

10. On the Land-Shells of the Island of Socotra collected by Prof. I. Bayley Balfour. By Lieut.-Colonel H. H. GODWIN-AUSTEN, F.R.S., F.Z.S., &c.—Part II. Helicaceæ<sup>1</sup>.

(Plates LXVIII., LXIX.)

The most abundant Pulmoniferous shells on the island of Socotra are those of a subgenus of *Buliminus*, which Mr. Geoffrey Nevill separated and distinguished under the title *Achatinelloides*, upon the then only known species *B. socotrensis* of Pfeiffer, one of the most distinct forms of the group. *Achatinelloides* (which I propose for the present to restrict to species of this island until we possess a larger series of the land-shells of the adjacent mainland, almost unknown at present) may be divided into two well-marked divisions:—*a*, with well costulated sculpture; *b*, smooth and polished. A broad, rather flat columellar margin, more or less plicate, is characteristic of the subgenus, and is well shown in the type (vide fig. 1 *a*, Plate LXVIII.). There is a third group of *Bulimini* peculiar to Socotra, *c*, characterized by their thin fragile shells, while the columellar margin still assimilates to that of the more solid shells of the first group (compare fig. 5 *a*, Plate LXVIII., with fig. 9 *a*, Plate LXIX.). As yet we know nothing of their anatomy; but as they approach in form and coloration *B. velutinus*, Pfr., which is the type of Albers's subgenus *Pachnodus*, I have placed them in that subgenus for the present.

Groups *a* and *b* show, in a very interesting manner, how gradually species have been modified, and yet how close they remain as a whole. Take, for instance, the markings in *A. socotrensis* and *socotrensis* var. *elongatus*, and observe how the spiral markings in the former have become longitudinal on the sides of the longer whorls of the latter, and how these last again have been modified in *A. tigris* into still more pronounced longitudinal rays of colour, while the shell has changed into the more elongate form and lost its ribbed sculpture. Again, in *A. zebrinus* we have another modification of the same spiral bands seen in *A. socotrensis*, but in a still more solid glossy shell. In *A. balfouri*, in the first 4 or 5 whorls only do we find any coloured bands retained; these, as the shell becomes mature, are lost altogether. Plain unmarked varieties occur in many of the species. *A. hadibuensis* has the coloured patches very irregularly arranged, but still oblique to the costulation; while in *A. gollonsirensis*, the most ornamented of all, this type of coloration is crossed by a well-marked almost continuous spiral band of colour. *A. semicastaneus* presents in its form and coloration quite another sort of variation in another direction.

In bringing the list of Socotran Land-shells to a conclusion in this paper, I think it due (as a member of the Committee for the exploration of the island) to express to Prof. Bayley Balfour how much we are

<sup>1</sup> For Part I. *vide supra* p. 251 *et seqq.*



indebted to him for the fine collection he has succeeded in bringing together in a few weeks. Having collected myself in the East, I know he must have worked hard and well to do it, pressed as he was for time, and that time primarily occupied with his own particular branch of science, botany. When we consider also the birds, reptiles, and insects &c. which he brought home, it is seen how very valuable the results have been, considering the small outlay of money. Far greater are they, and far more valuable, than those of many better known and more costly expeditions, subscribed for and sent out by scientific societies from this country.

#### Genus BULIMINUS.

Subgenus ACHATINELLOIDES, G. Neville, Dec. 1878 (Handl. Moll. Ind. Mus. p. 131), as represented in Socotra (= *Ovella*, Pfr. Nomen. (ed. Clessin), May 1879).

Group *a*. With more or less costulated sculpture.

1. *socotrensis*, Pfr., type.
2. —, var. *elongatus*.
3. *hadibuensis*.
4. —, var. *alba*.
5. *balfouri*.
6. *gollonsirensis*.

Group *b*. Smooth and polished.

1. *tigris*.
2. *zebrinus*.
3. *longiformis*.
4. *semicastaneus*.

#### Subgenus PACHNODUS, Albers.

Group *c*. Smooth, with epidermis, very thin and fragile. Very abnormal.

1. *heliciformis*.
2. *fragilis*.
3. *adonensis*.

1. BULIMINUS (ACHATINELLOIDES) SOCOTRENSIS, Pfr. (Plate LXVIII. fig. 1.)

(Figured in Conch. Icon. pl. lxiv. fig. 440.)

