool. Jahrb. Jena, vii, 1. p. 201. pl. 7, f. 4. pl. 9, f. 43, 44. pl. 10, f. 45-49, 52. pl. 11, f. 68. pl. 12, f. 101. *D.F.A.*

Type—*ubi* ?

*Hab.* GREAT NAMALAND. Angra Pequena (fide Plate).

SUB-ORDER BASOMMATOPHORA, Keferstejn, 1865.

(Bronn's Thier-reichs, iii. p. 1246.)

TRIBE GEHYDROPHILA, Férussac, 1821.

(Tabl. Syst. Moll. pt. 3. p. 95 (or 91), as Géhydrophiles.)

FAMILY AURICULIDÆ, Gray, 1824.

(Ann. of Philos. viii. p. 107, as Auriculadæ, *emend.* 1840, Turton's Manual, p. 101.)

(= Ellobiidæ, H. & A. Adams, 1855.)

SUB-FAMILY MELAMPINÆ, H. & A. Adams, 1855,

(Gen. rec. Moll. ii. p. 242.)

## GENUS MELAMPUS, de Montfort, 1810.

(Conch. Syst. ii. p. 319.)

 (= *Conovulus*, Lamarck, 1812, &c.)Type of Genus, *M. coniformis* (Brug.).

Recent classification of this Genus is somewhat unsatisfactory: species from widely distant localities can, certainly, be placed together in well-marked groups, members of which have of late years been placed in synonymy; but it appears almost impossible that these inoperculate, brackish-water pulmonates can travel such immense distances as, say, from the Sandwich Islands to Natal, and it is in the highest degree unlikely that the union of shells from such localities under the same name can be correct.

On these grounds I have preferred to retain, as far as possible, names of species described by the older writers from South Africa for specimens recently collected there, although faulty figures and lack of authentic examples render their correct identification by no means certain.

## 475. MELAMPUS ACINOIDES, Morelet. [S.A.M.]

1889 *Melampus acinoides*, Morel., J. de C. xxxvii. p. 14. pl. 1, f. 9. *D.F.*1898         "                 "         Kob., Conch. Cab. p. 205. pl. 23,  
f. 12, 13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Zwartkops River, near Port Elizabeth (Crawford). Kalk Bay (Lightfoot).

## 476. MELAMPUS CAFFER (Küster).

1844 *Auricula caffra*, Küst., Conch. Cab. p. 36. pl. 5 (1843), f. 7. *D.F.*1854 *Melampus ater*, Mühlf. (= *caffer*, Küst.), H. & A. Ad., P.Z.S. p.10.1856         "         *caffer*, Küst. (= *ater*, Mühlf.), Pfr., Mon. Auric. p.40. *D.*1857         "         "         "         Pfr., Cat. Auric. p. 29. *D.*1871         "         "         "         von Mts. & Langkavel, Südsee-Conch.  
p. 56. pl. 3, f. 11. *F.*1878 *Auricula caffra*         "         Sow., Conch. Icon. pl. 7, f. 53. *D.F.*1884 *Melampus caffer*         "         Garrett, Journ. Acad. Nat. Sci. Phila. ix.  
p. 89. *D.N.*1890         "         Krs., Mlldff., Ber. Senckenb. Naturf. Ges.  
Frankfurt, p. 254. *N.*

Type in Stuttgart Museum.

*Hab.* NATAL. Mouth of Umlaas River (Krauss).



It is doubtful whether many of the foregoing references, which record *M. caffer* from all parts of the Indian and Pacific Oceans, really relate to Küster's species.

var. MINOR, Küster.

1839 *Conovulus ater*, Mühlf., Anton, Verz. Conch. Samml. p. 48  
(without characters).

1844 *Auricula caffra*, var. *minor*, Küst., Conch. Cab. p. 36. pl. 5 (1843),  
f. 6, 8. *D.F.*

Described from Ohetaroa, and probably quite distinct from the South African form.

477. MELAMPUS KÜSTERI (Krauss).

1842 ?? *Auricula monile*, Lam., Rve., Conch. Syst. ii. p. 106. pl. 187, f. 8. *F.*

1844 ,, *küsteri*, Krs., Küst., Conch. Cab. p. 34. pl. 4 (1843),  
f. 10-13. *D.F.*

1856 *Melampus* ,, ,, Pfr., Mon. Auric. p. 33. *D.*

1857 ,, ,, ,, ,, Cat. Auric. p. 23. *D.*

Type in Stuttgart Museum.

*Hab.* NATAL. Mouth of Umlaas River (Krauss).

var. OBLONGUS, Küster.

1844 *Auricula küsteri*, Krs., var. *oblonga*, Küst., Conch. Cab. p. 34. *D.*

*Hab.* NATAL. Mouth of Umlaas River (Krauss).

478. MELAMPUS LIVIDUS (Deshayes).

1830 *Auricula livida*, Desh., Enc. Méth. Vers. ii. p. 91. *D.*

1838 ,, ,, Hist. nat. An. s. Vert. viii. p. 338. *D.*

1844 ,, ,, Küst., Conch. Cab. p. 44. pl. 6 (1843),  
f. 21. *D.F.*

1848 ,, ,, Krs., Südafr. Moll. p. 81. *N.*

1854 *Melampus lividus*, Lin. (= *livida*, Desh.), H. & A. Ad., P.Z.S. p. 10.

1856 ,, Desh., Pfr., Mon. Auric. p. 40. *D.*

1857 ,, ,, ,, Cat. Auric. p. 29. *D.*

1878 *Auricula livida*, Lin., Sow., Conch. Icon. pl. 7, f. 58. *D.F.*

1882 *Melampus lividus*, Desh., Morel., J. de C. xxx. p. 101. *N.*

1897 ,, ,, von Mts., D.-O.-Afr. p. 264. *D.*

Specimens ex auct. in École des Mines, Paris.

*Hab.* NATAL. Mouth of Umlaas River (Krauss; Burnup). ? juv.  
in Durban Bay (Burnup).

Also chronicled from Mayotte, Réunion, Mauritius, Seychelles, &c.

It is impossible to regard this species as in any way connected with *Bulla livida*, Lin. (Syst. Nat., Ed. 10. i. p. 729) & Gault. (Index Test. pl. 25, f. B), which appears to represent a different Genus.

varr. CÆRULEUS, FASCIATUS, and OVATUS, Küster.

- 1844 *Auricula livida*, Desh., varr. *cærulea*, *ovata*, and *fasciata*, Küst.,  
Conch. Cab. p. 45. pl. 6 (1843), f. 22-26. *D.F.*  
*Hab.* NATAL coast (Krauss).

479. MELAMPUS ORDINARIUS, Melv. & Pons. [S.A.M.]

- 1901 *Melampus ordinarius*, M. & P., A.M.N.H.viii.p.321.pl.2,f.14. *D.F.*  
Type in British Museum.  
*Hab.* NATAL. Mouth of Umlaas River (Burnup).

480. MELAMPUS PARVULUS, Nuttall. [S.A.M.]

- 1854 *Melampus parvulus*, Nutt., Pfr., Mal. Blätt. i. p. 147 (*without characters*).  
1856 " " " Mon. Auric. p. 24. *D.*  
1857 " " " Cat. Auric. p. 16. *D.*  
1871 " " " von Mts. & Langkavel, Südsee-  
Conch. p. 56. pl. 3, f. 10. *F.*  
1898 " " " Kob., Conch. Cab. p. 220. pl. 26,  
f. 5. *D.F.*

Originals in British Museum.

*Hab.* NATAL. Durban Bay; mouths of Umlaas and Umkomaas Rivers (Burnup).

Owing to the diverse geographical distribution, it is most unlikely that these Natal specimens are conspecific with the true *parvulus*, which was described from Oahu; but, in the series examined, I have been unable to find valid conchological grounds for their separation. Is it possible that the species can have been introduced alive in ballast?

481. MELAMPUS SEMIARATUS, sp. nov., pl. 2, f. 8. [S.A.M.]

- 1898 *Melampus granifer*, "Mouss.," M. & P., Proc. Mal. Soc.iii.p.180. *L.*

Shell small, conic-ovate, subrimate, solid, rather glossy, of uniform dark brown colour, the upper and lower portions covered with spiral grooves which are crossed by faint transverse striæ; the middle portion is destitute of sulcation, and thus has a comparatively smooth appearance. Spire short, conical; apex acute. 6 flat

whorls, the last comprising practically the entire shell. Aperture long and narrow, furnished with one receding white rib half-way up the outer lip; a fold of medium size at the base of the columella; and three sharp white parietal plaits at almost equal, but gradually decreasing distances between the columellar fold and the top of the aperture. Peristome acute, of paler colour. Columellar margin thickly reflexed, almost adnate.

Shell  $9.6 \times 5.5$ ; aperture 7.5; last whorl 8.8 mm.

Type in British Museum.

*Hab.* NATAL. Durban Bay; mouths of Umlaas and Umkomaas Rivers (Burnup).

A member of the group comprising *M. granifer*, Mouss., from Java; *sulculosus*, von Mts., from Amboina; *corticinus*, Morelet, from Mauritius; *striatus*, Pease, from Tahiti, and *semisulcatus*, Mouss., from Samoa, to the last two of which it must be very nearly allied. The half-furrowed appearance of the new species, though usual, is not always constant, some shells being covered all over with spiral grooving, in which state they much resemble *striatus*; but owing to the widely divergent distribution, it is most improbable that the three species can be the same.

482. MELAMPUS UMLAASIANUS (Krauss).

1844 *Auricula umlaasiana*, Krs., Küst., Conch. Cab. p. 43. pl. 6 (1843), f. 16-18. *D.F.*

1856 *Melampus umlaasianus*, Krs., Pfr., Mon. Auric. p. 34. *D.*

1857 " " " " Cat. Auric. p. 24. *D.*

Not *Auricula umlaasiana*, "Krs.," Sow., Conch. Icon. pl. 6, f. 48.

Type in Stuttgart Museum.

*Hab.* NATAL. Mouth of Umlaas River (Krauss).

var. OBSCURUS, Küster.

[S.A.M.]

1844 *Auricula umlaasiana*, Krs., var. *obscura*, Küst., Conch. Cab. p. 44. pl. 6 (1843), f. 19, 20. *D.F.*

*Hab.* NATAL. Mouth of Umlaas River (Krauss). Isipingo (Burnup).

Specimens from Isipingo, apparently referable to this variety, have of late years been erroneously attributed to *M. castaneus*, Mühlf. (= *A. fusca*, Phil.), a Sandwich Island species. *M. avellana*, Morelet, from Mauritius, is also near akin, but it appears inadvisable to place either of the three in synonymy.

GENUS MARINULA, King, 1835.  
(Zool. Journ. v. p. 343.)

Type of Genus, *M. pepita*, King.

483. MARINULA, ? Sp. [S.A.M.]

*Hab.* CAPE OF GOOD HOPE. Camps Bay (McBean). Dassen Island (Lightfoot).

Two specimens only of *Marinula* have so far been collected in South Africa. They closely resemble a form from Tristan da Cunha, which has been attributed in the British Museum and elsewhere to *M. pepita*, King (= *nigra*, Phil., & *marinella*, "King," Küster). More material is required before they can be determined.

GENUS PEDIPES, Férussac, 1821.  
(Adanson, Hist. nat. du Sénégal, 1757, pt. 2, p. 11 (*pre-Linnean*), and Férussac, Tabl. Syst. Moll., 1821, pt. 3. p. 103 (or 99).)

Type of Genus, *P. afer* (Gmel.).

484. PEDIPES AFFINIS, Férussac.

- 1821 *Pedipes affinis*, Fér., Tabl. Syst. Moll. pt. 3. p. 113 (or 109). *D.*  
 1856 " " Pfr., Mon. Auric. p. 72. *D.*  
 1857 " " Cat. Auric. p. 54. *N.*  
 1863 " " Desh., Notes sur l'Île Réunion, ii, E. p. 83.  
 pl. 37, f. 5, 6. *D.F.*  
 1874 *Læmodonta affinis*, Fér., Jick., Fauna N.-O.-Afr. p. 181. pl. 7, f. 6. *D.F.*  
 1887 *Pedipes affinis*, Fér., Ancey, Bull. Soc. Mal. France, iv. p. 285. *N.*  
 1898 *Melampus (Laimodonta) affinis*, Fér., Kob., Conch. Cab. p. 202.  
 pl. 23, f. 7, 8. *D.F.*  
 1900 *Pedipes affinis*, Fér., Kob., Conch. Cab. p. 259. *D.*  
 Type—*ubi?*  
*Hab.* NATAL. Durban (Burnup).  
 Described from Mauritius, and known from the Red Sea.

SUB-FAMILY AURICULINÆ, Pfeiffer, 1857.  
(Cat. Auric. p. 54.)

GENUS AURICULASTRA, von Martens, 1880.  
(Meeresfauna Mauritius, p. 207.)

Type of Genus, *A. elongata* (Parr.).

485. *AURICULASTRA CATONIS* (Melv. & Pons.). [S.A.M.]

- 1899 *Auricula catonis*, M. & P., A.M.N.H. iv. p. 199. pl. 3, f. 13. *D.F.*  
 1900 " " Kob., Conch. Cab. p. 265. pl. 31, f. 14. *D.F.*

Type in British Museum.

*Hab.* NATAL. Cato's Creek, Durban; mouths of Umlaas and Umkomaas Rivers (Burnup).

486. *AURICULASTRA RADIOLATA* (Morelet). [S.A.M.]

- 1848 *Auricula pellucens*, "Mke.," Krs., Südafr. Moll. p. 82. *N.*  
 1860 *Melampus radiolatus*, Morel., Séries Conch. ii. p. 93. pl. 6, f. 11. *D.F.*  
 1876 *Auriculus radiolatus*, Morel., Pfr., Mon. Pneum. iv. p. 359. *D.*  
 1877 *Auricula radiolata*, Morel., Nev., Hand List, i. p. 226. *L.*  
 1897 *Auriculastra radiolata*, Morel., von Mts., D.-O.-Afr. p. 264. *N.*  
 1899 *Auricula durbanica*, M. & P., A.M.N.H. iv. pp. 193, 199. pl. 3, f. 14. *D.F.*  
 1900 " " Kob., Conch. Cab. p. 264. pl. 31, f. 13. *D.F.*

Types of *radiolata* and *durbanica* in British Museum.

*Hab.* NATAL (? *pellucens*, Wahlberg; *radiolata*, Nevill). Cato's Creek, Durban; mouths of Umlaas and Umkomaas Rivers (*durbanica*, Burnup).

*Radiolata* was described from Zanzibar, *durbanica* from Natal; the type of the former has not attained fullest dimensions, but seems inseparable from similar specimens of *durbanica*.

GENUS *CASSIDULA*, Férussac, 1821.

(Tabl. Syst. Moll. pt. 3. p. 109 (or 105).)

(= *Rhodostoma*, Swainson, and *Sidula*, Gray, 1840.)

Type of Genus, *C. auris felis* (Brug.).

487. *CASSIDULA LABRELLA* (Deshayes). [S.A.M.]

- 1830 *Auricula labrella*, Desh., Enc. Méth. Vers, ii. p. 92. *D.*  
 " " " " Mag. de Zool. p. 14. pl. 14, f. 1-3. *D.F.*  
 1838 " " " " Hist. nat. An. s. Vert. viii. p. 337. *D.*  
 1841 " " " " Küst., Conch. Cab. p. 22. pl. 2, f. 4, 5. *D.F.*  
 " " *kraussii*, Küst., *ibid.* p. 24. pl. 3, f. 6-8. *D.F.*  
 1848 " " " " Krs., Südafr. Moll. p. 82. *N.*  
 1856 *Cassidula kraussi*, Küst., Pfr., Mon. Auric. p. 113. *D.*  
 " " *lutescens*, Pfr., Mon. Auric. p. 113. *D.*  
 " " *labrella*, Desh., Pfr., Mon. Auric. p. 112. *D.*  
 1857 " " " " Cat. Auric. p. 86. *D.*

- 1857 *Cassidula kraussi*, Küst., Pfr., Cat. Auric. p. 86. *D.*  
 1874 „ *labrella*, Desh. (= *kraussi* and *lutescens*), Jick.,  
 Fauna N.-O.-Afr. p. 186. *D.*  
 1878 *Auricula kraussii*, Küst., Sow., Conch. Icon. pl. 5, f. 32. *D.F.*  
 1883 *Cassidula labrella*, Desh., Bgt., Ann. Sci. nat. Paris, xv. p. 124. *N.*  
 Type of *kraussi* in Stuttgart Museum; *labrella*—*ubi*?  
*Hab.* NATAL. Mouth of Umlaas River (*kraussi*, Krauss). Durban (Burnup).  
 CAPE OF GOOD HOPE. Zwartkops River marshes, near Port Elizabeth (Crawford).  
*Labrella* was described from Mauritius, *kraussi* from Natal, and the *Hab.* of *lutescens* was unknown.

## GENUS PHYTIA, Gray, 1821.

(London Medical Repository, xv. p. 231.)

(=*Alexia*, Leach in Gray, 1847, nec Stephens, in Coleoptera 1835.)Type of Genus, *P. denticulata*, Mont. (*myosotis*, Drap.).

## 488. PHYTIA ACUMINATA, Morelet. [S.A.M.]

- 1889 *Alexia acuminata*, Morel., J. de C. xxxvii. p. 15. pl. 1, f. 11. *D.F.*  
 „ „ *pulchella* „ „ „ p. 15. pl. 1, f. 10. *D.F.*  
 1898 „ „ „ Kob., Conch. Cab. p. 133. pl. 19, f. 7, 8.  
*D.F.*  
 „ „ *acuminata* „ Kob., *ibid.* p. 133. pl. 19, f. 13, 14. *D.F.*  
 Types in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford; Farquhar).

The above species were founded on very immature shells, and, in a large series, merge into one another. The type of *acuminata* measures 4.5 × 2 mm., while the largest examples that I have examined from Port Elizabeth are 20 × 4 and 19.5 × 5 mm. respectively; there seems no doubt, however, that these are the adult of Morelet's species. They are closely allied to the variable European *Phytia myosotis* (Draparnaud).

## TRIBE HYGROPHILA, Férussac, 1822.

(Tabl. Syst. Moll., pt. 1. p. xxxiii, as Hygrophiles.)

## FAMILY LIMNÆIDÆ, Gray, 1824.

(Ann. of Philos. viii. p. 108, as Lymneadæ, *emend.* Broderip, 1839, Penny Cyclopædia, xiii. p. 497.)

GENUS LIMNÆA, Lamarek, 1799.

(Mém. Soc. Hist. Nat. Paris, p. 75, as Lymnæa, *emend.* Rang, 1829, Man. de l'Hist. nat., Moll. p. 176.)

Type of Genus, *L. stagnalis* (Lin.).

489. LIMNÆA DAKAËNSIS, Sturany.

1898 *Limnæus dakaënsis*, Stur., S.A. Moll. p. 74. pl. 3, f. 55, 56. *D.F.*

Type in Naturh. Hofmus. Vienna.

*Hab.* RHODESIA. Daka (Penther).

490. LIMNÆA DAMARANA, Böttger.

1910 *Limnæa damarana*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 450. pl. 28, f. 16. *D.F.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* DAMARALAND. Gobabis (subfossil, Hermann).

Founded on two specimens only.

491. LIMNÆA NATALENSIS, Krauss. [S.A.M.]

1848 *Limnæus natalensis*, Krs., Südafr. Moll. p. 85. pl. 5, f. 15. *D.F.*

1862 " " " Küst., Conch. Cab. p. 31. pl. 6, f. 1-3. *D.F.*

1870 *Limnæa* " " Blanford, Obs. Geol. & Zool. Abyss. p. 472. *N.*

1872 " " " Sow., Conch. Icon. pl. 7, f. 46. *D.F.*

1874 " " " Jick., Fauna N.-O.-Afr. p. 190. *D.*

1881 " " " Smith, P.Z.S. p. 295. *N.*

1904 " " " " Proc. Mal. Soc. vi. p. 98. *N.*

Type in Stuttgart Museum.

*Hab.* NATAL. "Common" (Krauss). An unusually large form is known from the Botanical Gardens, Durban.

TRANSVAAL. Pretoria District (McBean). Zoutpansberg (Cregoe).

LORENZO MARQUES. Itschonogove (fide von Martens). Rikatla (Junod).

ORANGE FREE STATE. Valsch River, Lindley; Rhenoster River, near Heilbron (Connolly). Kroonstad (Eckersley).

CAPE OF GOOD HOPE. Port Elizabeth (Crawford).

GRIQUALAND WEST. Modder and Vaal Rivers, near Kimberley (Miss Wilman).

BECHUANALAND. Lake Ngami (Woosman).

RHODESIA. Zambesi River, above Victoria Falls (Connolly).

Recorded from most parts of Africa.

Smith (1904) remarks that *L. africana*, *alexandrina*, *debaizei*, *jouberti*, *laurenti*, and *lavigeriana*, Bgt., are probably all forms of *natalensis*, but Pallary (Mém. Inst. Egypt., 1909, vi, 1. p. 47) considers *alexandrina* (= *natalensis*, Auctt., nec Krs.) to be distinct.

var. *EXSERTA*, von Martens.

- 1866 *Limnæus natalensis*, Krs., var. *exsertus*, von Mts., Mal. Blätt. xiii. p. 101. pl. 3, f. 8, 9. *D.F.*  
 1874 *Limnæa natalensis*, Krs., var. *exserta*, von Mts., Jick., Fauna N.-O.-Afr. p. 191. *D.*  
 1883 ,, *exserta*, Bgt., Ann. Sci. nat. Paris, xv. pp. 90, 125. *N.*  
 Described from Abyssinia.

var. *OROPHILA*, Morelet.

- 1868 *Limnæa orophila*, Morel., Voy. Welwitsch, Moll. p. 87. pl. 7, f. 4. *D.F.*  
 1874 ,, *natalensis*, Krs., var. *orophila*, Morel., Jick., Fauna N.-O.-Afr. p. 191. pl. 3, f. 1. *D.R.*  
 Described from Benguela, and also recorded from Abyssinia.

492. *LIMNÆA SUBTRUNCATULA*, Böttger.

- 1910 *Limnæa subtruncatula*, Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 451. pl. 28, f. 17. *D.F.*  
 Type in Senckenberg Mus. Frankfurt.  
*Hab.* DAMARALAND. Gobabis (subfossil, Hermann).  
 Founded on three specimens.

493. *LIMNÆA TRUNCATULA* (Müll.). [S.A.M.]

- 1774 *Buccinum truncatulum*, Müll., Verm. ii. p. 130. *D.*  
 1789 *Bulimus truncatus*, Brug., Enc. Méth. Vers, i. p. 310. *D.*  
 1801 *Limnæus minuta*, Drap., Tabl. Moll. Fr. p. 51. *D.*  
 1803 *Helix fossaria*, Mont., Test. Brit. ii. p. 372. pl. 16, f. 9. *D.F.*  
 1821 *Limnæus minutus*, Drap., C. Pfr., Syst. Anordn. d. deutsch. L. u. W.-Schneck. p. 93. pl. 4, f. 27. *D.F.*  
 1829 *Limnæa minuta*, Drap., Schubert & Wagner, Conch. Cab. xii. p. 182. pl. 235, f. 4134, 5. *D.F.*  
 1840 *Limnæus truncatulus*, Müll., Gray, Turton's Manual, p. 240. *D.* and *Synonymy.*  
 1855 *Limnæa truncatula*, Müll., Moq.-Tand., Hist. Nat. Moll. Fr. ii. p. 473. pl. 34, f. 21-24. *D.F.*  
 1862 *Limnæus truncatulus*, Müll., Küst., Conch. Cab. p. 17. pl. 3, f. 24-27. *D.F.*



- 1862 *Limnæus umlaasianus*, Küst., *ibid.* p. 32. pl. 6, f. 4, 5. *D.F.*  
1872 *Limnæa truncatula*, Müll., Sow., *Conch. Icon.* pl. 1, f. 3. *D.F.*  
1883 " " " (= *umlaasianus*, Küst.), Bgt., *Ann.*  
Sci. nat. Paris, xv. pp. 86, 97, 123. *N.*  
1897 " ? *truncatula* " von Mts., D.-O.-Afr. p. 137. *N.*  
1898 *Limnæus umlaasianus*, Küst., *Stur.*, S.A. *Moll.* p. 74. *N.*  
1899 *Limnæa umlaasiana*, Küst., M. & P., A.M.N.H. iv. p. 193. *N.*

Type—*ubi* ?

*Hab.* NATAL. Umlaas River (*umlaasiana*, in coll. Küster).

TRANSVAAL. Pretoria (McBean).

CAPE OF GOOD HOPE. Stellenbosch (Péringuey).

GENUS PLANORBIS, Geoffroy, 1767.

(Coquilles de Paris, pp. 12, 81.)

(= *Planorbis*, Guettard, 1756, *pre-Linnean.*)

Type of Genus, *Pl. corneus* (Lin.).

494. PLANORBIS ANDERSSONI, Ancey. [S.A.M.]

- 1890 *Planorbis anderssoni*, Ancey, *Bull. Soc. Mal. Fr.* vii. p. 161. *D.*

- 1898 " " " *Stur.*, S.A. *Moll.* p. 77. *N.D.*

Type in coll. Putzeys.

*Hab.* OVAMPOLAND. Ovambonde (Andersson ; Chapman).

NATAL. Durban (Penther).

CAPE OF GOOD HOPE. Burnt Kraal, near Grahamstown (Farquhar).

495. PLANORBIS COSTULATUS, Krauss. [S.A.M.]

- 1848 *Planorbis costulatus*, Krs., *Südafr. Moll.* p. 83. pl. 5, f. 8. *D.F.*

- 1874 " " (var.), Jick., *Fauna N.-O.-Afr.* p. 219.  
pl. 7, f. 22, 23. *D.N.F.*

- 1877 " " Sow., *Conch. Icon.* pl. 4, f. 26. *D.F.*

- 1884 " " Cless., *Conch. Cab.* p. 131. pl. 21.  
(1883), f. 2. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL. Umgeni Valley (Krauss). Equeefa (Burnup).

ZULULAND. Enseleni River (var., Burnup).

Also reported from Abyssinia.

496. PLANORBIS CRAWFORDI, Melv. & Pons.

- 1893 *Planorbis crawfordi*, M. & P., A.M.N.H. xii. p. 111. pl. 3, f. 20. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Van Staaden's River ; Zwartkops River, Port Elizabeth (Crawford).

TRANSVAAL. Ranjesfontein ; Potchefstroom (Connolly).  
Also recorded from Victoria Nyanza.

497. *PLANORBIS GIBBONSI*, Nelson. [S.A.M.]

- 1878 *Planorbis gibbonisi*, Nels., Quart. Journ. of Conch. i. p. 379.  
pl. 4, f. 3. *D.F.*  
1897        "        "        von Mts., D.-O.-Afr. p. 150. *N.*  
1908        "        "        Neuville & Anthony, Ann. Sci. nat.  
Paris, viii. p. 260. *N.*

Type in coll. Nelson.

*Hab.* CAPE PENINSULA. Black River, Maitland (Connolly).

Described from Zanzibar, and known from Central Africa.

None of the original specimens of *Pl. gibbonisi* have been available for comparison, while the original description and figure do not appear to quite fit the single representative of this species (ex coll. von Martens) in the British Museum, or similar shells in my collection from South and Central Africa. I have, however, submitted a set of the latter to Mr. J. W. Taylor, who kindly replied: "I have carefully examined the *Planorbis* you sent, and am of opinion that they do represent the *Pl. gibbonisi* of Nelson. I find the lithographic artist made the shape of the mouth in the original figure more angular than I am sure it was. I was much interested in these shells when Gibbons sent them, and gave them considerable attention."

498. *PLANORBIS HERMANNI*, Böttger.

- 1910 *Planorbis (Coretus) hermanni*, Bttg., Abh. Senckenb. Naturf.  
Ges. Frankfurt, xxxii. p. 452. pl. 28, f. 18. *D.F.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* DAMARALAND. Okaputa Pan (several dead shells, Hermann).  
"Very like *P. pfeifferi*, Krs." (Bttg.).

499. *PLANORBIS LEUCOCHILUS*, Melv. & Pons.

- 1903 *Planorbis leucochilus*, M. & P., A.M.N.H. xii. p. 607. pl. 31, f. 3. *D.F.*  
Type in British Museum.

*Hab.* NATAL. Killarney Lake, Pietermaritzburg (Burnup).

500. *PLANORBIS NATALENSIS*, Krauss.

- 1848 *Planorbis natalensis*, Krs., Südafr. Moll. p. 83. pl. 5, f. 9. *D.F.*  
1877        "        *natalis*, Krs., Sow., Conch. Icon. pl. 4, f. 32. *D.F.*  
1883        "        *natalensis*, Krs., Cless., Conch. Cab. p. 109. pl. 17  
(1882), f. 3. *D.F.*

1910 *Planorbis (Gyraulus) natalensis*, Krs., Bttg., Abb. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 451. N.

Type in Stuttgart Museum.

*Hab.* NATAL. Umgeni Valley (Krauss).

CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet).

DAMARALAND. Gobabis (subfossil, Hermann).

BRITISH BECHUANALAND. Witkop (subfossil, Schultze).

501. PLANORBIS PFEIFFERI, Krauss. [S.A.M.]

1848 *Planorbis pfeifferi*, Krs., Südafr. Moll. p. 83. pl. 5, f. 7. *D.F.*

1877 " " Sow., Conch. Icon. pl. 4, f. 33. *D.F.*

1882 " " Cless., Conch. Cab. p. 87. pl. 10 (1850), f. 26-28. *D.F.*

1893 *Planorbis bowkeri*, M. & P., A.M.N.H. xii. p. 111. pl. 3, f. 19. *D.F.*

1910 " " c.f. *pfeifferi*, Krs.," Bttg., Abb. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 451. N.

Co-type of *pfeifferi* in Stockholm Museum; type of *bowkeri* in British Museum.

*Hab.* NATAL. Umgeni Valley (Krauss). Clairmont; Umbogintwini River (Burnup).

ZULULAND (Burnup).

LORENZO MARQUES. Itschongove (fide von Martens).

RHODESIA. Daka River (Penther). Salisbury (Miss Weineck).

TRANSVAAL. "Northern Transvaal" (*bowkeri*, Bowker). Ranjesfontein and Crocodile River, Pretoria District (Connolly).

BRITISH BECHUANALAND. Witkop (subfossil, Schultze).

Melvill and Standen (Manchester Memoirs, li, 4. 1907, p. 7) apparently refer to some other species under the name of *bowkeri*; the type appears inseparable from *pfeifferi*, Krs.

I am not sufficiently well acquainted with *Pl. rüppelli*, Dkr., or *salinarum*, Morel., to confirm the synonymy suggested elsewhere by von Martens and Jickeli.

502. PLANORBIS RÜPPELLI, Dunker.

1848 *Planorbis rüppellii*, Dkr., P.Z.S. p. 42. *D.*

1850 " *rüppelli* " Conch. Cab. p. 41. pl. 5, f. 10-12. *D.F.*

1866 " *rüppellii* " von Mts., Mal. Blätt. xiii. p. 4. *N.*

1869 " " " (= *salinarum*, Morel.), von Mts., Mal. Blätt. xvi. p. 211. *D.*

1870 " " " Blanf., Obs. Geol. and Zool. Abyss. p. 473. *N.*

- 1872 *Planorbis rüppelli*, Dkr., Morel., Ann. Mus. Genova, iii. p. 207. *N.*  
 1874     "           "           "     Jick., Fauna N.-O.-Afr. p. 211. pl.7,  
   f. 17, 18. *D.F.*  
 1883     "           "           "     Bgt., Ann. Sci. nat. Paris, xv. pp. 100,  
   127. *D.*  
 1900     "           "           Krs., Junod, Bull. Soc. Vaudoise, xxxv.  
   p. 279. *L.*  
 1908     "           "           Dkr., Neuville & Anthony, Ann. Sci. nat.  
   Paris, viii. pp. 249-253. *N.F.*

Type in Zool. Mus. Berlin.

*Hab.* LORENZO MARQUES. Rikatla (Junod).

Described from Abyssinia.

Jickeli (1874) remarks: "I could not unite *Plan. salinarum*, Morel., from West Africa, with *rüppellii*; according to the figure in Voy. Wellwitsch, the former differs through less height combined with greater diameter. On the other hand, our Abyssinian *Planorbis* appears to me very nearly allied to *Plan. pfeifferi*, Krs.; comparison with examples of this species, which I do not possess, ought to produce synonymy of the two."

#### 503. PLANORBIS SALINARUM, Morelet.

- 1868 *Planorbis salinarum*, Morel., Voy. Welwitsch, Moll. p. 85. pl. 5,  
   f. 4. *D.F.*  
 1904     "           "           "     von Mts., Die Kalahari, p. 756. *N.*

Type in British Museum.

*Hab.* BECHUANALAND. Lake Ngami; Sodanna (subfossil, Passarge).

Described from Dungo saltings, Angola.

#### GENUS SEGMENTINA, Fleming, 1818.

(Encyc. Brit., Suppl. to 4th, 5th, and 6th editions, iii. p. 309.)

Type of Genus, *Nautilus lacustris*, Lightfoot (*nitida*, Müll.).

#### 504. SEGMENTINA EMICANS, Melv. & Pons.

- 1892 *Planorbis (Segmentina) emicans*, M. & P., A.M.N.H. x. p. 241.  
   pl. 3, f. 13. *D.F.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Farquhar).



Type in British Museum.

*Hab.* NATAL. Gordon Falls; Town Bush Valley and Sweet-water streams, near Pietermaritzburg; Edendale Falls; Nottingham Road; Dargle; Karkloof; Howick Falls and Aasvogel Krantz, Umgeni River (Burnup).

NORTHERN TRANSVAAL. Zoutpansberg (Cregoe).

var. FARQUHARI, Walker.

1912 *Ancylus caffer*, Krs., var. *farquhari*, Walker, Nautilus, xxv. p. 140. *D.*

Type in coll. Walker.

*Hab.* CAPE OF GOOD HOPE. York, East Griqualand (Farquhar). Teko River, Transkei (Miss Hickey).

var. STENOCHORIAS, Melv. & Pons.

1855 *Ancylus obliquus*, Krs., Küst., Conch. Cab. pl. 1, f. 18-20. *F.*  
(non *A. obliquus*, Brod. & Sow., 1832.)

1903 „ *stenochorias*, M. & P., A.M.N.H. xii. p. 607. pl. 31, f. 1. *D.F.*

1912 „ *caffer*, Krs., var. *stenochorias*, M. & P., Walker, Nautilus, xxv. p. 140. *L.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Ebb en Vloed, Bog Farm and Van Staadens River, Port Elizabeth (in coll. Ponsonby). Baakens River, Port Elizabeth; King Williamstown Road Dam and Kowie River, Grahamstown (Farquhar). Upper Retreat and Klipplatz River, Cathcart (Miss Hickey). Käser River, Montagu (Connolly).

var. CAPENSIS, Walker.

[S.A.M.]

1912 *Ancylus caffer*, Krs., var. *capensis*, Walker, Nautilus, xxv. p. 141. *D.*

Type in coll. Walker.

*Hab.* CAPE OF GOOD HOPE. Lakeside and Hout Bay, Cape Peninsula (Connolly). Woost Hill and Blaauwkrantz Rivers, Grahamstown (Farquhar).

var. TRAPEZOIDEUS, Böttger.

1897 ? *Ancylus caffer*, Krs., von Mts., D.-O.-Afr. p. 151. pl. 1, f. 19  
*a, c, d.* *D.F.*

1907 *Ancylus trapezoideus*, Bttg. in Schultze, Aus Namaland u.  
Kalahari, p. 708. *N.*

1910 „ „ „ Abh. Senckenb. Naturf. Ges.  
Frankfurt, xxxii. p. 450. pl. 28, f. 15. *D.F.*

- 1912 *Ancylus caffer*, Krs., var. *trapezoideus*, Bttg., Walker, Nautilus, xxv. p. 141. L.

Type in Senckenberg Mus. Frankfurt.

*Hab.* BRITISH BECHUANALAND. Witkop (subfossil, Schultzze).

ORANGE FREE STATE. Valsch River, Lindley (Connolly).

TRANSVAAL. Pretoria District (McBean). Zoutpansberg (Cregoe).

Apparently also found in Central Africa.

507. *ANCYLUS MOOIENSIS*, Walker.

- 1912 *Ancylus mooiensis*, Walker, Nautilus, xxv. p. 141. D.

Type in coll. Walker.

*Hab.* TRANSVAAL. Mooi River, Potchefstroom (Miss Livingston).

var. *DUBIOSUS*, Walker.

- 1912 *Ancylus mooiensis*, var. *dubiosus*, Walker, Nautilus, xxv. p. 142. D.

Type in coll. Walker.

*Hab.* TRANSVAAL. Piensaars Poort (Connolly).

CAPE OF GOOD HOPE. Woost Hill River, Grahamstown (Farquhar).

508. *ANCYLUS TRANSVAALENSIS*, Craven.

- 1880 *Ancylus transvaalensis*, Crvn., P.Z.S. p. 617. pl. 57, f. 11. D.F.

- 1910 ? ,, *stenochorias*, M. & P., Bttg., Abh. Senckenb. Naturf.

Ges. Frankfurt, xxxii. p. 450. N.

Type in British Museum.

*Hab.* TRANSVAAL. Mooi River (Craven). Pretoria District (Connolly).

ORANGE FREE STATE. Vereeniging (Johnson).

CAPE OF GOOD HOPE. Prieska (in coll. Ponsonby).

? BRITISH BECHUANALAND. Witkop (subfossil, Schultzze).

509. *ANCYLUS VERREAUXI*, Bourguignat.

- 1853 *Ancylus verreauxii*, Bgt., Rev. et Mag. Zool. p. 351. D.

- 1854 ,, ,, ,, ,, pl. 1, f. 1-8. F.

- 1856 ,, ,, ,, Amén. malac. i. p. 12. pl. 1, f. 1-8. D.F.

- 1862 ,, *verreauxi* ,, Spicil. malac. p. 194. N.

- 1882 ,, *verreauxii* ,, Cless., Conch. Cab. p. 60. pl. 5, f. 4. D.F.

Type in Geneva Museum.

*Hab.* CAPE PENINSULA. "Ville de Constance" (? Constantia) (Verreaux). Retreat (Connolly).

SECTION FERRISSIA, Walker, 1903.  
(*Nautilus*, xvii. p. 15.)

Type of Section, *A. rivularis*, Say.

510. ANCYLUS BURNUPI, Walker.

1912 *Ancylus burnupi*, Walker, *Nautilus*, xxv. p. 142. *D.*

Type in coll. Walker.

*Hab.* NATAL. Equeefa (Burnup).

CAPE OF GOOD HOPE. Brack Kloof, Grahamstown (Farquhar).

511. ANCYLUS CONNOLLYI, Walker.

1912 *Ancylus connollyi*, Walker, *Nautilus*, xxv. p. 143. *D.*

Type in coll. Walker.

*Hab.* CAPE OF GOOD HOPE. Black River, Maitland (Connolly).

King Williamstown Road Dam, Grahamstown (Farquhar).

512. ANCYLUS EQUEEFENSIS, Walker.

1912 *Ancylus equeefensis*, Walker, *Nautilus*, xxv. p. 143. *D.*

Type in coll. Walker.

*Hab.* NATAL. Equeefa (Burnup).

513. ANCYLUS FONTINALIS, Walker.

1912 *Ancylus fontinalis*, Walker, *Nautilus*, xxv. p. 144. *D.*

Type in coll. Walker.

*Hab.* TRANSVAAL. Ranjesfontein; Pienaars Poort (Connolly).

ORANGE FREE STATE. Morgendal (Connolly).

514. ANCYLUS VICTORIENSIS, Walker.

1912 *Ancylus victoriensis*, Walker, *Nautilus*, xxv. p. 144. *D.*

Type in coll. Walker.

*Hab.* RHODESIA. Victoria Falls (Connolly).

515. ANCYLUS ZAMBESIENSIS, Walker.

1912 *Ancylus zambesiensis*, Walker, *Nautilus*, xxv. p. 144. *D.*

Type in coll. Walker.