Shell dextral, rotundately oval, very closely and narrowly rimate; sculpture close regular ribbing; colour white, the last whorl ornamented with very oblique regular bands of madder-brown crossing the costulation at right angles, becoming broader and more irregular on the apical whorls but still very oblique; spire conical, apex sub-acuminate; suture shallow; whorls 5, rounded; aperture suboblique, oval, angular above, with a strong callus on the body-whorl; peristome thin; the columellar margin flat, with a strong plication.

Largest specimens, size:—

Major diam.	0·27,	alt. axis	0·40,	alt. apert.	0·24 inch.
"	"	7·0,	"	10·1	" 6·2 millim.



Var. *alba*. Among 98 specimens nine were quite plain, but did not differ in any other respect.

*Animal*. Many specimens were found to be still alive, and survived some time, but died off gradually. Eye-tentacles moderately long, the oral tentacles long and dark; animal pale-coloured, foot pointed.

The odontophore will be figured hereafter with those of other species.

[This species is very common on trees (*Croton*, sp. ind.) on the plain of the valley at the mouth of which is the village of Gollonsir. —B. B.]

2. *BULIMINUS* (*ACHATINELLOIDES*) *SOCOTRENSIS*, var. *ELONGATUS*. (Plate LXVIII. fig. 2.)

Shell rimate, ovately fusiform, very solid; sculpture regular shallow oblique costulation; colour buffy white, the last whorl below obliquely and spirally ornamented with regular umber-brown bands, which on the upper whorls become transverse splashes of colour slightly oblique to the costulation; spire elongately pyramidal, sides flatly convex; suture shallow; whorls 6, sides flat; aperture ovate; peristome sharp, only very slightly reflected near the rimation; columellar margin with a sharp internal fold.

Size:—

Major diam. 0·25, alt. axis 0·45, alt. apert. 0·22 inch.  
 „ „ 6·4, „ 11·0, „ 5·5 millim.

*Animal*. One alive, pale greenish grey; eye-tentacles short, dark; a white granular short patch on the fore margin of the foot.

[On the stems of *Dracæna* growing on limestone at over 2000 feet. —B. B.]

This shell is very close to *A. socotrensis*; but the form is more elongate, and the distribution of the bands of colour is very different; and it might be mistaken for the young of *A. balfouri*; but the whorls are flatter.

3. *BULIMINUS* (*ACHATINELLOIDES*) *HADIBUENSIS*, n. sp. (Plate LXVIII. fig. 3.)

Shell elongately fusiform, rather broadly rimate in well-grown shells, closer in the younger specimens, coarse but regular costulation; colour ochraceous brown with streaks of madder-brown running parallel to the costulation, these again overlaid with minute specks of black, apex nearly black; spire elongately pyramidal, slightly convex, subacuminate; suture shallow, adpressed; whorls 6, body-whorl the largest, sides very flatly convex; aperture ovate, more than half the length of the axis; peristome with sharp edge, slightly reflected over the rimation, regularly curved on the outer margin; columellar margin straight, with a slight sinuation within the aperture.

Longest specimen:—

Major diam. 0·4, alt. axis 0·85, alt. apert. 0·5 inch.  
 „ „ 10·2, „ 21·7, „ 12·5 millim.



Shortest specimen :—

Major diam. 0·36, alt. axis 0·77, alt. apert. 0·44 inch.  
 „ „ 9·0, „ 19·7, „ 11·2 millim.

[Most abundant on the trees upon the plain in the vicinity of Hadibu, on a *Croton*, which was the commonest undershrub.—*B. B.*]

This shell is closely allied to *A. balfouri*; but it may be known at once by its more elongate form, coarser sculpture, and elaborate ornamentation.

4. *BULIMINUS* (*ACHATINELLOIDES*) *HADIBUENSIS*, var. *ALBA*.  
 (Plate LXVIII. fig. 4.)

Pure white. I give a figure of the base, right side, showing the rimation; but its narrowness is, I think, due to immaturity, and not of much value.

Major diam. 0·36, alt. axis 0·82, alt. apert. 0·42 inch.  
 „ „ 9·0, „ 21·0, „ 10·5 millim.

This shell is very close to *A. hadibuensis*; but the sculpture is not so coarse.

Var. *minor* has splashes of pale brown upon the whorls, and measures :—

Major diam. 0·48, alt. axis 0·13 inch.  
 „ „ 12·0, „ 3·3 millim.

5. *BULIMINUS* (*ACHATINELLOIDES*) *BALFOURI*, n. sp. (Plate LXVIII. fig. 5.)