*Hab.* RHODESIA. Victoria Falls (Connolly).

I am deeply indebted to Mr. Bryant Walker for the whole of the classification and distribution of this Genus.



GENUS ISIDORA, Ehrenberg, 1831.

(Symb. Phys., Evertebrata.)

Type of Genus, *I. hemprichii*, Ehrn. (*contorta*, Mich.).

Kobelt (1909) is probably correct in placing in this Genus all South African species formerly ascribed to *Physa*. Every one, whose animal has been examined, has proved to belong to *Isidora*, and it seems unlikely that *Physa* exists in the subcontinent.

The Genus has suffered severely for a long time from misidentification. It is the merest truism to remark that the speed of a stream and the nature of its soil have so great an effect on the shell of its molluscan inhabitants that colour, epidermal sculpture, and even substance or contour are of little account in the determination of fresh-water species; yet many have been identified, and others founded, on these features alone, without reference to the form of the parietal and columellar regions, which appear to offer the only moderately stable basis for comparison. I regret that the results of my investigation so far have been of a purely destructive nature, but fear that even more of this will be necessary before it is advisable to describe the one or two new species which possibly exist in South Africa. Mr. E. A. Smith has kindly assisted me in the examination of such species as are now, for the first time, brought into synonymy.

516. ISIDORA ANGOLENSIS (Morelet).

- 1866 *Physa angolensis*, Morel., J. de C. xiv. p. 162. D.  
1868 " " " Voy. Welwitsch, Moll. p. 88. pl. 9,  
f. 8. D.F.  
1873 " *algoensis* " Sow., Conch. Icon. pl. 7, f. 53. D.F.  
(Err. typ.)  
1886 " *angolensis* " Cless., Conch. Cab. p. 334. pl. 47  
(1885), f. 2. D.F.

Type in British Museum.

Hab. DAMARALAND (Geale).

Described from Angola.

Specimens of *angolensis* received by the British Museum from Geale in 1869 were incorrectly labelled *algoensis*, which gave rise to Sowerby's use of the latter name. Judging from the figure, *I. parietalis* (Mouss.), from Ovampoland, must be nearly allied to this species. It agrees in form, and the parietal plate, from which Mousson derived the name, is a frequent, and inconstant, feature in other members of the Genus.

## 517. ISIDORA COMPTA, Melv. &amp; Pons. [S.A.M.]

1903 *Isidora compta*, M. & P., A.M.N.H. xii. p. 606. pl. 32, f. 14. *D.F.*  
Type in British Museum.

*Hab.* TRANSVAAL. Boksburg (McBean, per Burnup).

ORANGE FREE STATE. Kopjes; Morgendal; Valsch River, Lindley (Connolly).

MASHONALAND. Enkeldoorn District (Miss Sharpe-Young).

Near *I. tropica* (Krs.), from which it can be distinguished by the curve of the outer lip, which may be called normal and regular in *tropica*, but in *compta* is usually distinctly flattened and almost incurved for a short way below the suture.

## 518. ISIDORA CONTORTA (Michaud).

1829 *Physa contortus*, Mich., Bull. Soc. Linn. Bordeaux, iii. p. 268.  
plate, f. 15, 16. *D.F.*

1831 ,, *contorta*, Mich., Complément Hist. Moll. Fr. p. 83.  
pl. 16, f. 21, 22. *D.F.*

1838 ,, ,, ,, Desh., Hist. nat. An. s. Vert. viii.  
p. 403. *D.*

1841, 3 ,, ,, ,, Küst., Conch. Cab. (Limn.) p. 8. pl. 1,  
f. 9-11. *D.F.*

1864 ,, ,, ,, Bgt., Mal. Algérie, ii. p. 171. pl. 10,  
f. 38-40. *D.F.*

1870 ,, ,, ,, Blanf., Obs. Geol. and Zool. Abyss.  
p. 472. *N.*

1874 *Isidora* ,, ,, Jick. (= *tropica*, Krs., and *cyrtónota*,  
Bgt.), Fauna N.-O.-Afr. p. 203. pl. 3, f. 4, pl. 7, f. 14. *D.R.F.*

,, *Physa contorta*, Mich., Sow., Conch. Icon. pl. 11, f. 92. *D.F.*

1886 ,, ,, ,, Cless., Conch. Cab. p. 314. *D.N.*

1908 *Isidora* ,, ,, (= *sericina*, Jick.), Neuville &  
Anthony, Ann. Sci. nat. Paris, viii. pp. 274, 275. *N.F.*

Type—*ubi?*

*Hab.* CAPE OF GOOD HOPE. Quarry near Fort England, Grahamstown (Farquhar).

A set of hardly mature shells from the above locality appear inseparable from Michaud's variable species, which is widely diffused through the South of Europe and North Africa, and recorded from West Africa and the Euphrates. Jickeli (1874) was very possibly right in placing *tropica* in the synonymy; but I have so far been unable to confirm his views, and as the last-named species is, typically, a well-marked one in South Africa, with a

special synonymy of its own, it appears advisable to allow it to maintain an individual existence until further material is available for examination.

Jickeli further included, under *contorta*; *truncata* and *harpula*, Fér.; *brocchii* and *hemprichi*, Ehrn.; *rivularis*, Phil.; *mareotica* and *spiracea*, Parr. in coll.; *pyrum*, Poro; and *scalata*, Merian.

519. ISIDORA DIAPHANA (Krauss).

- 1848 *Physa diaphana*, Krs., Südafr. Moll. p. 84. pl. 5, f. 11. *D.F.*  
 1856 " " Bgt., Rev. et Mag. Zool. viii. p. 236. *D.*  
 " " " " Amén. malac. i. p. 175. *D.*  
 1866 " " von Mts., Mal. Blätt. xiii. p. 100. *N.*  
 1873 " " Sow., Conch. Icon. pl. 10, f. 81. *D.F.*  
 1885 " " Cless., Conch. Cab. p. 282. pl. 40, f. 12. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL. Umgeni Valley (Krauss).

520. ISIDORA FORSKALI, Ehrenberg. [S.A.M.]

- 1831 *Isidora forskalii*, Ehrn., Symb. Phys., Evert. 3rd Sp. *D.*  
 1848 *Physa wahlbergi*, Krs., Südafr. Moll. p. 84. pl. 5, f. 13. *D.F.*  
 1856 " " Bgt., Rev. et Mag. Zool. viii. p. 240. *D.*  
 " " *forskalii*, Ehrn. " " viii. p. 235. *D.*  
 " " " " Amén. malac. i. p. 174. *D.*  
 " " *wahlbergi*, Krs. " " i. p. 180. *D.*  
 1863 " " Küst., Conch. Cab. (Limn.) p. 71. pl. 12, f. 23, 24. *D.F.*  
 1866 " " von Mts., Mal. Blätt. xiii. p. 100. *N.*  
 1869 " " Dohrn, Mal. Blätt. xvi. p. 15. *N.*  
 " " (*Isidora forskalii*, Ehrn., von Mts., Mal. Blätt. xvi. p. 213. *N.*  
 1873 " *wahlbergii*, Sow., Conch. Icon. pl. 8, f. 58. *D.F.*  
 1874 *Isidora forskali*, Ehrn., Jick., Fauna N.-O.-Afr. p. 198. pl. 3, f. 3. pl. 7, f. 13. *D.R.F.* and *Synonymy*.  
 1886 *Physa forskalii*, Ehrn., Cless., Conch. Cab. p. 320. pl. 39 (1884), f. 2. *D.F.*  
 1897 *Isidora forskali*, Ehrn., von Mts., D.-O.-Afr. p. 141. pl. 1, f. 15. *D.F.*  
 1898 *Physa gradata*, M. & P., A.M.N.H. ii. p. 129. pl. 7, f. 8. *D.F.*  
 1899 *Isidora forskali*, Ehrn. (= *gradata*), M. & P., A.M.N.H. iv. p. 193. *N.*  
 1908 " " Neuville & Anthony, Ann. Sci. nat. Paris, viii. pp. 271-273. *N.F.*

Type of *forskali* in Zool. Mus. Berlin; *wahlbergi* in Stuttgart Museum; *gradata* in British Museum.

*Hab.* TRANSVAAL. River Limpopo (*wahlbergi*, Wahlberg). Pretoria (Farquhar).

CAPE OF GOOD HOPE. Brickfields, Grahamstown (*gradata*, Farquhar).

NATAL. Pietermaritzburg; Durban; Thornville (Burnup).

Also said to be found in North and East Africa, Aden, Cape Verde Islands, Angola and Benguela.

Jickeli (1874) includes in the synonymy *wahlbergi*, Krs.; *lamellosa*, Roth; *scalaris* and *schmidti*, Dkr.; *fischeriana*, Bgt.; *capillacea*, *clavulata*, *semiplicata*, *turriculata* and *apiculata*, Morelet; *beccarii*, Paladilhe; *vitrea*, Parr.; and *jickelii*, Krs.

521. ISIDORA NATALENSIS (Krauss). [S.A.M.]

1841, 43 *Physa natalensis*, Krs., Küst., Conch. Cab. (Limn.) p. 8. pl. 1, f. 12-14. *D.F.*

1848 *Physa natalensis*, Krs., Südafr. Moll. p. 84. pl. 5, f. 10. *D.F.*

1856 " " Bgt., Rev. et Mag. Zool. viii. p. 237. *D.*

" " " " Amén. malac. i. p. 176. *D.*

1869 " " von Mts., Mal. Blätt. xvi. p. 214. *N.*

1873 " " Sow., Conch. Icon. pl. 10, f. 79. *D.F.*

1874 *Isidora natalensis* " Jick., Fauna N.-O.-Afr. p. 196. *N.*

1883 *Physa natalica*, Bgt., Ann. Sci. nat. Paris, xv. pp. 98, 126. *N.*

1903 " *zuluensis*, M. & P., A.M.N.H. xii. p. 606. pl. 32, f. 4. *D.F.*

1910 *Isidora natalensis*, Krs., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 453. *N.*

Type of *natalensis* in Stuttgart Museum; *zuluensis* in British Museum.

*Hab.* NATAL. Umgeni Valley (Krauss). Durban (Burnup).

EAST ZULULAND (*zuluensis*, Burnup). Lake Sibayi (Toppin).

LORENZO MARQUES. Rikatla and Monguane Lakes (Junod).

BRITISH BECHUANALAND. Witkop (subfossil, Schultze).

Taking into consideration the great range of variation to be found in South African fresh-water shells, it appears impossible to separate *zuluensis*, which was likened by its joint authors to *natalensis*, from the last-named species.

522. ISIDORA PARIETALIS (Mousson).

1887 *Physa parietalis*, Mouss., J. de C. xxxv. p. 298. pl. 12, f. 8. *D.F.*

1904 " " " von Mts., Die Kalahari, p. 756. *N.*

1910 *Isidora* " " Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 452. *N.*

Type in Zurich Museum.

*Hab.* OVAMPOLAND. Ondonga (Schinz).

DAMARALAND. Okosongoho (Hermann).

BECHUANALAND. Lake Ngami; Garu; fossil, south of Hardeko Drift, Botletle River (Passarge).

BRITISH BECHUANALAND. Witkop (subfossil, Schultze).

?CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet).

Considered by Böttger to be very near *diaphana*; Mousson's figure, however, closely resembles *angolensis*, which is known from Angola and Damaraland.

523. ISIDORA SERICINA, Jickeli. [S.A.M.]

1874 *Isidora sericina*, Jick., Fauna N.-O.-Afr. p. 194. pl. 3, f. 2. pl. 7, f. 11. *D.R.F.*

1886 *Physa* " " Cless., Conch. Cab. p. 325. pl. 39 (1884), f. 12. *D.F.*

1898 " " " M. & P., Proc. Mal. Soc. iii. p. 182. *L.*

" " *schackoi* " " " " "

1908 *Isidora sericina* " Neuville & Anthony, Ann. Sci. nat. Paris, viii. pp. 274, 275. *N.F.*

Type in Zool. Mus. Berlin.

*Hab.* "SOUTH AFRICA" (in coll. Ponsonby).

CAPE OF GOOD HOPE. Forty-eight miles from Port Elizabeth ("*schackoi*," in coll. Ponsonby).

Described from Abyssinia.

Careful examination of the two large series, on which the record of *sericina* and *schackoi* from South Africa was originally based, proves them to contain only one species. Professor Thiele has kindly compared this with Jickeli's types, and informs me that it is distinct from *schackoi*, but nearly allied to *sericina*, with which it may be identical. I have therefore removed *schackoi* from the South African list. Neuville and Anthony place *sericina* in the synonymy of *contorta*, Mich. The shells are certainly very similar, and might merge into one another, but Jickeli differentiated the two species by their radula, and, under these circumstances, it may be inadvisable to unite them without more extended investigation.

524. ISIDORA TROPICA (Krauss). [S.A.M.]

1848 *Physa tropica*, Krs., Südafr. Moll. p. 84. pl. 5, f. 12. *D.F.*

1856 " " " Bgt., Rev. et Mag. Zool. viii. p. 236. *D.*

" " " " " Amén. malac. i. p. 175. *D.*

- 1856 *Physa cyrtonota*, Bgt., Rev. et Mag. Zool. viii. p. 238. pl. 15, f. 1, 2. *D.F.*  
 " " " " Amén. malac. i. p. 177. pl. 21, f. 1, 2. *D.F.*  
 1873 " *tropica*, Krs., Sow., Conch. Icon. pl. 5, f. 32. *D.F.*  
 1874 *Isidora* " " Jick., Fauna N.-O.-Afr. p. 205. *N.*  
 1880 *Physa lirata*, Crvn., P.Z.S. p. 617. pl. 57, f. 10. *D.F.*  
 1885 " *tropica*, Krs., Cless., Conch. Cab. p. 288. pl. 41, f. 8, 11. *D.F.*  
 1886 " *cyrtonata*, Bgt., Cless., *ibid.* p. 323. pl. 39 (1884), f. 5. *D.F.*  
 " " *craveni*, Ancey (= *lirata*, Crvn., 1880, nec Tristram, 1863), Ancey, Le Naturaliste, viii. p. 358.  
 1889 " *lirata*, Crawf., Morel., J. de C. xxxvii. p. 20. (*Err. typ.*)  
 1897 *Isidora tropica*, Krs., von Mts., D.-O.-Afr., p. 140. *D.*  
 1898 *Physa craveni*, Stur., S.A. Moll. p. 76. *Emend. Nom.*  
 1899 " " Ancey, M. & P., A.M.N.H. iv. p. 193. *N.*  
 1910 *Isidora tropica*, Krs., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 453. *N.*

Type of *tropica* in Stuttgart Museum; *cyrtonota* in Geneva Museum; *lirata* in British Museum.

*Hab.* TRANSVAAL. River Lepenula (*tropica*, Wahlberg). Mooi River (*lirata*, Craven).

NATAL. Examples recorded, but require verification.

CAPE OF GOOD HOPE. Port Elizabeth (*lirata*, fide Morelet). Stellenbosch (Péringuey). Montagu; Black River, Maitland (Connolly). Olifant River (*cyrtonota*, Verreaux).

DAMARALAND. Okaputa Pan (subfossil, Hermann).

Jickeli remarks that *cyrtonota* "agrees perfectly with *tropica*." I have not seen an authentic example of Bourguignat's species, but judging from his description and figure, it certainly does so. The type set of *lirata* are slightly immature specimens of *tropica*, of which there is a fine co-type available for comparison in the British Museum. Krauss mentions that the young of *tropica* have a ribbed epidermis, the feature on which Craven founded his species.

#### 525. ISIDORA VERREAUXI (Bourguignat).

- 1856 *Physa verreauxii*, Bgt., Rev. et Mag. Zool. viii. p. 237. pl. 15, f. 3, 4. *D.F.*  
 " " " " Amén. malac. i. p. 176. pl. 21, f. 3, 4. *D.F.*  
 1886 " " " " Cless., Conch. Cab. p. 317. pl. 39 (1884), f. 1. *D.F.*

Type—*ubi?*

*Hab.* CAPE OF GOOD HOPE. Olifant River; Knysna (Verreaux).

526. ISIDORA ZANZIBARICA (Clessin). [S.A.M.]

1886 *Physa zanzebarica*, Cless., Conch. Cab. p. 362. pl. 51, f. 5. *D.F.*

1889 „ *cornea*, Morel., J. de C. xxxvii. p. 16. pl. 1, f. 8. *D.F.*

1897 *Isidora zanzibarica*, Cless., von Mts., D.-O.-Afr. p. 140. *N.*

Type of *zanzibarica* in Zool. Mus. Berlin; co-types of *cornea* in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford).

von Martens infers that the loc. Zanzibar, originally quoted for *zanzibarica* by Clessin, is incorrect, and that the species is the same as that which was subsequently described by Morelet as *cornea*. It is nearly allied to *contorta*.

*I. zanzibarica* has recently been recorded by Thiele from Central Africa.

GENUS PHYSOPSIS, Krauss, 1848.

(Südafr. Moll. p. 85.)

Type of Genus, *Ph. africana*, Krs.

527. PHYSOPSIS AFRICANA, Krauss. [S.A.M.]

1848 *Physopsis africana*, Krs., Südafr. Moll. p. 85. pl. 5, f. 14. *D.F.*

1855 „ „ H. & A. Ad., Gen. rec. Moll. iii. pl. 83, f. 10. *F.*

1856 „ „ Bgt., Rev. et Mag. Zool. viii. p. 241. *D.*

„ „ „ „ Amén. malac. i. p. 180. *D.*

1863 „ „ Küst., Conch. Cab. p. 72. pl. 12, f. 29, 30. *D.F.*

1866 „ „ von Mts., Mal. Blätt. xiii. p. 8. *N.*

1874 *Physa africana*, Krs., Sow., Conch. Icon. pl. 1, f. 3. *D.F.*

„ *Physopsis africana*, Krs., Jick., Fauna N.-O.-Afr. p. 209. *D.*

1879 „ „ „ Bgt., Moll. de l'Égypte, p. 12. *N.*

1886 *Physa* „ „ Cless., Conch. Cab. p. 409. pl. 41 (1885), f. 12. *D.F.*

1897 *Physopsis* „ „ von Mts., D.-O.-Afr. p. 142. *N.*

1907 „ „ „ Melv. & Standen, Manchester Memoirs, li, 1. p. 8. *N.*

1908 „ „ „ Neuville & Anthony, Ann. Sci. nat. Paris, viii. pp. 266-270. *N.F.*

Type in Stuttgart Museum.

*Hab.* NATAL. Port Natal (Wahlberg). Pietermaritzburg; Pine-town; Lower Umkomaas (Burnup).

ZULULAND (Burnup; Toppin).

TRANSVAAL. Pretoria District (Connolly). Middelburg (Crawford).

RHODESIA. Gwelo (Dodds). Enkeldoorn District, Mashonaland (Miss Sharpe-Young).

LORENZO MARQUES. River Zambesi (Peters; Kirk; Penther).

CAPE OF GOOD HOPE. Port Elizabeth (Crawford). Knysna (Purcell).

Also distributed up the eastern side of the Continent.

Melvill and Standen, in chronicling this species from Northern Rhodesia, remark: "Our specimens seem intermediate between the type and *ovoidea*, Bgt., which surely can be but a variety." Jickeli places *verneana*, Troschel, in the synonymy of *africana*, and expresses doubt whether "*globularis*, Morel." (*globosa*, Morel., Voy. Welwitsch, p. 93. pl. 9, f. 6, and J. de C., 1866, p. 162), is separable therefrom, while Neuville and Anthony consider that *abyssinica*, von Mts., and *eximia*, Bgt., as well as *ovoidea*, Bgt., merge into Krauss' species.

SUB-CLASS **STREPTONEURA**, Spengel, 1881.

(Zeitschr. f. wissens. Zool. Leipzig, p. 372.)

ORDER **PECTINIBRANCHIA**, Cuvier, 1817.

(Règne Animal, ii. pp. 388, 415, as Pectinibranches.)

SUB-ORDER **TÆNIOGLOSSA**, Troschel, 1847.

(Arch. f. Naturg. xiii, 2. p. 382, and Wiegmann's Handbuch der Zool., Ed. 3. 1848.)

TRIBE **PLATYPODA**, Fischer, 1883.

(Man. de Conch. p. 445.)

FAMILY **CYCLOPHORIDÆ**, Gray, 1847.

(P.Z.S. p. 181.)

SUB-FAMILY **CYCLOPHORINÆ**, Fischer, 1885.

(Man. de Conch. p. 739.)

GENUS **CYCLOPHORUS**, de Montfort, 1810.

(Conch. Syst. ii. p. 290.)

Type of Genus, *C. volvulus* (Müll.).

SUB-GENUS **MAIZANIA**, Bourguignat, 1889.

(Moll. de l'Afr. équat. p. 148.)

(= *Aferulus*, von Mts., 1897; *Natalia*, G.-Aust., 1897; *Hijabia*, G.-Aust., 1898; *Austrocyclus*, Ancey, 1898; and *Cyclophoropsis*, Dautzenberg, 1908.)

Type of Sub-Genus, *C. olivaceus*, Bgt.



528. CYCLOPHORUS (MAIZANIA) WAHLBERGI (Benson). [S.A.M.]  
 1848 *Cyclostoma translucidum*, "Sow.," Krs., Südafr. Moll. p. 83. N.  
 1852 " *wahlbergi*, Bs., A.M.N.H. x. p. 271. D.  
 " " " " Pfr., Mon. Pneum. i. p. 416. D.  
 1854 " " " " Conch. Cab. p. 386. pl. 50, f. 17-  
 19. D.F.  
 1861 *Cyclophorus* " " Rve., Conch. Icon. pl. 17, f. 81. D.F.  
 1881 " " " Smith, P.Z.S. p. 277. N.  
 1902 " (*Maizania*) *wahlbergi*, Bs., Kob., Tierreich, xvi.  
 pp. 148, 152. F.D.

Specimens ex auct. in University Museum of Zoology, Cambridge.

*Hab.* NATAL (Wahlberg, per Stevens). Durban; Isipingo (Penther). Generally in the bush fringing the coast (Burnup).

CAPE OF GOOD HOPE. Pondoland (Beyrich). Port Grosvenor (Bachmann).

Also known in German East Africa and Nyassaland.

Smith (1881) considers that *C. magilensis*, Craven, from Magila, may prove to be only the young state of this species.

GENUS CHONDROCYCLUS, Ancy, 1898.

(Bull. Mus. Marseille, i. p. 136.)

Type of Genus, *C. convexiusculus* (Pfr.).

529. CHONDROCYCLUS CONVEXIUSCULUS (Pfeiffer). [S.A.M.]  
 1855 *Cyclostoma (Cyclophorus) convexiusculum*, Pfr., P.Z.S. p. 104. D.  
 1858 *Cyclophorus convexiusculus*, Pfr., Mon. Pneum. ii. p. 68. D.  
 1861 " " " Rve., Conch. Icon. pl. 19, f. 92.  
 D.F.  
 1880 *Cyclotus alabastris*, Craven, P.Z.S. p. 619. pl. 57, f. 9. D.F.  
 1899 *Chondrocyclus alabastris*, Crvn., M. & P., A.M.N.H. iv. p. 193. N.  
 1902 " *convexiusculus*, Pfr., Kob., Tierreich, xvi. p. 230. D.  
 " *Cyclophorus (Maizania) alabastris*, Crvn., Kob., *ibid.* p. 149. D.  
 Types in British Museum.

*Hab.* CAPE OF GOOD HOPE (Macgillivray). George District; Tharfield; Camps Bay; Simonstown (Layard). Montagu (Connolly). Port Elizabeth (Crawford). Grahamstown; Bedford (Farguhar). Cape Récif, Algoa Bay (*alabastris*, Craven). Pirie Forest (Godfrey).

As Crawford writes, *alabastris* is a beach-rolled and polished specimen of *convexiusculus*, in the synonymy of which it must be placed.

var. MINOR, Benson. [S.A.M.]

*Cyclophorus plicicutis*, Bs., in litt.

1856 ,, *convexiusculus*, Pfr., var. *minor*, Bs., A.M.N.H.  
xviii. p. 438. *D.*

1858 ,, *convexiusculus*, Pfr., var. *minor*, Bs., Pfr., Mon.  
Pneum. ii. p. 68. *D.*

*Hab.* CAPE PENINSULA. Table Mountain (Layard).

The form most commonly found in the Cape Peninsula, but hardly worthy of varietal rank.

530. *CHONDROCYCLUS EXSERTUS*, Melv. & Pons. [S.A.M.]

1903 *Chondrocyclus exsertus*, M. & P., A.M.N.H. xii. p. 608. pl. 32,  
f. 11. *D.F.*

Type in British Museum.

*Hab.* NATAL. Umkomaas; Umbogintwini; Equeefa (Burnup).

531. *CHONDROCYCLUS ISIPINGÖENSIS* (Sturany). [S.A.M.]

1898 ? *Cyclotus isipingöensis*, Stur., Anz. k. Akad. Wiss. Wien. xvi.  
Sonderabdruck, p. 9. *D.*

,, *Cyclophorus minimus*, M. & P., A.M.N.H. ii. p. 129. pl. 7, f. 9. *D.F.*

,, ? *Cyclotus isipingöensis*, Stur., S.A. Moll. p. 81. pl. 2, f. 37-39. *D.F.*

1899 *Cyclophorus minimus*, M. & P., A.M.N.H. iv. pl. 3, f. 15 (*Operculum*).

1902 ,, (*Maizania*) *isipingöensis*, Stur., Kob., Tierreich,  
xvi. p. 149. *D.*

,, ,, ,, *minimus*, M. & P., Kob., *ibid.* p. 150. *D.*

Type of *minimus* in British Museum; *isipingöensis* in Naturh.  
Hofmus. Vienna.

*Hab.* NATAL. Durban; Isipingo (Penther). Pietermaritzburg,  
and in bush generally, from the coast to Dargle and Karkloof  
(Burnup).

CAPE OF GOOD HOPE. Maeström Forest, Bedford (Farquhar).

It seems more natural to place this species in the same Genus as  
*convexiusculus*, which it resembles in miniature, than in *Maizania*.

#### FAMILY POMATIIDÆ, B. B. Woodward, 1903.

(Journ. of Conch. x. p. 356.)

(= Cyclostomatidæ, Auctt.)

#### GENUS TROPIDOPHORA, Troschel, 1847.

(Zeitschr. f. Malak. iv. p. 44.)

Type of Genus, *T. cuvieriana* (Petit).

SUB-GENUS LIGATELLA, von Martens, 1880.

(Meeresfauna Mauritius, p. 186.)

(= *Rochebrunia*, Bourguignat, 1881.)

Type of Sub-Genus, *T. listeri* (Gray).

532. TROPIDOPHORA CALCAREA (Sowerby). [S.A.M.]

- 1822 *Cyclostoma sulcata*, Lam., Hist. nat. An. s. Vert. vi, 2. p. 144. *D.*  
1838 " " " Desh., Hist. nat. An. s. Vert. viii.  
p. 354. *D.*  
1841 " " " Delessert, Recueil de Coquilles  
décrites par Lamarck, pl. 29, f. 9. *D.F.*  
1847 " *calcareum*, Sow. (= *sulcata*, Lam., 1822, nee Drap.,  
1805), Sow., Thesaurus Conch. i. p. 118. pl. 26, f. 113. *D.F.*  
1848 *Cyclostoma calcareum*, Sow., Pfr., Conch. Cab. p. 88. pl. 11  
(1847), f. 11, 12. *D.F.*  
1852 *Cyclostomus calcareus*, Sow., Pfr., Mon. Pneum. i. p. 201. *D.*  
1858 " *sulcatus*, Lam. (= *calcareus*, Sow.), Pfr., Mon.  
Pneum. ii. p. 115.  
1861 *Cyclostoma calcareum*, Sow., Rve., Conch. Icon. pl. 3, f. 13. *D.F.*  
1879 " " " Gibb., Journ. of Conch. ii. p. 145. *N.*  
1881 " *insulare* (var.), Smith, P.Z.S. p. 277. pl. 32, f. 1. *N.F.*  
1897 " *calcareum*, Sow., von Mts., D.-O.-Afr. p. 3. *N.*

Originals of *calcareum* in British Museum.

*Hab.* LORENZO MARQUES. Tette (Kirk ; Thomson).

Also known from East and Central Africa.

533. TROPIDOPHORA COMBURENS, Melv. & Pons. [S.A.M.]

- 1903 *Tropidophora comburens*, M. & P., A.M.N.H. xii. p. 608. pl. 32,  
f. 12. *D.F.*

Type in British Museum.

*Hab.* ZULULAND. Makowe (Burnup).

534. TROPIDOPHORA FOVEOLATA (Melv. & Pons).

- 1895 *Cyclostoma foveolatum*, M. & P., A.M.N.H. xv. p. 164. pl. 12, f. 4. *D.F.*

Type in British Museum.

*Hab.* "S. AFRICA" (fide M. & P.).

CAPE OF GOOD HOPE. Port Alfred (Farquhar).

? NATAL (fide Sturany).

## 535. TROPIDOPHORA HARTVIGIANA (Pfeiffer).

- 1862 *Cyclostomus hartvigianus*, Pfr., Mal. Blätt. ix. p. 203. *D.*  
 1863 „ „ „ Novit. Conch. ii. p. 225. pl. 59,  
 f. 1, 2. *D.F.*  
 1865 „ „ „ Mon. Pneum. iii. p. 131. *D.*

Originals in British Museum.

*Hab.* "SOUTH AFRICA" (Hartvig).

## 536. TROPIDOPHORA INSULARIS (Pfeiffer). [S.A.M.]

- 1852 *Cyclostoma insulare*, Pfr., P.Z.S. p. 64. *D.*  
 „ *Cyclostomus insularis*, Pfr., Mon. Pneum. i. p. 215. *D.*  
 1854 *Cyclostoma insulare*, Pfr., Conch. Cab. p. 351. pl. 45, f. 5, 6. *D.F.*  
 1861 „ „ „ Rve., Conch. Icon. pl. 8, f. 41. *D.F.*  
 „ „ „ *kraussianum*, Pfr., Rve., Conch. Icon. pl. 9, f. 52. *D.F.*  
 1897 „ „ *insulare*, Pfr., von Mts., D.-O.-Afr. p. 5. *N.*

The species figured by E. A. Smith (P.Z.S., 1881, p. 277. pl. 32, f. 1) is attributed by von Martens to *calcareo*.

Type in British Museum.

*Hab.* NATAL. Generally, on the coast and in the Midlands (Burnup).

TRANSVAAL. Pietpotgietersrust (Connolly).

GRIQUALAND WEST. Modder River, near Kimberley (Miss Wilman).

CAPE OF GOOD HOPE. Alexandria District (Crawford).

Originally described as from Mauritius.

## 537. TROPIDOPHORA KRAUSSIANA, Pfeiffer.

- 1852 *Cyclostoma (Tropidophora) kraussianum*, Pfr., P.Z.S. p. 64. *D.*  
 „ *Cyclostomus kraussianus*, Pfr., Mon. Pneum. i. p. 204. *D.*  
 1854 *Cyclostoma kraussianum* „ Conch. Cab. p. 334. pl. 43, f. 17,  
 18. *D.F.*  
 1881 „ „ „ Smith, P.Z.S. p. 278. *N.*  
 1897 „ „ „ von Mts., D.-O.-Afr. p. 5. *N.*

Type in British Museum.

*Hab.* NATAL. Cape Natal (coll. Cuming).

TRANSVAAL. Pilgrim's Rest (Craven).

LORENZO MARQUES. Inhambane (Gibbons).

CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet). Pondoland (Beyrich), and Port Grosvenor (Bachmann), fide von Martens.

The type, from the Cuming collection, appears to be a deformed shell, and the other localities quoted should be accepted with due reservation.

538. *TROPIDOPHORA LIGATA* (Müller). [S.A.M.]

- 1774 *Nerita ligata*, Müll., Verm. ii. p. 181. *D.*  
 1786 *Turbo ligatus*, Müll., Chem., Conch. Cab. ix, 2. p. 60. pl. 123,  
 f. 1071, 1072; 3, 4. *D.F.*  
 1822 *Cyclostomaligata*, Müll., Lam., Hist. nat. An. s. Vert. vi. 2. p. 147. *D.*  
 1831 „ *ligatum*, Müll., Sow., Genera of Shells, pl. 176, f. 4. *F.*  
 1838 „ *ligata*, Lam., Desh., Hist. nat. An. s. Vert. viii.  
 p. 359. *D.N.*  
 1847 „ *ligatum*, Müll., Pfr., Conch. Cab. p. 33. pl. 4 (1843),  
 f. 12, 13. pl. 8, f. 3, 4. *D.F.*  
 „ „ „ Lam., Sow., Thesaurus Conch. i. p. 98.  
 pl. 23, f. 24. *D.F.*  
 1848 „ „ Lam., Krs., Südafr. Moll. p. 82. *D.N.*  
 1852 *Cyclostomus ligatus*, Müll., Pfr., Mon. Pneum. i. p. 221. *D.*  
 1859 *Cyclostoma ligatum* „ von Mts., Mal. Blätt. vi. p. 215. *N.*  
 1861 „ „ Rve., Conch. Icon. pl. 9, f. 54. *D.F.*  
 1897 „ „ von Mts., D.-O.-Afr. p. 5. *N.*

Original in University Zool. Mus. Copenhagen.

*Hab.* CAPE OF GOOD HOPE. Simon's Bay (McGillivray). Port Elizabeth; Alexandria District; Uitenhage; Addo (Crawford). Tharfield (Layard). Mossel Bay; Port Alfred (Farquhar). Knysna (O'Connor).

NATAL. Coast and Midlands, generally (Burnup). Kamiesberg (Zeyher).

TRANSVAAL. Lydenburg; Barberton (fide Sturany).

LORENZO MARQUES. Tette (Peters). Rikatla (Junod).

var. *CAFFRA*, Beck. [S.A.M.]

- 1861 *Cyclostoma caffrum*, Beck, Rve., Conch. Icon. pl. 11, f. 67. *D.F.*  
 1865 *Cyclostomus caffer* „ Pfr., Mon. Pneum. iii. p. 129. *D.*  
 Originals in British Museum.

*Hab.* CAPE OF GOOD HOPE (Ecklon, in British Museum).

Merely a white form of *ligata*.

var. *MINOR*, Pfeiffer. [S.A.M.]

- 1828 *Turbo ligatus*, Wood, Index Test. p. 151. pl. 32, f. 122. *F.*  
 1847 *Cyclostoma affine*, Sow. (= *Turbo ligatus*, Wood), Sow.,  
 Thesaurus Conch. i. p. 98. pl. 23, f. 25, 26. *D.F.*  
 1848 *Cyclostoma affine*, Sow., Pfr., Conch. Cab. p. 62. pl. 8 (1847),  
 f. 17, 18. *D.F.*  
 „ „ „ Krs., Südafr. Moll. p. 82. *N.*

1852 *Cyclostomus ligatus*, Müll., var. *minor*, Pfr. (= *C. affine*, Sow.)  
Pfr., Mon. Pneum. i. p. 222. N.

*Hab.* CAPE PENINSULA. Generally distributed.

539. TROPIDOPHORA LINEATA (Pfeiffer).

1852 *Cyclostoma lineatum*, Pfr., P.Z.S. p. 65. D.

„ *Cyclostomus lineatus* „ Mon. Pneum. i. p. 222. D.

1854 *Cyclostoma lineatum* „ Conch. Cab. p. 350. pl. 45, f. 3, 4. D.F.

1881 „ „ Smith, P.Z.S. p. 278. N.

Type in British Museum, from “? Madagascar. Coll. Cuming.”

*Hab.* NATAL (coll. Cuming, in British Museum).

540. TROPIDOPHORA OCHRACEA (Melv. & Pons.).

1896 *Cyclostoma ochraceum*, M. & P., A.M.N.H. xviii. p. 318. pl. 16,  
f. 8, 9. D.F.

Type in British Museum.

*Hab.* “SOUTH AFRICA” (fide M. & P.).

541. TROPIDOPHORA PLURILIRATA, Fulton. [S.A.M.]

1903 *Tropidophora plurilirata*, Fulton, Journ. of Malac. x. p. 103.  
pl. 9, f. 8. D.F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Grahamstown (Miss Leppan; Farquhar).

NATAL. Pinetown; Pietermaritzburg (Burnup).

542. TROPIDOPHORA SARCODES (Pfeiffer).

1856 *Cyclostoma sarcodes*, Pfr., P.Z.S. p. 339. D.

1858 *Cyclostomus* „ „ Mon. Pneum. ii. p. 120. D.

1861 *Cyclostoma* „ „ Rve., Conch. Icon. pl. 10, f. 61. D.F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna (Cox; O'Connor).

The type-locality—Madagascar (coll. Cuming)—is probably erroneous.

543. TROPIDOPHORA TRANSVAALENSIS (Melv. & Pons.). [S.A.M.]

1891 *Cyclostoma transvaalense*, M. & P., A.M.N.H. viii. p. 237. D.

1892 „ „ „ ix. p. 94. pl. 5, f. 6.  
N.F.

Type in British Museum.

*Hab.* TRANSVAAL. Pretoria (Farquhar).



*L. solidus* was recorded from Quilimane and Nyassa, and *zambesianus* from below Tette.

var. TRAPEZIFORMIS, Furtado.

1886 *Lanistes ellipticus*, von Mts., var. *trapeziformis*, Furtado, J. de C. xxxiv. p. 150. *D.*

*Hab.* LORENZO MARQUES. River Zambesi, below Tette (Capello & Ivens).

546. LANISTES OLIVACEUS, Sowerby, var. AMBIGUUS, von Martens.

1851, 2 *Ampullaria ovum* (pars), Phil., Conch. Cab. p. 22. pl. 7, f. 7. *D.F.*

1866 *Lanistes olivaceus*, Sow., var. *ambiguus*, von Mts., Novit. Conch. ii. p. 292. pl. 71, f. 3, 4. *D.F.*

1879 *Meladomus ambiguus*, von Mts., Bgt., Moll. de l'Égypte, p. 34.

1897 *Lanistes olivaceus*, Sow., var. *ambiguus*, von Mts., D.-O.-Afr. p. 165. *D.N.*

Type in Zool. Mus. Berlin.

*Hab.* LORENZO MARQUES. Tette (Peters). Delagoa Bay (Junod; native name, Chibyabya). Gorongozo District (Wells-Cole).

547. LANISTES OVUM, Peters.

[S.A.M.]

1845 *Lanistes ovum*, Ptrs., Trosch., Archiv. f. Naturg. xi, 1. p. 215. *D.*

1851, 2 *Ampullaria ovum*, Ptrs., Phil., Conch. Cab. p. 22. pl. 6, f. 2. *F.*

1857 *Lanistes ovum*, Ptrs., Trosch., Gebiss der Schnecken, i. p. 90. pl. 6, f. 11. *R.*

1866 „ „ „ von Mts., Novit. Conch. ii. p. 290. *N.*

1870 „ „ „ „ Mal. Blätt. xvii. p. 35. *N.*

1874 „ „ „ Jick., Fauna N.-O.-Afr. p. 230. *D.*

1877 „ *affinis*, Smith, P.Z.S. p. 716. pl. 74, f. 7. *D.F.*

1881 „ „ „ „ p. 290. pl. 34, f. 23. *N.F.*

1891 „ „ „ von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin, p. 17. *N.*

1897 „ *ovum*, Ptrs. (= *affinis*, Smith), von Mts., D.-O.-Afr. p. 166. *D.N.*

1898 „ „ „ Stur., S.A. Moll. p. 86. pl. 3, f. 62, 63. *N.F.*

1904 „ „ „ von Mts., Die Kalahari, p. 756. *N.*

1907 „ *affinis*, Smith, Melv. & Standen, Manchester Memoirs, li, 4. p. 6. *N.*

Type of *affinis* in British Museum; *ovum* in Zool. Mus. Berlin.

*Hab.* LORENZO MARQUES. Tette (Peters). Itschongove, Delagoa Bay (Schenck).



BECHUANALAND. Ngami River (Passarge).

TRANSVAAL. "Libonibo" (? Lebombo) (Wilms).

MATEBILILAND. Meno's Kraal (Penther).