Shell narrowly and deeply rimate, ovately fusiform, solid; sculpture regular close oblique costulation; colour generally white, with a few dark distant longitudinal splashes on the four apical whorls; spire elongately conoid, sides convex, apex moderately sharp, suture shallow; whorls 7, last the largest, sides convex; aperture elongately ovate, nearly half the length of the shell, with a strong callus on the body-whorl in many specimens; peristome sharp, straight on the outer margin; columellar margin straight, reflected over the rimation, with a well-marked internal fold.

Longest specimen :—

Major diam. 0·39, alt. axis 0·83, alt. apert. 0·39 inch.  
 „ „ 10·0, „ 21·5, „ 10·0 millim.

Shortest specimen :—

Major diam. 0·38, alt. axis 0·68, alt. apert. 0·38 inch.  
 „ „ 9·5, „ 17·8, „ 9·5 millim.

Animal pale ochraceous, with minute speckling of brown; tentacles pale, elongate, attenuate, pointed. In some the head is mottled dark olivaceous; no pallial line.

*Locality.* General all over the island.



6. *BULIMINUS* (*ACHATINELLOIDES*) *BALFOURI*, var.

Three specimens are mottled spirally below with pale umber and white, above transversely; and the apical whorls have dark dashes near the suture at regular intervals.

Longest specimen:—

Major diam. 0·44, alt. axis 0·87, alt. apert. 0·47 inch.  
 „ „ 11·3, „ 22·5, „ 12·4 millim.

Most tumid specimen:—

Major diam. 0·37, alt. axis 0·65, alt. apert. 0·34 inch.  
 „ „ 9·6, „ 17·0, „ 9·0 millim.

[From the plain in the vicinity of Kadhoop village on the north side of the island.—*B. B.*]

7. *BULIMINUS* (*ACHATINELLOIDES*) *GOLLONSIRENSIS*, n. sp. (Plate LXIX. fig. 10.)

Shell ovately fusiform, narrowly rimate, solid; sculpture regular rather pronounced costulation; colour white or pale buff, minutely mottled with brown, with very irregular jaggy, transverse, short streaks or patches of darker brown, slightly oblique to the costulation, which do not reach to the suture above; spire elongately pyramidal, sides flatly convex, apex subacuminate, suture shallow; whorls 7, sides flat; aperture ovate, considerably more than one third the length of the axis; peristome sharp, flatly convex on the outer margin and rounded below; columellar margin reflected, nearly covering the rimation, an internal fold.

Longest specimen:—

Major diam. 0·28, alt. axis 0·66, alt. apert. 0·32 inch.  
 „ „ 7·3, „ 16·8, „ 8·0 millim.

Shortest specimen:—

Major diam. 0·21, alt. axis 0·50, alt. apert. 0·26 inch.  
 „ „ 5·5, „ 13·0, „ 6·8 millim.

[On trees, not uncommon on hill-slopes; these are from those bounding the Gollonsir valley.—*B. B.*]

The older specimens lose much of their coloration; but the fine mottling can generally be made out.

8. *BULIMINUS* (*ACHATINELLOIDES*) *TIGRIS*, n. sp. (Plate LXVIII. fig. 6.)

Shell rimate, ovately fusiform, solid, smooth and polished; sculpture lines of striae discernible under lens; colour white and buff-brown, streaked diagonally below with narrow bands of brown; above, each whorl ornamented with jagged regularly disposed transverse bands of the same colour; spire elongately pyramidal, sides slightly convex; suture shallow; whorls 6, sides slightly convex; aperture oval, subvertical; peristome thick, regularly convex on the outer margin; columellar margin with a strong plication, very little reflected.



Longest specimen :—

Major diam. 0.24, alt. axis 0.50, alt. apert. 0.22 inch.  
 „ „ 6.0, „ 12.5, „ 5.7 millim.

Shortest specimen :—

Major diam. 0.22, alt. axis 0.42, alt. apert. 0.17 inch.  
 „ „ 5.5, „ 10.8, „ 4.5 millim.

[Taken on stems of *Dracæna*, on limestone at an altitude of over 2000 feet.—*B. B.*]

This shell might at first sight be taken for *A. gollonsirensis*; but the much more open rimation and more polished surface distinguish it. It is again very similar to *A. longiformis*, but is more attenuate in form.

9. *BULIMINUS* (ACHATINELLOIDES) *ZEBRINUS*, n. sp. (Plate LXVIII. fig. 7.)