RHODESIA. Victoria Falls (Connolly).

Also known from North, West, and East Africa, and Northern Rhodesia.

von Martens (1897) places *affinis*, Smith, in the synonymy of *ovum*, while Melvill and Standen (1907) remark that *affinis* seems a distinct species.

References to both are given above for purpose of comparison.

var. ELATIOR, von Martens.

1866 *Lanistes ovum*, Ptrs., var. *elator*, von Mts., Novit. Conch. ii. p. 291. pl. 70, f. 7, 8. *D.F.*

1879 *Meladomus elator*, Bgt., Moll. de l'Égypte, p. 35.

Described from Niebohr River, 8° N. lat. (Heuglin).

var. INGENS, Ancey.

1894 *Meladomus ovum*, Ptrs., var. *ingens*, Ancey, Mém. Soc. Zool. Fr. vii. p. 223. *D.*

Described from Karonga, B.C.A.

548. LANISTES PURPUREUS (Jonas).

1839 *Ampullaria purpurea*, Jonas, Archiv. f. Naturg. v, 1. p. 342. pl. 10, f. 1. *D.F.*

„ *Bulimus tristis*, Jay, Catalogue of Shells, p. 121. pl. 7, f. 1. *N.F.*

1840 *Meladomus bulimoides*, Swainson, Treatise on Malac. p. 340. *D.*

1845 *Lanistes purpurea*, Jon. (= *tristis*, Jay), Trosch., Archiv. f. Naturg. xi, 1. p. 216. *D.*

1851, 2 *Ampullaria purpurea*, Jon., Phil., Conch. Cab. p. 22. pl. 6, f. 1. *D.F.*

1854 *Meladomus olivaceus*, "Sow.," H. & A. Ad., Gen. rec. Moll. i. p. 349, and iii. pl. 37, f. 6. *F.*

1859 *Lanistes purpureus*, Jon., von Mts., Mal. Blätt. vi. p. 216. *N.*

1860 *Ampullaria olivacea*, "Sow." (= *purpureus*, Jonas), Morel., Séries Conch. ii. p. 108. *N.*

1866 *Lanistes purpureus*, Jon., von Mts., Novit. Conch. ii. p. 293. *N.*

1881 „ „ Smith, P.Z.S. p. 290. *N.*

1897 „ „ von Mts., D.-O.-Afr. p. 163. *D.N.*

Type of *purpureus* in Zool. Mus. Berlin; *tristis* in American Museum of Natural History, New York.

*Hab.* LORENZO MARQUES. Tette (Peters).

Also found in East Africa and Zanzibar.

Originally described as from the Swan River, Australia.  
 von Martens (1897) considers *M. bloyeti* and *nitidissimus*, Bgt., to  
 be merely varieties of *purpureus*.

FAMILY VIVIPARIDÆ, Gray, 1847.

(P.Z.S. p. 155.)

(= Paludinidæ, Auctt.)

GENUS VIVIPARA, de Montfort, 1810.

(Conch. Syst. ii. p. 247, as *Viviparus*, *emend.* Dupuy, 1851, Hist. nat. des Moll. . . .  
 qui vivent en France, p. 534.)

(= *Vivipare*, Lam., 1809, and *Paludina*, Lam., 1812.)

Type of Genus, *V. fluviorum*, de Montf. (*vivipara*, Lin.).

549. VIVIPARA CAPILLATA, von Frauenfeld.

1865 *Vivipara capillata*, Frnfd., P.Z.S. p. 659. *D.*

" " " " Verh. Zool. Ges. Wien, xv. p. 533.  
 pl. 22. *D.F.*

1877 *Paludina* " " Smith, P.Z.S. p. 717. pl. 74, f. 3, 4. *F.*

1907 *Vivipara* " " Kob., Conch. Cab. p. 174. pl. 34, f. 5-8.  
*D.F.*

Type in British Museum.

*Hab.* ZULULAND. Lake Sibayi (Toppin).

RHODESIA. ? Victoria Falls (Morrell, fide Preston; Dixey and  
 Longstaff).

LORENZO MARQUES. Rikatla (Junod).

Originally described from Lake Nyassa.

550. VIVIPARA PASSARGEI, von Martens.

1904 *Vivipara passargei*, von Mts., Die Kalahari, pp. 757; 755, f. 3. *D.F.*

Type—*ubi?*

*Hab.* BECHUANALAND. In marly sandstone at the Letter Tree,  
 Botletle (subfossil, Passarge).

Founded on a single specimen, "similar to the East African  
*V. unicolor*."

551. VIVIPARA SAMBESIENSIS, Sturany. [S.A.M.]

1898 *Vivipara unicolor*, Oliv., var. *sambesiensis*, Stur., S.A. Moll.  
 p. 85. pl. 3, f. 57-61. *D.F.*

1905 " *densestriata*, Prest., Proc. Mal. Soc. vi. p. 300, f. 2. *D.F.*

1907 " *sambesiensis*, Stur., Kob., Conch. Cab. p. 172. pl. 33,  
 f. 15, 16. *D.F.*

1907 *Vivipara densestriata*, Prest., Kob., Conch. Cab. p. 173. pl. 33, f. 17. *D.N.F.*

1909 ,, *sambesiensis*, Stur. (cum var. *densestriata*, Prest.), Kob., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 79.

Type of *sambesiensis* in Naturh. Hofmus. Vienna; *densestriata* in British Museum.

*Hab.* RHODESIA. Victoria Falls (*sambesiensis*, Penther; *densestriata*, Morrell).

I adopt Kobelt's synonymy, in the belief that only one variable species of *Vivipara* inhabits the Zambesi at the Victoria Falls. It seems probable that the reported occurrence of *V. capillata*, Ernfd., in the same locality also refers to *sambesiensis*.

GENUS CLEOPATRA, Troschel, 1857.

(Gebiss der Schnecken, i. p. 100.)

Type of Genus, *C. bulimoides* (Oliv.).

522. CLEOPATRA FERRUGINEA (Lea).

1850 *Melania ferruginea*, Lea, P.Z.S. p. 182. *D.*

1851 ,, *zangubarensis*, Petit, J. de C. ii. p. 263. pl. 7, f. 1. *D.F.*

,, ,, *amæna*, Morel., J. de C. ii. p. 192. pl. 5, f. 9. *D.F.*

,, ,, ,, Rev. et Mag. Zool. p. 220. *D.*

1860 ,, ,, ,, Séries conch. ii. p. 117. *D.*

,, ,, *ferruginea*, Lea, Rve., Conch. Icon. pl. 21, f. 147. *D.F.*

1878 *Paludomus africana*, von Mts., Monats.-Ber. K. Akad. Wiss. Berlin, p. 297. pl. 2, f. 11-13. *D.F.*

1879 *Cleopatra kynjanica* and *cameroni*, Bgt., Moll. de l'Egypte, p. 21. *D.*

1881 *Paludomus ferrugineus*, Lea, Smith, P.Z.S. p. 294. pl. 34, f. 29. *N.F.*

1894 *Cleopatra ferruginea* ,, (= *africana*, von Mts.), Smith, Proc. Mal. Soc. i. p. 167. *N.*

1897 ,, ,, ,, von Mts., D.-O.-Afr. p. 188. *N.*

,, ,, *amæna*, Morel., von Mts., D.-O.-Afr. p. 187. *D.*

1899 ,, *ferruginea*, Lea (= *amæna*, Morel.), M. & P., A.M.N.H. iv. p. 193. *N.*

1909 ,, ,, ,, Kob., Conch. Cab. p. 401. pl. 76, f. 22. *D.F.*

,, ,, *amæna*, Morel., Kob., *ibid.* p. 396. pl. 76, f. 15. *D.F.*

1911 ,, *ferruginea*, Lea, Smith, Proc. Mal. Soc. ix. p. 240. *N.F.*

Types of *ferruginea* and *amæna* in British Museum.

*Hab.* ZULULAND. Manuan Creek (Anderson).

LORENZO MARQUES. River Quaqua, near the mouth of the Zambesi (Stuhlmann). Itschongove (fide Sturany).

CAPE OF GOOD HOPE. Prieska (Gibbons, fide M. & P.).

This species, originally founded on a single specimen collected at Zanzibar, is rather widely distributed in East Africa, and has apparently been described under various different names. Melville and Ponsonby, after comparison of the types, place *C. amœna* in the synonymy, and von Martens cannot separate *cameroni* and *kyngavica*, Bgt., from *ferruginea*; while Smith (1881) remarks that "*Melania zanguibarica* of Petit appears to be the same as this species; and *P. africanus* of Martens, if not identical, offers but slight distinctions."

553. CLEOPATRA MORRELLI, Preston.

1905 *Cleopatra morrelli*, Prest., Proc. Mal. Soc. vi. p. 300, f. 3. *D.F.*

1909 „ *morelli*, "Smith," Kob., Conch. Cab. p. 391. pl. 76,  
f. 6, 7. *D.F.*

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Morrell).

var. COSTATA, Preston.

1905 *Cleopatra morrelli*, var. *costata*, Prest., Proc. Mal. Soc. vi.  
pp. 300, f. 4; 301. *F.D.*

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Morrell).

FAMILY MELANIIDÆ, d'Orbigny, 1837.

(Moll. Canar. p. 77, as Melanidæ.)

SUB-FAMILY MELANIINÆ, H. & A. Adams, 1854.

(Gen. rec. Moll. i. p. 294.)

GENUS MELANIA, Lamarck, 1799.

(Mém. Soc. Hist. Nat. Paris, p. 75.)

Type of Genus, *M. amarula* (Lin.).

554. MELANIA AMARULA (Linné).

1758 *Helix amarula*, Lin., Syst. Nat., Ed. 10. i. p. 774. *D.*

1764 „ „ Mus. Lud. Ulr. p. 672. *D.*

1767 „ „ Syst. Nat., Ed. 12. p. 1249. *D.*

1774 *Buccinum amarula*, Müll., Verm. ii. p. 137. *D.*

1786 *Helix* „ Lin., Chem., Conch. Cab. ix, 2. p. 157.  
pl. 134, f. 1218, 19. *D.F.*

1788 „ „ „ Gmel., Syst. Nat., Ed. 13. i. 6. p. 3656. *D.*

- 1824 *Melania amarula*, Lin., Sow., Genera of Shells, pl. 180, f. 1. *F.*  
 1828    "      "      Lam., Stark, Elem. Nat. Hist. ii. p. 53. *D.*  
 1838    "      "      "      Desh., Hist. nat. An. s. Vert. viii.  
   p. 431. *D.*  
 1839    "      *moreleti*, Desh., Traité Elem. Conch. pl. 74, f. 13, 14. *F.*  
 1854 *Tiara amarula*, Lin., H. & A. Ad., Gen. rec. Moll. i. p. 294,  
   and iii. pl. 31, f. 3. *F.*  
 1860 *Melania*    "      "      Rve., Conch. Icon. pl. 25, f. 177. *D.F.*  
 1877    "      "      Brug., Brot, Conch. Cab. p. 289. pl. 29, f. 1. *D.F.*  
       "      "      *moreleti*, Desh., Brot, *ibid.* p. 291. pl. 30, f. 2. *D.F.*  
 1880    "      (*Tiara*) *amarula*, Lin., von Mts., Meeresfauna Mauritius,  
   p. 210. *N.*  
 1884 *Tiara amarula*, Lin. (= *moreleti*, Desh.), Nev., Hand List, ii.  
   p. 278. *N.*

Type—*ubi* ?

*Hab.* NATAL. Izezela (Sweeney). Umkomaas (Burnup).

Also known from Mauritius and Madagascar.

Nevill (1884) writes: "I think I may state positively that Deshayes' *M. moreleti* is the young of the typical form" (*amarula*), "notwithstanding the remarkable 'quasi' adult appearance that it invariably presents."

It is questionable whether the Natalian examples should be attributed to *amarula* or to the following species.

555. *MELANIA COACTA* (Meuschen).

- 1780 *Helix amarula*, "Lin.," Born, Test. Mus. Caes. Vindobone,  
   p. 391. pl. 16, f. 21. *D.F.*  
 1787 *Strombus coactus*, Meuschen, Museum Geversianum, p. 294. *D.*  
 1877 *Melania thiarella*, Lam. (= *coactus*, Meusch.), Brot, Conch.  
   Cab. p. 291. pl. 29, f. 3. *D.F.*  
 1897    "      *coacta*, Meusch., von Mts., D.-O.-Afr. p. 197. pl. 6,  
   f. 36. *D.F.*

Type—*ubi* ?

*Hab.* LORENZO MARQUES. Rikatla; Nkomati River, near Morakouene (Junod).

von Martens mentions several localities in Zanzibar and East Africa.

556. *MELANIA CRAWFORDI*, Brot. [S.A.M.]

- 1894 *Melania crawfordi*, Brot, J. de C. xlii. p. 473. pl. 9, f. 5. *D.F.*  
       Type in British Museum.

*Hab.* TRANSVAAL. Middelburg (Crawford). Hennop's River and Crocodile River, Pretoria District (McBean; Connolly).

CAPE OF GOOD HOPE. Sundays River, Port Elizabeth (Crawford).

557. MELANIA TUBERCULATA (Müller). [S.A.M.]

- 1774 *Nerita tuberculata*, Müll., Verm. ii. p. 191. *D.*  
 1786 " " " Chem., Conch. Cab. ix, 2. p. 189.  
 pl. 136, f. 1261, 1262. *D.F.*  
 1842 *Melania* " " Phil., Abb. u. Beschr. i. p. 4. pl. 1, 1.  
 f. 14. *D.F.*  
 1849 " " " Mouss., Moll. von Java, p. 73. pl. 11,  
 f. 6, 7. *D.F.*  
 1859 " " " Rve., Conch. Icon. pl. 13, f. 87. *D.F.*  
 " " *inhambanica*, von Mts., Mal. Blätt. vi. p. 216. pl. 2,  
 f. 10. *D.F.*  
 1874 " *tuberculata*, Müll., Jick., Fauna N.-O.-Afr. p. 251. pl. 3,  
 f. 7. pl. 7, f. 36. *D.R.F.*  
 1875 " *inhambanica*, von Mts., Brot, Conch. Cab. p. 66. pl. 7,  
 f. 6. *D.F.*  
 1877 " *tuberculata*, Müll., Brot, *ibid.* p. 247. pl. 26, f. 11. *D.F.*  
 1881 " " " Crosse, J. de C. xxix. p. 282. *N.*  
 1884 " " " Nev., Hand List, ii. p. 239. *N.*  
 1897 " " " von Mts., D.-O.-Afr. p. 193. *D.*  
 1904 " " " " Die Kalahari, p. 757. *N.*  
 1908 " " " Dautz., J. de C. lvi. p. 23. *References.*  
 1909 " " " Kob., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 39. pl. 10, f. 5, 6. *N.F.*

Original in University Zool. Mus. Copenhagen.

*Hab.* LORENZO MARQUES. Inhambane; Tette (Peters). Quaqua River (*inhambanica*, Stuhlmann).

TRANSVAAL. Komati District (*inhambanica*, Schenck). Middelburg (Crawford).

ZULULAND EAST (Burnup).

NATAL. Umgeni Lagoon (Burnup).

BECHUANALAND. Makarrikarri Pan; Lake Ngami; Botletle District; Mori Mossetla, Ngami River (fossil, Passarge).

Described from Coromandel, and very widely distributed over Africa and parts of Asia, the coasts of the Mediterranean, Java, Borneo, and other islands of the Pacific Ocean. Jickeli (1874) includes in its synonymy: *Strombus costatus* and *transversim striatus*, Schröt.; *Strombus vibex* and *H. acicula*, Gmelin; *M. fasciolata*, Oliv.; ? *Nerita lacustris*, Brocchi; *M. aspersa*, Trosch.; *porcata*,

Jonas; *tamsii* and *flammigera*, Dkr.; *rivularis*, Phil.; *unifasciata* and *rothiana*, Mouss.; *indefinita*, Lea; *zengana* and *comersoni*, Morel.; *?newcombii*, Lea; *judaica*, Roth; *tigrina*, Hutt.; *pyramis*, Bs.; *exusta* and *wallacei*, Rve.; *punctulata*, Grat.; *abyssinica*, Rüppell; *beryllina*, Brot; *layardi*, Dohrn; and *rubropunctata*, Tristram.

Brot (1877) adds to the above *M. suturalis*, Phil.; *truncatula*, Lam.; *mauriciæ*, Less.; and *incontaminata*, *muricata*, and *biscaræ*, Parreyss.

558. MELANIA VICTORIÆ, Dohrn.

1865 *Melania victoriæ*, Dohrn, P.Ž.S. p. 234. D.

1877 " " Brot, Conch. Cab. p.257.pl.26,f.2. D.F.

Originals in British Museum.

Hab. RHODESIA. Victoria Falls (Kirk; Morrell).

FAMILY PALUDESTRINIDÆ, B. B. Woodward, 1903.

(Journ. of Conch. x. p. 355.)

(= Hydrobiidæ, Auctt.)

GENUS PALUDESTRINA, d'Orbigny, 1840.

(Voy. Amer. Merid., Moll. p. 381.)

(= *Hydrobia*, Hartmann, 1821, nec Leach, in Coleoptera 1817.)

Type of Genus, *P. auberiana*, D'Orb.

559. PALUDESTRINA ALABASTRINA (Morelet).

1889 *Hydrobia alabastrina*, Morel., J. de C. xxxvii. p. 19. pl. 2, f. 5. D.F.

Type in British Museum.

Hab. CAPE OF GOOD HOPE. Port Elizabeth (Crawford).

560. PALUDESTRINA TRISTIS (Morelet). [S.A.M.]

1889 *Hydrobia tristis*, Morel., J. de C. xxxvii. p. 18. pl. 2, f. 4. D.F.

Type in British Museum.

Hab. CAPE OF GOOD HOPE. Port Elizabeth (Crawford).

NATAL. Lower Umkomaas; Winkel Spruit (Burnup).

561. PALUDESTRINA ZWELLEN DAMENSIS (Küster).

1852, 3 *Paludina zwelendamensis*, Krs., Küst., Conch. Cab. p. 53.  
pl. 10, f. 19, 20. D.F.

Type—*ubi*?

Hab. CAPE OF GOOD HOPE. Zoetendals Valley, Swellendam District (Krauss).

Küster wrongly ascribes this species to Krauss' Südafr. Mollusken. The description in Conch. Cab. is from a shell in coll. Küster.

## FAMILY TRUNCATELLIDÆ, Gray, 1840.

(Syn. Brit. Mus. pp. 117, 148.)

## GENUS TRUNCATELLA, Risso, 1826.

(Hist. nat. Europe mérid. iv. p. 124.)

(= *Truncatula*, Leach, 1818 (*ined.*); *Erpetrometra*, Lowe, 1831; and *Choristoma*, de Cristofori and Jan, 1832.)

Type of Genus, *T. levigata*, Risso.

## 562. TRUNCATELLA TERES, Pfeiffer. [S.A.M.]

- 1856 *Truncatella teres*, Pfr., P.Z.S. p. 336. *D.*  
 „ „ „ Mon. Auric. p. 188. *D.*  
 1857 „ „ „ Cat. Auric. p. 136. *D.*  
 1868 „ „ „ Cox, Mon. Austral. Landshells, p. 92.  
 pl. 15, f. 9. *D.F.*  
 1874 „ „ „ Jick., Fauna N.-O.-Afr. p. 188. *D.*

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Crawford; Penther; Farquhar).

First recorded from Mauritius and Australia; also known from the Red Sea.

## GENUS TOMICHIA, Benson, 1851.

(A.M.N.H. vii. p. 378.)

Type of Genus, *T. ventricosa* (Rve.).

## 563. TOMICHIA VENTRICOSA (Reeve). [S.A.M.]

- 1842 *Truncatella ventricosa*, Sow., Rve., Conch. Syst. ii. p. 94. pl. 182,  
 f. 2. *F.*  
 1846 „ „ „ „ Pfr., Zeitschr. f. Malak. iii. p. 189. *D.*  
 1848 „ „ „ „ (= *capensis*, Krs. in litt.), Krs.,  
 Südafr. Moll. p. 87. pl. 5, f. 22. *D.F.*  
 1851 *Tomichia* „ „ „ „ Bs., A.M.N.H. vii. p. 379. *D.*  
 1855 *Truncatella* „ „ „ „ Küst., Conch. Cab. p. 13. pl. 2,  
 f. 27-31. *D.F.*  
 „ *Tomichia* „ „ „ „ H. & A. Ad., Gen. rec. Moll. ii.  
 p. 313, and iii. pl. 88, f. 4. *D.F.*  
 1885 *Hydrobia caledonensis*, Chaper, Bull. Soc. Zool. Fr. x. p. 484.  
 pl. 11, f. 6. *D.F.*  
 1889 „ „ „ „ Morel., J. de C. xxxvii. p. 18. *N.*



1901 *Tomichia ventricosa*, Sow. (= *caledonensis*, Chaper), Ancey, J. de C. xlix. p. 225. N.

Type of *ventricosa* in British Museum; *caledonensis* in École des Mines, Paris.

*Hab.* CAPE OF GOOD HOPE. Cape Flats; Zoetendals Valley (Krauss). "Baszaarm's" (Baas Harman's) Kraal; Michelville, or Holloway's Halfway House (Benson). Port Elizabeth (Crawford; Farquhar). Coega (Crawford). Near Caledon (*caledonensis*, Chaper). Milnerton (Connolly). Vogel Vlei, Calvinia Division (fossil, Moffatt).

var. BREVIS, Krauss.

1848 *Truncatella ventricosa*, Sow., var. *brevis*, Krs., Südafr. Moll. p. 87. D.

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Cape Flats; Zoetendals Valley (Krauss). Eerste River (Connolly). Lorens River, Somerset District (Holub).

FAMILY ASSEMANIIDÆ, H. & A. Adams, 1856.

(Gen. rec. Moll. ii. p. 314, as Assiminiidæ, *emend.* B. B. Woodward, 1903, Journ. of Conch. x. p. 356.)

GENUS ASSEMANIA, Leach in Fleming, 1828.

(Hist. Brit. Anim. p. 275, as Assiminea, *emend.* Knight, 1900, Journ. of Conch. ix. p. 275, and B. B. Woodward, 1903, Journ. of Conch. x. pp. 356, 366.)

(= *Assiminia*, *Assaminea*, Auctt.)

Type of Genus, *A. grayana*, Leach.

564. ASSEMANIA BIFASCIATA, Nevill. [S.A.M.]

1880 *Assiminia bifasciata*, Nev., Journ. As. Soc. Bengal, xlix, 2, p. 162. D.

1887 *Assiminea* ,, ,, Bttg., Jahrb. d. Deutsch. Mal. Ges. xiv. p. 161. D.

Type in Indian Museum, Calcutta.

*Hab.* NATAL. Port Natal (Nevill). Umhlatusani; Umlaas and Umkomaas Rivers (Burnup).

565. ASSEMANIA FASCIATA (Krauss).

1848 *Paludina fasciata*, Krs., Südafr. Moll. p. 86. pl. 5, f. 18. D.F.

1887 *Assiminea* ,, ,, Bttg., Jahrb. d. Deutsch. Mal. Ges. xiv. p. 174. D.

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna and Zoetendals Valleys (Krauss).

566. *ASSEMANIA HIDALGOI* (Gassies).

- 1869 *Hydrocena hidalgoi*, Gass., J. de C. xvii. p. 78. D.  
 1882 *Assimineca granum*, Morel., J. de C. xxx. pp. 105, 198. pl. 4, f. 8. D. N. F.  
 1883     "      "      "      (*hidalgoi*, Gass.), Morel., J. de C. xxxi.  
   p. 208. N.  
 1887     "      *hidalgoi*, Gass., Bttg., Jahrb. d. Deutsch. Mal. Ges.  
   xiv. p. 180. D.

Both types in British Museum.

*Hab.* NATAL. Amahlongwana Lagoon (Burnup).

*Hidalgoi* was described from New Caledonia; *granum* from Mauritius. The actual types differ considerably, but in Morelet's original type set of *granum* is one shell which is quite inseparable from *hidalgoi*. Under these circumstances I do not care to gainsay Morelet's expressed opinion as to the synonymy of his own species.

The Natal representatives are typical *hidalgoi*.

567. *ASSEMANIA KNYSNAENSIS* (Krauss).

- 1848 *Paludina knysnaensis*, Krs., Südafr. Moll. p. 86. pl. 5, f. 17. D. F.  
 1887 *Assimineca*     "      "      Bttg., Jahrb. d. Deutsch. Mal. Ges.  
   xiv. p. 182. D.

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna and Zoetendals Valleys (Krauss). Marshy ground near the beach, Port Elizabeth (Crawford).

568. *ASSEMANIA OVATA* (Krauss).

- 1848 *Paludina ovata*, Krs., Südafr. Moll. p. 85. pl. 5, f. 16. D. F.  
 1863     "      "      "      Frd., Verh. Wien Zool. Bot. Ges. xiii.  
   p. 211. N.  
 1887 *Assimineca*     "      "      Bttg., Jahrb. d. Deutsch. Mal. Ges. xiv.  
   p. 194. D.

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna and Zoetendals Valleys (Krauss). Zwartkops River Marshes, Port Elizabeth (Crawford).

569. *ASSEMANIA PONSONBYI*, Morelet.

*Assimineca ponsonbyi*, Böttger in Litt.

- 1889     "      "      "      Morel., J. de C. xxxvii. p. 17. pl. 2, f. 6. D. F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Rufane Vale, Port Elizabeth (Crawford).

570. ASSEMANIA SINICA, Nevill.

1880 *Assiminia sinensis*, Nev., Journ. Asiat. Soc. Bengal, xlix, 2, p. 161. *D.*

1887 *Assimineia sinica*, Nev. (for *sinensis*, Nev., not *chinensis*, Pfr.),

Bttg., Jahrb. d. Deutsch. Mal. Ges. xiv. p. 203. *D.*

Type in Indian Museum, Calcutta.

*Hab.* NATAL. Wydenham; Umkomaas (Burnup).

Described from Hong Kong.

571. ASSEMANIA UMLAASIANA, Smith. [S.A.M.]

1902 *Assiminia umlaasiana*, Smith, Journ. of Conch. x. p. 248. pl. 4,

f. 3. *D.F.*

Type in British Museum.

*Hab.* NATAL. In an ocean cave at Isipingo Rocks, half a mile south of Umlaas River mouth (Burnup).

ORDER ASPIDOBANCHIA, Schweigger, 1820.

(Naturges. d. Skeletlose Thiere, p. 720, as Aspidobranchiata; *emend.* Menke, 1830.)

SUB-ORDER RHIPIDOGLOSSA, Troschel, 1847.

(Archiv. f. Naturg. xiii, 2. p. 385, and Wiegmann's Handbuch der Zool.,  
Ed. 3. 1848.)

FAMILY HYDROCENIDÆ, Bourguignat, 1877.

(Descr. de deux nouveaux Genres Algériens, p. 38.)

GENUS HYDROCENA, Parreyss, 1846.

(Hermannsen's Indicis Generum Malac. i. p. 546.)

Type of Genus, *H. cattaroensis* (Pfr.).

572. HYDROCENA NOTICOLA, Benson. [S.A.M.]

1856 *Hydrocena noticola*, Bs., A.M.N.H. xviii. p. 439. *D.*

1858 " " Pfr., Mon. Pneum. ii. p. 158. *D.*

1897 *Assimineia tyttha*, M. & P., A.M.N.H. xix. p. 639. pl. 17, f. 11. *D.F.*

Type of *tyttha* in British Museum; *noticola*—*ubi?*

*Hab.* CAPE OF GOOD HOPE. Table Mountain, Camps Bay (Layard). Simonstown; Hout Bay (Connolly). Grahamstown; Kowie; Bathurst; Port Elizabeth (Farquhar).

NATAL. Howick (*tyttha*); Scottburgh; Karkloof; Dargle; Game Pass; Ntimbankulu (Burnup).

The type set of *tyttha* has been most carefully compared with a large series of *noticola* from Table Mountain, with the result that no specific difference has been found between them.

## FAMILY NERITIDÆ, Fleming, 1828.

(Hist. Brit. Anim. p. 318, as Neritidæ, *emend.* Turton, 1831, Manual, pp. 10, 138.)

## GENUS THEODOXIS, de Montfort, 1810.

(Conch. Syst. ii. p. 350.)

(=*Neritina*, Lam., 1822 [*Neritine*, 1809].)Type of Genus, *T. lutetianus*, de Montf. (*fluviatilis*, Lin.).

## 573. THEODOXIS KNORRI (Récluz).

- 1841 *Neritina knorri*, Récl., Rev. Zool. Soc. Cuv. p. 274. *D.*  
 1849 „ *knorrii*, Récl., Sow., Thesaurus Conch. ii. p. 511.  
 pl. 111, f. 78. pl. 113, f. 150. *D.F.*  
 „ „ *beckii*, Récl., Sow., *ibid.* p. 512. pl. 109, f. 13. *D.F.*  
 1850 „ *knorri*, Récl. (= *beckii*, Sow.), Récl., J. de C. i. p. 144.  
 1855 „ „ „ Rve., Conch. Icon. pl. 2, f. 6. *D.F.*  
 „ „ *beckii* „ „ „ pl. 3, f. 11. *D.F.*  
 1869 „ *knorri* „ von Mts., Nachrichtsbl. d. Deutsch. Mal.  
 Ges. i. p. 154. *D.*  
 1875 „ „ „ „ Conch. Cab. p. 55. pl. 8, f. 4-6.  
*D.F.*  
 1897 „ „ „ „ D.-O.-Afr. p. 213. *D.*  
 1899 „ „ „ „ M. & P., A.M.N.H. iv. p. 194. *N.*

Type—*ubi?**Hab.* LORENZO MARQUES. Inhambane (Peters).

Described from Madagascar and also known from Zanzibar.

M. & P. (1899) remark "Probably a form of *N. pulligera*."

## 574. THEODOXIS NATALENSIS (Reeve). [S.A.M.]

- 1848 *Neritina zebra*, "Lam.," Krs., Südafr. Moll. p. 88. *N.*  
 1855 „ *natalensis*, Rve., Conch. Icon. pl. 16, f. 75. *D.F.*  
 1877 „ „ „ von Mts., Conch. Cab. p. 96. pl. 11,  
 f. 10, 11, 15. *D.F.*  
 1897 „ „ „ „ D.-O.-Afr. p. 213. *D.*

Originals in British Museum, type not specified.

*Hab.* NATAL. Umgeni River (Krauss). Umkomaas (Burnup).

LORENZO MARQUES. Inhambane; Tette (Peters). Delagoa (Junod).

Also found in Central East Africa.

## 575. THEODOXIS SOUVERBIANUS (Montrouzier).

- 1861 *Neritina souverbiana*, Montr., Gassies, Act. Soc. Linn. Bordeaux,  
 xxiv. p. 309. pl. 8, f. 7. *D.F.*

Reference List of South African Non-marine Mollusca. 271

- 1863 *Neritina souverbiana*, Montr., J. de C. xi. pp. 75, 175. pl. 5, f. 5. *D.F.*  
 1871 „ *pulcherrima*, Angas, P.Z.S. p. 19, 96. pl. 1, f. 25. *D.F.*  
 1879 „ *souverbiana*, Montr. (= *pulcherrima*, Ang.), von Mts.,  
 Conch. Cab. p. 251. pl. 23, f. 29-31. *D.F.*  
 1881 „ „ Montr., Morel., J. de C. xxix. p. 208. *D.*  
 1883 „ „ „ „ „ „ xxxi. p. 204. *N.*  
 1910 „ „ „ „ „ „ Smith, Ann. Natal Mus. ii. p. 204. *N.*

Type of *pulcherrima* in British Museum.

*Hab.* NATAL. Congella (Burnup).

*Souverbianus* was originally described from New Caledonia, and *pulcherrima* from Port Jackson.

CLASS **LAMELLIBRANCHIA**, de Blainville, 1816.  
 (Bull. Soc. Philom. p. 122, as Lamellibranches.)

ORDER **EULAMELLIBRANCHIA**, Pelseneer, 1892.  
 (Bull. Sci. Fr. et Belg. p. 365.)

SUB-ORDER **SUBMYTILACEA**, de Blainville, 1825.  
 (Man. de Malac. p. 537.)

FAMILY **UNIONIDÆ**, Fleming, 1828.  
 (Hist. British Animals, p. 415.)

Dr. F. Haas, of Frankfurt-am-Main, has very kindly furnished me with much valuable information regarding this family, which he has collected for his own forthcoming monograph on the subject; an act of exceptional courtesy, for which I am greatly indebted to him.

GENUS **CAFFERIA**, Simpson, 1900.  
 (Proc. U.S. Nat. Mus. xxii. p. 824.)

Type of Genus, *C. caffra* (Krs.).

576. **CAFFERIA CAFFRA** (Krauss). [S.A.M.]

- 1848 *Unio caffer*, Krs., Südafr. Moll. p. 18. pl. 1, f. 14. *D.F.*  
 „ „ *zeyheri*, Mke., Zeitschr. f. Malak. v. p. 28. *D.*  
 1851 „ *cyamus*, Phil., „ v. p. 125. *D.*  
 1856 „ *verrauxi*, Charpentier, Küst., Conch. Cab. p. 150. pl. 43  
 (1855), f. 6. *D.F.*  
 „ „ *verreauxianus*, Lea, Proc. Acad. Nat. Sci. Phila. viii. p. 94. *D.*  
 „ „ *africanus*, Lea, *ibid.* p. 94. *D.*  
 „ „ *caffer*, Krs., Küst., Conch. Cab. p. 143. pl. 42 (1855), f. 2, 3. *D.F.*

- 1857 *Unio verreauxianus*, Lea, Obs. G. Unio, vi. p. 21. pl. 27, f. 16. *D.F.*  
 „ „ *africanus*, Lea, *ibid.*, p. 20. pl. 27, f. 15. *D.F.*  
 „ „ „ „ Rve., Conch. Icon. pl. 22, f. 100. *D.F.*  
 1858 „ „ „ „ Journ. Acad. Nat. Sci. Phila. iii. p. 300.  
 pl. 27, f. 15. *D.F.*  
 „ „ *verreauxianus*, Lea, *ibid.* p. 301. pl. 27, f. 16. *D.F.*  
 1859 „ *navigioliiformis* „ Proc. Acad. Nat. Sci. Phila. viii.  
 p. 152. *D.*  
 „ „ „ „ Obs. G. Unio, vii. p. 63. pl. 37, f.  
 124. *D.F.*  
 1860 „ „ „ „ Journ. Acad. Nat. Sci. Phila. iv.  
 p. 245. pl. 37, f. 124. *D.F.*  
 1864 „ *natalensis* „ Proc. Acad. Nat. Sci. Phila. p. 113. *D.*  
 „ „ „ „ Obs. G. Unio, xi. p. 63. pl. 20, f.  
 57. *D.F.*  
 1865 „ *navigoliiformis* „ Rve., Conch. Icon. pl. 24, f. 114. *D.F.*  
 1866 „ *caffer*, Krs., Rve., Conch. Icon. pl. 41, f. 226. *D.F.*  
 „ „ *natalensis*, Lea, Journ. Acad. Nat. Sci. Phila. vi. p. 59.  
 pl. 20, f. 57. *D.F.*  
 1868 „ „ „ „ Sow., Conch. Icon. pl. 71, f. 362. *D.F.*  
 „ „ *verreauxianus* „ „ „ „ pl. 69, f. 352. *D.F.*  
 „ „ *rectilinearis*, Sow., Conch. Icon. pl. 65, f. 332. *D.F.*  
 1880 „ *caffer*, Krs., Crvn., P.Z.S. p. 618. *N.*  
 1885 „ *vaalensis*, Chaper, Bull. Soc. Zool. Fr. x. p. 480. pl. 11,  
 f. 1-3. *D.F.*  
 1889 „ *natalensis*, Lea, and *verreauxi*, Charp., von Mts., Sitz-  
 Ber. Ges. Nat. Fr. Berlin, p. 165. *L.*  
 1891 „ *caffer*, Krs., Smith, A.M.N.H. viii. p. 317. *D.* and *Synonymy.*  
 „ „ *verreauxi*, Charp., Smith, *ibid.* p. 319. *N.*  
 1898 „ *caffer*, Krs., var. *pentheri*, Stur., S.A. Moll. p. 91. pl. 3,  
 f. 64, 65. *D.F.*  
 1900 *Nodularia (Cafferia) caffer*, Krs., Simpson, Proc. U.S. Nat.  
 Mus. xxii. p. 825. *Synonymy.*

Type of *caffa* in Stuttgart Museum; *vaalensis* in École des Mines, Paris; *zeyheri* lost; *africanus*, *natalensis*, and *verreauxianus* in U.S. National Museum, Washington; *navigioliiformis* and *rectilinearis* in British Museum; var. *pentheri* in Naturh. Hofmus. Vienna.

*Hab.* "SOUTH AFRICA" (*cyamus*, in coll. Largilliert).

NATAL (Wahlberg). Umsinduzi River, Pietermaritzburg (Burnup). Umpingave River (*natalensis*, McKen).

TRANSVAAL. Common round Pretoria and in Crocodile River (Connolly). Vaal River, Standerton (Miss Livingston). Between

Kimberley and Christiania (*natalensis*, Schenck). Kalkspruit, between Vaal and Heidelberg (*verreauxi*, Schenck, fide von Martens).

ORANGE FREE STATE. Riet River, Winburg (fide Sturany). Rhenoster River, south of Heilbron (Connolly).

CAPE OF GOOD HOPE (*africanus* and *verreauxianus*, Verreaux; *zeyheri*, Zeyher). Izeli River, near King Williamstown (Godfrey). Port Elizabeth District (Crawford). Retreat (Lightfoot). Vaal River, Barclay (*vaalensis*, Chaper). "Soutenthal" (Zoetendals) Valley (*verreauxi*, Verreaux).

LITTLE NAMALAND. Orange River, Henkries (Lightfoot).

GRIQUALAND WEST. Imvani and Riverton, Vaal River (Miss Wilman).

BRITISH BECHUANALAND. Hartz River, Taungs (Miss Wilman).

RHODESIA. Panda ma tinka, R. Zambesi (var. *pentheri*, Penther). Smith (1891) places *africanus*, *natalensis*, *verreauxianus*, and *vaalensis* in the synonymy of *caffra*; Simpson (1900), while further admitting *navigioliformis* and *rectilinearis*, considers *africanus* and *vaalensis* worthy of varietal rank. Dr. Haas writes that *verreauxianus*, *navigioliformis*, *natalensis*, *rectilinearis*, *africanus*, *vaalensis*, and *pentheri* are inseparable from *caffra*, and that *zeyheri* and *cyamus* must also belong to this species.

577. *CAFFERIA MASHONÆ* (Preston).

1910 *Unio mashonæ*, Prest., A.M.N.H. vi. p. 61. pl. 4, f. 10. *D.F.*

Type in British Museum.

*Hab.* RHODESIA. A sluit about 16 miles from Enkeldoorn, Mashonaland (Miss Sharpe-Young).

Very similar to *caffra*, from which it may be separable through the absence of the umbonal scar.

578. *CAFFERIA MOSSAMBICENSIS* (Peters).

1859 *Unio mossambicensis*, Ptrs., von Mts., Mal. Blätt. vi. p. 218. pl. 3, f. 3-5. *D.F.*

1885           ,,           ,, Charmes, Bull. Soc. Mal. Fr. ii. p. 166. *N.*

1897           ,,           ,, von Mts., D.-O.-Afr. p. 225. pl. 7, f. 2. *D.F.*

Type in Zool. Mus. Berlin.

*Hab.* LORENZO MARQUES. Tette (Peters).

Also reported from Central Africa.

## GENUS UNIO, Retz, 1788.

(Dissert. Nov. Test. Genera, Lund. p. 16.)

Type of Genus, *U. pictorum* (Lin.).

The four species which follow are left in *Unio*, to which they were originally attributed, pending further investigation. I have Dr. Haas' authority for stating that they do not really belong to that Genus, but that it is doubtful whether either of them can be placed in *Cafferia*.

## 579. UNIO FISSIDENS, Böttger. [S.A.M.]

1886 *Unio (Hyridella) fissidens*, Bttg., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 27. pl. 2, f. 6, 7. *D.F.*

1910 „ „ Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 453. *N.*

Type in Senckenburg Mus. Frankfurt.

*Hab.* BRITISH BECHUANALAND. Nosob-Hygap watercourse, east of Kebeum (subfossil, Nolte). Witkop (subfossil, Schultze; Rogers).

## 580. UNIO HYGAPANUS, Böttger.

1886 *Unio (Hyridella) hygapanus*, Bttg., Ber. Senckenb. Naturf. Ges. Frankfurt, p. 26. pl. 2, f. 5. *D.F.*

Type in Senckenberg Mus. Frankfurt.

*Hab.* BRITISH BECHUANALAND. Nosob-Hygap watercourse, east of Kebeum (subfossil, Nolte).

Described from a single left valve; possibly only a less highly sculptured form of *fissidens*.

## 581. UNIO KUNENENSIS, Mousson.

1887 *Unio kunenensis*, Mouss., J. de C. xxxv. p. 300. pl. 12, f. 10. *D.F.*

1891 „ „ Smith, A.M.N.H. viii. p. 319. *N.*

1904 „ „ von Mts., Die Kalahari, p. 758. *N.*

Type in Zurich Museum.

*Hab.* OVAMPOLAND. Kunene River (Schinz).

BECHUANALAND. Okavango and Botletle District, and in the salt pans of the Makarrikarri brook (fossil, Passarge).

“ Nearly allied to *U. hauttecoeuri*, Bgt., and other species from the East African Lakes ” (von Martens).

## 582. UNIO ZAMBESIENSIS, Preston.

1905 *Unio zambesiensis*, Prest., Proc. Mal. Soc. vi. pp. 300, f. 1; 301. *D.F.*

Type in British Museum.

*Hab.* RHODESIA. Victoria Falls (Morrell).





- 1875 *Spatha natalensis*, Lea, Cless., *ibid.* p. 189. pl. 62, f. 7, 8. *D.F.*  
 „ „ *wahlbergi*, Krs. „ „ p. 187. pl. 63, f. 1. *D.F.*  
 1891 „ „ „ von Mts., Sitz.-Ber. Ges. Nat. Fr. Berlin,  
 p. 17. *N.*  
 „ *Mutela* „ „ Smith, A.M.N.H. viii. p. 319. *N.*  
 1897 *Spatha* „ „ von Mts., D.-O.-Afr. p. 247. *D.*  
 1900 „ „ „ Simpson, Proc. U.S. Nat. Mus. xxii.  
 p. 898. *Synonymy.*  
 1909 „ „ „ Kob., Abh. Senckenb. Naturf. Ges.  
 Frankfurt, xxxii. p. 50. *N.*

Type of *wahlbergi* in Stockholm Museum; *natalensis* in U.S. National Mus. Washington.

*Hab.* TRANSVAAL. Aapies River (Wahlberg; Farquhar). Crocodile River (Day). Middelburg (Crawford).

LORENZO MARQUES. Tette (Peters).

ZULULAND. Enseleni River (Anderson).

NATAL. Umpingave River (*natalensis*, McKen).

RHODESIA. Bulawayo (in coll. Crawford).

Also found in East Africa.

von Martens (1897) remarks that *S. natalensis*, Lea, appears to differ little from *bloyeti*, Bgt.; Sturany and Simpson, however, place it in the synonymy of *wahlbergi*.

Kobelt (1909) states that he is unable to separate *spathuliformis*, Bgt., from *wahlbergi*, and includes *Spathella bourguignati*, Ancy, as a variety of Krauss' species.

var. DORSALIS, von Martens.

1859 *Spatha wahlbergi*, "Krs.," von Mts., Mal. Blätt. vi. p. 217.

1897 „ „ Krs., var. *dorsalis*, von Mts., D.-O.-Afr.  
 p. 247. \* *D.*

*Hab.* LORENZO MARQUES. Tette; Sena (Peters).

#### FAMILY CYRENIDÆ, Gray, 1840.

(Syn. Brit. Mus. pp. 133, 149.)

#### GENUS CORBICULA, von Mühlfeld, 1811.

(Mag. Ges. Naturf. Fr. Berlin, p. 56.)

Type of Genus, *C. fluminalis* (Müll.).

It would require intimate acquaintance with the types, and long sets of each variety, to unravel the extraordinary tangle into which the African species of *Corbicula* have been woven.

*C. fluminalis* (Müll.) was described from the River Euphrates in 1774, and *consobrina*, Calilaud (Voy. à Meroe, ii. pl. 61, f. 10, 11), from Egypt in 1823.

*C. radiata*, Parr. and *pusilla*, Parr. (Abb. u. Besch. ii. p. 78. pl. 11, 4. f. 7), from Egypt, owe their origin to Philippi, 1846.

In 1848, however, Krauss propounded the name *africana*, comprising two South African varieties, *olivacea* and *albida*, with which he identified *radiata* and *pusilla* respectively. *Olivacea* is the type form of *africana*: *albida* was raised by Clessin (1877) to the rank of a species, and will probably prove to be identical with, and have precedence of, *C. oliphantensis*, Crvn. Clessin also described and figured a *C. natalensis*, Krs., of which no notice has been taken by subsequent authors.

Jickeli (1874) dealt with *radiata* and *pusilla* as distinct species, but had not sufficient material to express an opinion as to the correctness of Krauss' views on the subject.

von Martens (1897) united *pusilla* with *radiata*, but separated the latter from *africana*, var. *olivacea*; Böttger, however (1910), considered *radiata* and *africana* identical.

Pallary (Mém. Instit. Égypt. vi, 1. 1909, pp. 71, 72) appears to prove that *radiata* and *pusilla* are both immature forms of *consobrina*, which last was placed by Jickeli (1874) and Westerlund (1890) in the synonymy of *fluminalis*, Müll.

The localities given in the following pages are, for the most part, correct for the varieties to which they refer, but the true degree of inter-relationship of the latter is obviously far too large a subject to admit of adequate discussion within the limits of the present work.

586. CORBICULA AFRICANA (Krauss). [S.A.M.]

- 1848 *Cyrena africana*, var. *olivacea*, Krs. (= *gawritziana*, Krs. in litt. and *radiata*, Parr.), Krs., Südafr. Moll. p. 8. pl. 1, f. 8. *D.F.*  
 1854 *Corbicula africana*, Krs., Desh., Cat. Conchif. p. 222. *D.*  
 1859 *Cyrena*            "            "    von Mts., Mal. Blätt. vi. p. 220. *N.*  
 1866 *Corbicula*        "            "    Prime, Ann. Lyc. N.H. New York, viii. p. 224, f. 57. *D.F.*  
 1877            "            "            "    Cless., Conch. Cab. p. 156. pl. 27, f. 22-24. *D.F.*  
 1904            "            "            "    von Mts., Die Kalahari, p. 758. *N.*

Type in Stuttgart Museum.

*Hab.* CAPE OF GOOD HOPE. Gauritz River (Krauss). Swellendam (Layard). Gamtoos R. (Farquhar). Port Elizabeth (Crawford).

GRIQUALAND WEST. Riverton, Vaal River (very large specimens, 19 × 17 mm., Miss Wilman).

LITTLE NAMALAND. Orange River, Henkries (Lightfoot).

BRITISH BECHUANALAND. Hartz River, Taungs (Miss Wilman).

BECHUANALAND. Letter Tree, Botletle River (Passarge).

LORENZO MARQUES. Itschongove (Schenck). Tette (Peters).

ZULULAND EAST (Toppin; Burnup).

NATAL. Nonoti River (Miss Brown).

ORANGE FREE STATE. Kroonstad (Miss Hickey).

TRANSVAAL. Vaal River, Standerton (Miss Livingston). Lepenula River (Wahlberg).

587. *CORBICULA ALBIDA* (Krauss).

1848 *Cyrena africana*, var. *albida*, Krs. (= *pusilla*, Parr.), Krs., Südafr. Moll. pp. 8, 9. *D.*

1877 *Corbicula albida*, Krs., Cless., Conch. Cab. p. 156. pl. 27, f. 25, 26. *D.F.*

Type in Stockholm Museum.

*Hab.* TRANSVAAL. River Lepenula (Wahlberg).

588. *CORBICULA ASTARTINA* (von Martens).

1859 *Cyrena astartina*, von Mts., Mal. Blätt. vi. p. 219. pl. 3, f. 6, 7. *D.F.*

1897 *Corbicula* „ „ D.-O.-Afr. p. 260. *D.*

Type in Zool. Mus. Berlin.

*Hab.* LORENZO MARQUES. Tette (Peters).

Also recorded from Nyassa and the Schire River, East Africa, and Mterize River, Northern Rhodesia.

589. *CORBICULA FLUMINALIS* (Müller). [S.A.M.]

1774 *Tellina fluminalis*, Müll., Verm. ii. p. 205. *D.*

1782 *Venus* „ „ Chem., Conch. Cab. vi. p. 319. pl. 30, f. 320. *D.F.*

1854 *Corbicula* „ „ Desh., Cat. Conchif. p. 222. *D.*

1871 *Cyrena* „ „ von Mts., Mal. Blätt. xviii. pp. 61, 66. pl. 1, f. 12-14. *N.F.*

1874 *Corbicula* „ „ Jick., Fauna N.-O.-Afr. p. 283. pl. 11, f. 4-9. *D.F.*

1899 „ „ „ Pons., Proc. Mal. Soc. iii. p. 334. *N.*

1907 „ „ „ Schultze, Aus Namaland und Kalahari, pp. 616, 708. *N.*

1910 „ „ „ Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 454. *N.*

Type—*ubi*?

*Hab.* BRITISH BECHUANALAND. Witkop (subfossil, Schultze; Rogers).

Chronicle, living, from North-East, West, and Central, but not from East or South Africa.

The following species have, rightly or wrongly, been included by various authors in the synonymy of *fluminalis*:—

*euphratica*, *cor*, *orientalis*, and *fuscata*, Lam.; *consobrina*, Caill.; *saulcyi*, Bgt.; and *frivaldskyana*, Zelebor.

590. CORBICULA NATALENSIS, Krauss.

1877 *Corbicula natalensis*, Krs. in litt., Cless., Conch. Cab. p. 155. pl. 27, f. 19–21. *D.F.*

Type in Stuttgart Museum.

*Hab.* NATAL (Queinzius).

591. CORBICULA OLIPHANTENSIS, Craven. [S.A.M.]

1880 *Corbicula oliphantensis*, Crvn., P.Z.S. p. 618. pl. 57, f. 12. *D.F.*

Type in British Museum.

*Hab.* TRANSVAAL. Oliphants River (Craven).

CAPE OF GOOD HOPE. Gamtoos River (Crawford).

It seems hardly possible that this species will eventually prove to be separable from *albida*, Krs.

592. CORBICULA RADIATA (Parreyss). [S.A.M.]

1846 *Cyrena radiata*, Parr., Phil., Abb. u. Beschr. ii. p. 78. pl. 11, 4, f. 8. *D.F.*

1848 " " " Krs., Südafr. Moll. p. 8. *N.*

1854 *Corbicula* " Phil., Desh., Cat. Conchif. p. 222. *D.*

1866 *Cyrena* " " von Mts., Mal. Blätt. xiii. p. 14. *N.*

1874 *Corbicula* " " Jick., Fauna N.-O.-Afr. p. 287. pl. 11, f. 10. *D.F.*

1877 " " Parr., Smith, P.Z.S. p. 718. *N.*

1878 " " " Cless., Conch. Cab. p. 162. pl. 28 (1877), f. 16–18. *D.F.*

1881 " " " Smith, P.Z.S. p. 295. *N.*

1892 " " " " A.M.N.H. x. p. 126. *N.*

1897 " " Phil., von Mts., D.-O.-Afr. p. 259. *D.*

1904 " " Parr., Smith, Proc. Mal. Soc. vi. p. 100. *N.*

1906 " " " Germain, Bull. Mus. Hist. Nat. Paris, p. 307. *N.*

1910 *Corbicula radiata*, Phil., Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 454. *N.*

Type—*ubi?*

*Hab.* TRANSVAAL. Potchefstroom (Miss Livingston).

BRITISH BECHUANALAND. Witkop (subfossil, Schultze).

LORENZO MARQUES. River Zambesi (Brancsik).

Described from Egypt, and recorded from East and Central Africa and Northern Rhodesia. Smith (1904) includes *C. tanganykana*, Bgt., in the synonymy of *radiata*, to which Germain (1906) adds *C. nyassana*, Bgt.

GENUS SPHÆRIUM, Scopoli, 1777.

(Introd. ad. Hist. nat. p. 397.)

(= *Cyclas*, Brug., 1792.)

Type of Genus, *S. corneum* (Lin.).

593. SPHÆRIUM CAPENSE (Krauss).

1848 *Cyclas capensis*, Krs., Südafr. Moll. p. 7. pl. 1, f. 6. *D.F.*

1854 *Sphærium capense*, Krs., Desh., Cat. Conchif. p. 265. *D.*

1874 *Cyclas capensis*, Krs., Jick., Fauna N.-O.-Afr. p. 291. pl. 11, f. 14. *D.F.*

1877 *Sphærium capense*, Krs., Cless., Conch. Cab. p. 93. pl. 10, f. 3-5. *D.F.*

1883 „ *subcapense*, Bgt. (= *capensis*, Jick.), Bgt., Ann. Sci. nat. Paris, xv. p. 133. *N.*

1908 „ *capense*, Krs. (= *subcapense*, Bgt.), Neuville & Anthony, Ann. Sci. nat. Paris, viii. p. 338. *N.*

Type of *capense* in Stuttgart Museum; *subcapense* in Geneva Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna River (Krauss).

RHODESIA. Makabusi Falls, near Salisbury (Miss Weineck).

Without knowledge of the types it is impossible to say whether Bourguignat (1883) was right in separating Jickeli's Abyssinian form from *capense*, Krs., but, judging from the respective figures, there appears to be good ground for his decision.

594. SPHÆRIUM FERRUGINEUM (Krauss).

1848 *Cyclas ferruginea*, Krs., Südafr. Moll. p. 7. pl. 1, f. 7. *D.F.*

1854 *Pisum parasiticum*, Parreyss, Desh., Cat. Conchif. p. 280. *D.*

„ „ *ferrugineum*, Krs., Desh., Cat. Conchif. p. 281. *D.*

1874 *Limosina ferruginea*, Krs., Jick., Fauna N.-O.-Afr. p. 293. pl. 11, f. 16, 17. *D.F.*

1879 „ „ Cless., Conch. Cab. p. 247. pl. 46, f. 1-4. *D.F.*

- 1883 *Eupera parasitica*, Parr., Bgt., Ann. Sci. nat. Paris, xv. p. 133. N.  
 „ „ *jickelii*, Bgt., *ibid.* p. 134. D.  
 1892 *Limosina parasitica*, Parr., Smith, A.M.N.H. x. p. 126. N.  
 1897 *Eupera* „ Desh., von Mts., D.-O.-Afr. p. 261. N.  
 1909 „ „ Parr., Pallary, Mém. Inst. Égypt. vi, 1.  
 p. 75. pl. 4, f. 18-20. F.

Type of *ferrugineum* in Stuttgart Museum; *parasiticum* in British Museum; *jickelii* in Geneva Museum.

*Hab.* CAPE OF GOOD HOPE. Knysna River (*ferrugineum*, Krauss).

RHODESIA. Victoria Falls (Connolly).

Jickeli (1874) placed examples of *E. parasitica*, which he collected in Abyssinia, in the synonymy of *ferruginea*, Krs., but the weight of more recent opinion, which in this case appears to me to be correct, is against these species being identical. References to both, as well as to *jickelii*, Bgt., are given above for purposes of comparison.

*Parasitica* is recorded from East and North-East Africa; *jickelii* from Abyssinia. Until more is known of Krauss' species, I prefer to leave it in its original Genus, rather than in *Eupera*, Bgt., which was constituted for two Brazilian shells. *Limosina*, Cless., 1872, is preoccupied by *Limosina*, Macq., in *Diptera*, 1835.

GENUS PISIDIUM, C. Pfeiffer, 1821.

(Syst. Anordn. u. Beschr. deutscher L.-und W.-Schnecken, pp. 17, 123.)

(= *Pisum*, Gray, 1847, and *Fluminina*, Clessin, 1873.)

Type of Genus, *P. obliquum* (Lam.).

595. PISIDIUM LANGLEYANUM, Melv. & Pons.

- 1891 *Pisidium langleyanum*, M. & P., A.M.N.H. viii. p. 237. D.  
 1892 „ „ „ „ ix. p. 94. pl. 5, f. 7. F.

Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Langley).

596. PISIDIUM OVAMPICUM, Ancey.

- 1890 *Pisidium ovampicum*, Ancey, Bull. Soc. Mal. Fr. vii. p. 162. D.  
 1910 ? „ c.f. *langleyanum*, M. & P., Bttg., Abh. Senckenb.  
 Naturf. Ges. Frankfurt, xxxii. p. 455. pl. 28, f. 19. D.F.

Type—*ubi* ?

*Hab.* OVAMPOLAND. Ovambonde (Andersson and Chapman).

BRITISH BECHUANALAND. Witkop (? *langleyanum*, subfossil, Schultze).

It appears probable, on geographical grounds, that Böttger's note may refer to *P. ovampicum*, which he seems to have overlooked

in his article on German South-West Africa. It is, however, impossible to recognise this species, of which I have been unable to trace an authentic example. It was not figured, and was apparently described from a closed shell, as no mention was made of the hinge or interior of the valves.

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*Species which have been erroneously attributed to South Africa, or whose names may, for various reasons, be removed from the list of collectible South African varieties.*

CERATOCOONCHA SCHULTZEI, Simroth.

1907 *Ceratoconcha schultzei*, Srth., Zool. Anz. Leipsig, xxxi. p. 794, &c. *D.F.*

1910                    "                    "                    Bttg., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 433. *N.*

*Hab.* CAPE PENINSULA. Cape Flats (Schultze).

Böttger points out that this is the larva of *Microdon*, Meig., and consequently has no place in Mollusca.

ENNEA ZANGUEBARICA, Morelet.

1889 *Ennea zanguebarica*, Morel., J. de C. xxxvii. p. 10. pl. 1, f. 7. *D.F.*  
Type in British Museum.

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (Morelet, *laps. cal.*).

Owing to an obvious omission in Morelet's article, this species was erroneously attributed to Port Elizabeth. It is a synonym of *E. obesa*, Gibbons, an East African shell.

MARTENSIA JENYNSI (Pfeiffer).

1845 *Helix jenyinsi*, Pfr., P.Z.S. p. 131. *D.*

1859 *Nanina jenyinsi*, Pfr., von Mts., Mal. Blätt. vi. p. 211. *L.*

1897 *Trochonanina jenyinsi*, Pfr., von Mts., D.-O.-Afr. p. 48. *N.L.*

Type in British Museum.

*Hab.* LORENZO MARQUES. Tette (Peters).

In 1859 and 1879 von Martens included *M. jenyinsi* in the list of shells brought from Tette by Dr. Peters, but in 1897, though a large number of localities are quoted for this species by the same



author, no mention is made of Tette or any other place within the limits of the present work. It may therefore be advisable to await further confirmation before including it in South African lists.

RHYTIDA BULLACEA (Pfeiffer).

- 1854 *Helix bullacea*, Pfr., P.Z.S. p. 53. D.  
1889       "       "       Morel., J. de C. xxxvii. p. 19. L.  
*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet).  
An Australian species, erroneously referred to South Africa.

NANINA PISOLINA, Gould.

- 1859 *Nanina pisolina*, Gld., Proc. Boston Soc. N.H. vi. p. 423. D.  
1862       "       "       "       Otia Conch. p. 102. D.  
1868 *Helix*       "       "       Pfr., Mon. Hel. v. p. 54. D.  
*Hab.* "CAPE OF GOOD HOPE?" (Ringold & Rodgers).  
As the description of this unfigured species is insufficient, no authentic example can be traced, and its original habitat is doubtful, there can be no object in retaining its name among collectible varieties.

HELIX COMATULA, Férussac.

- 1821 *Helix (Helicella) comatula*, Fér., Tabl. Syst. Moll. pt. 3. p. 45 (or 41). L.  
1874 *Helicella comatula*, Beck, von Mts., Jahrb. d. Deutsch. Mal. Ges. p. 120. N.  
*Hab.* CAPE OF GOOD HOPE. On aloes (Delalande).  
Nomen nudum.

HELIX CONNEXIVA, Férussac.

- 1821 *Helix (Helicostyla) connexiva*, Fér., Tabl. Syst. Moll. pt. 3. p. 50 (or 46). L.  
1874       "       *connexiva*, Fér., von Mts., Jahrb. d. Deutsch. Mal. Ges. p. 120. N.  
*Hab.* CAPE OF GOOD HOPE (Delalande).  
Nomen nudum.

HELIX DOLOSA, Férussac.

- 1821 *Helix (Helicostyla) dolosa*, Fér., Tabl. Syst. Moll. pt. 3. p. 50 (or 46). L.  
1874       "       *dolosa*, Fér., von Mts., Jahrb. d. Deutsch. Mal. Ges. p. 120. N.  
*Hab.* CAPE OF GOOD HOPE (Delalande).  
Nomen nudum.

## HELIX EKLONIANA, Beck.

1837 *Helix (Theba) ekloniana*, Beck, Index Moll. p. 11. *L.*

1874 *Theba eckloni*, Beck, von Mts., Jahrb. d. Deutsch. Mal. Ges. p. 120. *N.*

*Hab.* "Afr. aust. Alg." (fide Beck).

Nomen nudum.

## HELIX FANULUS, Pfeiffer.

1856 *Helix fanulus*, Pfr., P.Z.S. p. 33. *D.*

Type in British Museum.

*Hab.* PORT NATAL (coll. Cuming).

This shell, whose name was intended to be *janulus*, proved to be the top of an *Ennea*, and was omitted from Pfeiffer's Nomenclator in 1881.

## HELIX MONTICOLA, Beck.

1837 *Helix (Bradybæna) monticola*, Beck, Index Moll. p. 20. *L.*

*Hab.* CAPE OF GOOD HOPE (fide Beck).

Nomen nudum.

## HELIX SECTILIS, Férussac.

1821 *Helix (Helicella) sectilis*, Fér., Tabl. Syst. Moll. pt. 3. p. 46 (or 42). *L.*

1874 *Theba sectilis*, Beck, von Mts., Jahrb. d. Deutsch. Mal. Ges. p. 120. *N.*

*Hab.* CAPE OF GOOD HOPE. Caffraria (Delalande).

Nomen nudum.

## ENA PICTURATA (Morelet).

1889 *Bulimus picturatus*, Morel., J. de C. xxxvii. p. 7. pl. 1, f. 4. *D.F.*

1898 *Buliminus (Rhachis) picturatus*, Morel., Stur., S.A. Moll. p. 64. *L.*

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (fide Sturany).

Sturany's locality is erroneous, the species having been described from Mogadoxo, Zanzibar.

## JAMINIA CYLINDRACEA (Da Costa).

1778 *Turbo cylindraceus*, Da Costa, Test. Brit. p. 89. pl. 5, f. 16. *D.F.*

1801 *Pupa umbilicata*, Drap., Tabl. Moll. Fr. p. 58. *D.*

1898 " " M. & P., Proc. Mal. Soc. iii. p. 184. *L.*

*Hab.* CAPE TOWN (fide M. & P.).

This common European species may possibly exist in South Africa, but I have failed to trace any instance of its actual occurrence there.

## JAMINIA HAPLOA (Melv. &amp; Pons.).

1893 *Pupa haploa*, M. & P., A.M.N.H. xi. p. 21. pl. 3, f. 7. *D.F.*

1908 " " " i. p. 77. *N.*

*Hab.* TRANSVAAL. Pretoria (fide M. & P.).

Founded on a single specimen, "seemingly allied to *P. pretoriensis*" (M. & P., 1908).

JAMINIA PSICHION (Melv. & Pons.).

1894 *Pupa psychion*, M. & P., A.M.N.H. xiv. p. 93. pl. 1, f. 8. *D.F.*

1908 " " " i. p. 81. *N.*

1911 " " Bnp., A.M.N.H. vii. p. 409. *N.*

*Hab.* TRANSVAAL. Pretoria (fide M. & P.).

It appears advisable to transfer both the foregoing to the list of doubtful species. *J. haploa* was founded on a single specimen, which can only be regarded as lost, since it has proved quite impossible to trace its whereabouts. In the case of *psychion*, the type, the only known specimen, is so hopelessly broken that it is quite impossible even to determine to what group of the Genus it belonged. The original descriptions and figures of these minute forms are hardly in themselves sufficient, and the Pretoria District, whence they were recorded, has since been often carefully searched, and yielded only the species mentioned on pp. 180-185. It is probable that, if ever the missing type of *haploa* or co-types of *psychion* turn up, they will prove to be identical with some forms already named; meanwhile no useful purpose can be served by retaining them in the list of collectible varieties.

RUMINA DECOLLATA (Linné).

1758 *Helix decollata*, Lin., Syst. Nat., Ed. 10. i. p. 773. *D.*

1898 *Rumina* " " M. & P., Proc. Mal. Soc. iii. p. 184. *L.*

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (coll. Layard).

In the Layard collection were two large examples of this species, found at Port Elizabeth in 1897. There is no record of their having been taken alive, and it is hardly possible that this destructive pest would have gained a footing in the country so many years ago without making its presence felt ere now. It is reasonable to suppose, therefore, that these shells, on which the South African record of *R. decollata* is based, were imported in dead condition, probably in flower-pots, and the name may be expunged from the South African list until, as is to be feared, a second, and more successful, invasion takes place.

AURICULASTRA PELLUCENS (Menke).

1830 *Auricula pellucens*, Mke., Syn. Meth. Moll. p. 131. *D.*

1848 " " Krs., Südafr. Moll. p. 82. *N.*

Described from South America.

Krauss attributed to *A. pellucens* specimens collected by Wahlberg in Natal. It is unlikely that they were that species; Nevill (Hand List, i. p. 226) assigns them definitely to *radiolata*, Morel.; M. & P. (A.M.N.H. iv, 1899, p. 193) suggest their identity with *durbanica*, M. & P., which appears to be inseparable from *radiolata*.

AURICULASTRA PUSILLA (H. & A. Adams).

1854 *Ellobium pusillum*, H. & A. Ad., P.Z.S. p. 8. *D.*

1855 *Tralia pusilla*, H. & A. Ad., Gen. rec. Moll. iii. pl. 82, f. 8. *F.*

1898 *Auricula pusilla*, H. & A. Ad., M. & P., Proc. Mal. Soc. iii. p. 180. *L.*

Type in British Museum.

*Hab.* NATAL. Cato's Creek, Durban.

Described from the Philippines. The South African record was based on a single specimen, which appears to have been incorrectly identified.

PLANORBIS CAFFER, "Krauss."

1889 *P. caffer*, Krs., Morel., J. de C. xxxvii. p. 19. *L.*

1898 *Planorbis caffer*, Krs., Stur., S.A. Moll. p. 77. *N.*

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet).

Sturany points out that the above appellation is probably a lapsus calami, as no such species can be traced in literature. Possibly Morelet's "*P.*" *caffer* was intended for "*Unio*" *caffer*, Krs., which is known from Port Elizabeth, but not included in his list of shells from that district.

CYCLOTUS NATALENSIS, Pfeiffer.

1861 *Cyclotus natalensis*, Pfr., P.Z.S. p. 388. *D.*

1898 " " Ancy, Bull. Mus. Marseille, i. p. 136. *N.*

1899 " " M. & P., A.M.N.H. iv. p. 193. *N.*

Type in British Museum.

*Hab.* CAPE NATAL (coll. Cuming).

"*Cyclotus natalensis*, Pfr., has been shown by Ancy to be the *Cyclophorus klobukowskii*, Morlet, from Tonkin (J. de C., 1884, p. 391), and must therefore be removed from South African lists."

TROPIDOPHORA GOUDOTIANA (Sowerby).

1847 *Cyclostoma goudotianum*, Sow., Thesaurus Conch. i. p. 130.  
pl. 29, f. 193. *D.F.*

1848 " " Krs., Südafr. Moll. p. 82. *N.*

1861 " " Rve., Conch. Icon. pl. 8, f. 42a,

but not f. 42b, which is *insularis*, Pfr.

The type, in the British Museum, is labelled "Natal," but the species is Madagascan, not South African, and the locality is almost certainly erroneous.

TROPIDOPHORA LETOURNEUXI (Ancey).

1889 *Cyclostomaletourneuxi*, Ancey, Bgt., Moll. del' Afr. équat. p. 152. *D.*

1909 *Ligatella letourneuxi*, Ancey (= *zanguebarica*, Pfr., nec Petit),  
Kob., Abh. Senckenb. Naturf. Ges. Frankfurt, xxxii. p. 78. *L.*

*Hab.* SOUTH-EAST AFRICA (fide Kobelt).

Recorded from Zanzibar, Nyassa, &c., but not yet from south of the Zambesi.

TROPIDOPHORA ZANGUEBARICA (Petit).

1850 *Cyclostoma zanguebaricum*, Petit, J. de C. i. p. 53. pl. 3, f. 5. *D.F.*

1854 ,, *parvispirum*, Pfr., P.Z.S. p. 128. *D.*

1889 ,, ,, ,, Morel, J. de C. xxxvii. p. 20. *L.*

1894 ,, *zanguebaricum*, Petit (= *parvispira*, Pfr.), Smith,  
Proc. Mal. Soc. i. p. 166. *N.*

Type of *parvispira* in British Museum; *zanguebarica*—*ubi?*

*Hab.* CAPE OF GOOD HOPE. Port Elizabeth (fide Morelet).

*Zanguebaricum* was described from Zanzibar, *parvispira* from  
"\_\_\_?"

After careful research, I have failed to trace any authentic instance of the occurrence of this species south of the Zambesi.

MELANIA HISTRIONICA, Reeve.

1860 *Melania histrionica*, Rve., Conch. Icon. pl. 29, f. 192. *D.F.*

1878 ,, ,, Brot, Conch. Cab. p. 365. *N.*

1899 ,, ,, M. & P., A.M.N.H. iv. p. 193. *N.*

Type in British Museum.

*Hab.* "CAPE COLONY" (fide Reeve).

M. & P. remark that *M. histrionica* was described from Cape Colony on the authority of the Cumington collection. The type appears to be closely allied to, if not a variety of, *Pachymelania aurita* (Müll.), a West African species whose presence in South Africa appears to require further confirmation. Brot places *histrionica* in the synonymy of *Claviger balteatus* (Phil.) from Senegal, which he states is nearly allied to *aurita*.

MELANOPSIS PRINCEPS, Lea.

1837 *Melanopsis princeps*, Lea, Trans. Amer. Phil. Soc. v. p. 82.  
pl. 19, f. 74. *D.F.*

*Hab.* CAPE OF GOOD HOPE (fide Lea).

Placed by Brot (Conch. Cab., 1879, p. 411) in the synonymy of *Faunus ater* (Linn.). Lea's locality is in all probability erroneous.

THEODOXIS CREPIDULARIUS (Lamarck).

- 1822 *Neritina crepidularia*, Lam., Hist. nat. An. s. Vert. vi, 2. p. 186. *D.*  
 1848           "                   "   Krs., Südafr. Moll. p. 88. *D.N.*  
 1899           "                   "   M. & P., A.M.N.H. iv. p. 194. *N.*

*Hab.* NATAL COAST (Wahlberg).

Krauss expresses some doubt as to the correctness of Wahlberg's locality. M. & P. remark, "This species has been found in Ashanti, but we have not met with it at present from South Africa."

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*Note.*—As this work was published anonymously, the nomenclature proposed therein is not accepted.

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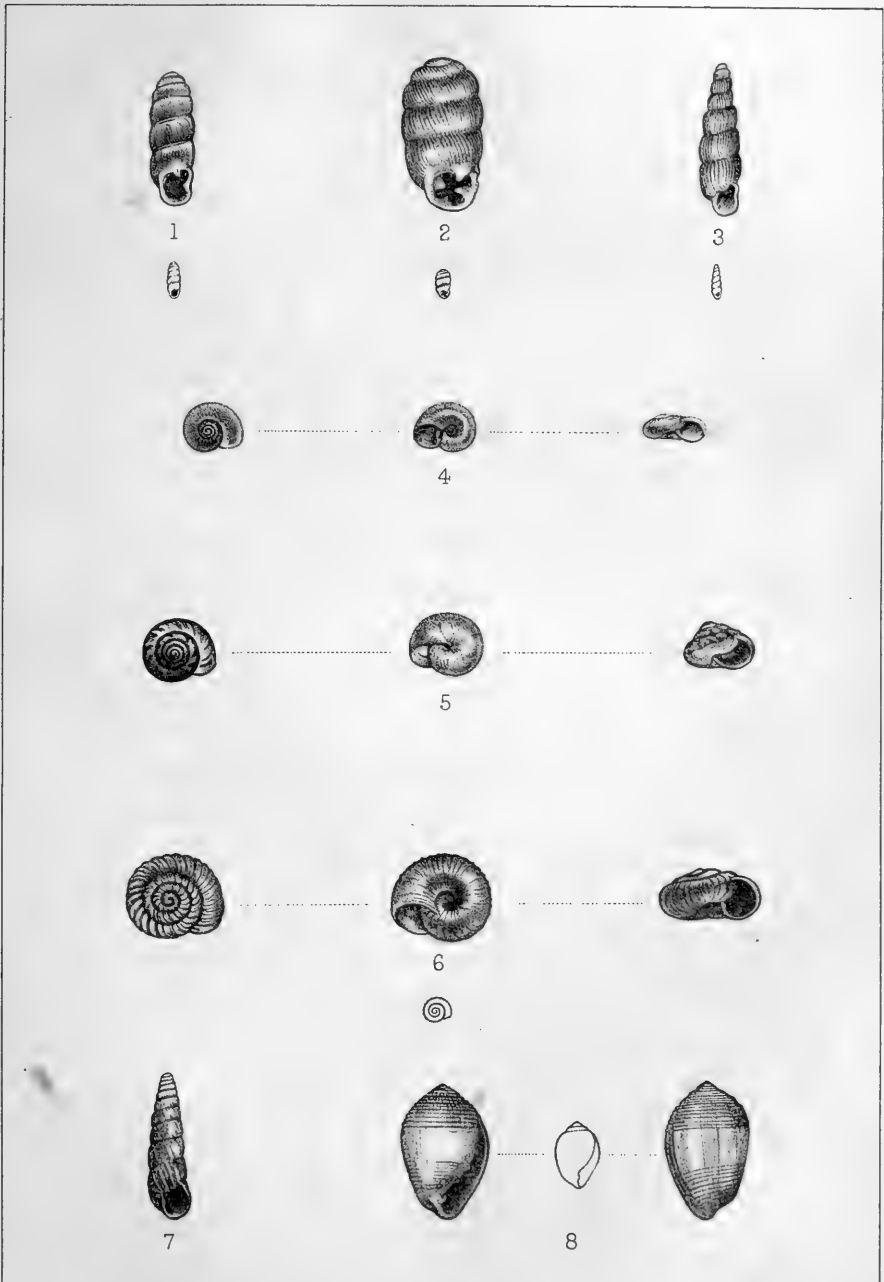
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T.B. Stoney del.

West, Newman lith.

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| 1. <i>Ennea magnolia.</i>           | 2. <i>Ennea rhodesiana.</i>         |
| 3. <i>Streptostele herma.</i>       | 4. <i>Natalina tarachodes.</i>      |
| 5. <i>Trachycystis erythraetis.</i> | 6. <i>Trachycystis metallakter.</i> |
| 7. <i>Euonyma gouldi.</i>           | 8. <i>Melampus semiaratus.</i>      |



## ALPHABETICAL INDEX.

Names of higher rank than Genera are printed in CAPITALS; Genera and Subgenera, in SMALL CAPITALS; species in ordinary type (roman); varieties, synonyms, and forms not actually known in South Africa, in *italics*.

When a valid species is attributed to a Genus other than that in which it was originally placed, the author's name is printed in brackets; but in the case of synonyms and invalid species the original Genus is printed in brackets after the author's name.

The synonyms of the following species, though mentioned in the text, are omitted from the index:—*P. draparnaudi*; *L. flavus*; *A. agrestis* and *lævis*; *H. lactea* and *pisana*; *C. acicula*; and *M. tuberculata*.

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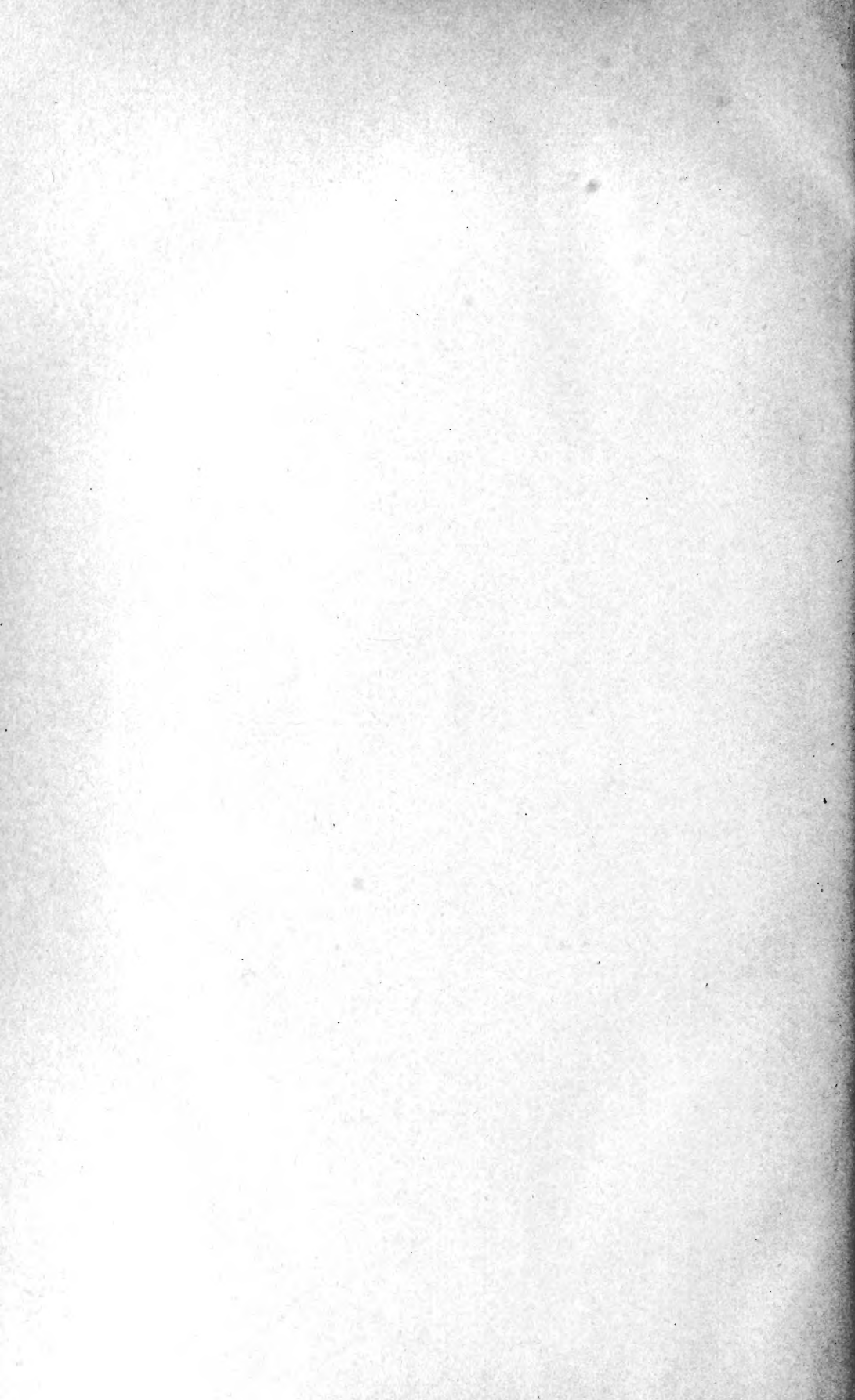
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