Shell rimate, elongately fusiform, polished, solid; sculpture indistinct transverse striæ under lens; colour milky white, with fine well-defined spiral bands of madder-brown on the last whorl, which near the suture turn sharply and change to a dark ochre tint; the dark bands are more irregular and jagged towards the apex; spire elongately pyramidal, very slightly convex; suture shallow; whorls  $6\frac{1}{2}$ , sides somewhat flattened; aperture subvertical; peristome thickened; columellar margin with a slight fold.

Longest specimen :—

Major diam. 0.19, alt. axis 0.43, alt. apert. 0.20 inch.  
 „ „ 5.0, „ 10.8, „ 5.2 millim.

Shortest specimen :—

Major diam. 0.14, alt. axis 0.37, alt. apert. 0.14 inch.  
 „ „ 4.0, „ 9.4, „ 4.0 millim.

*Locality.* On the stems of *Dracæna* on limestone at over 2000 feet, along with *A. tigris*.

10. *BULIMINUS* (ACHATINELLOIDES) *LONGIFORMIS*, n. sp. (Plate LXVIII. fig. 8.)

Shell very narrowly rimate, polished, solid, very elongately fusiform; sculpture indistinct transverse striæ; colour white, with elongate more or less dark-brown streaks of colour extending to apex, less defined on basal end; spire elongately pyramidal, sides flatly convex; suture shallow; whorls 7, sides flat; aperture ovate, rather more than half the length of axis; peristome sharp on the outer margin, which is slightly convex; columellar margin rather thickened, almost concealing the rimation, with an internal fold.

Longest specimen :—

Major diam. 0.28, alt. axis 0.76, alt. apert. 0.30 inch.  
 „ „ 7.2, „ 19.5, „ 8.0 millim.



Medium specimen:—

Major diam. 0·26, alt. axis 0·67, alt. apert. 0·28 inch.  
 „ „ 6·9, „ 17·0, „ 7·5 millim.

*Locality.* Eastern end of the island, on limestone.

11. *BULIMINUS* (*ACHATINELLOIDES*) *SEMICASTANEUS*, n. sp.  
 (Plate LXVIII. fig. 9.)

Shell rimate, solid, fusiform; sculpture fine oblique striation, to the naked eye polished; colour milky white on last two whorls, chestnut or sienna-brown on the five apical; spire elongately pyramidal, becoming rapidly attenuate at the apex, sides convex; suture rather shallow; whorls 7, body-whorl tumid, side convex; aperture ovate, suboblique; peristome continuous as a strong callus on the body-whorl, rather flattened on the outer margin; columellar margin with well-marked fold, oblique, somewhat thickened and angulate near the upper inner margin.

Longest specimen:—

Major diam. 0·22, alt. apert. 0·22, alt. axis 0·39 inch.  
 „ „ 5·5, „ 5·5, „ 10·0 millim.

Shortest specimen:—

Major diam. 0·22, alt. apert. 0·22, alt. axis 0·37 inch.  
 „ „ 5·5, „ 5·5, „ 9·5 millim.

*Locality.* [South side of island on limestone rocks, nearly 1000 feet; nine specimens were found.—*B. B.*]

12. *BULIMINUS* (*ACHATINELLOIDES*) *SEMICASTANEUS*, var. *ALBA*  
 (Plate LXVIII. fig. 10.)

Shell fusiform, narrowly rimate, smooth; sculpture fine oblique somewhat irregular striation; colour all white; spire elongate, sides flatly convex, apex subacuminate, suture very shallow; whorls 6–7, sides very flat; aperture ovoid, subvertical; peristome sharp, continued as a thin callus on the body-whorl; columellar margin straight, with an internal plication, slightly reflected over the rimation.

Size:—

Major diam. 0·14, alt. axis 0·36, alt. apert. 0·18 inch.  
 „ „ 3·7, „ 9·3, „ 4·7 millim.

*Locality.* [S.W. of Gollonsir on the limestone ridge, over 1000 feet; only 3 specimens were obtained.—*B. B.*]

This shell is very close to *B. semicastaneus*; but it is much flatter on the sides and not so tumid in form, and is no doubt a local variety. There are only three specimens in the collection.

13. *BULIMINUS* (*PACHNODUS*) *HELICIFORMIS*, n. sp. (Plate LXIX. figs. 7, 7a.)

Ovately fusiform, tumid, thin, diaphanous; sculpture thin, a few transverse lines of growth; colour olive-brown; spire pyramidal, suture



rather deep; whorls 4, all rounded and the last much swollen; aperture broadly ovate; peristome very thin, as well as the columellar margin, where there is a slight reflexion.

Size :—

Major diam. 0·20, alt. axis 0·38, diam. apert. 0·20, alt. apert. 0·25 inch.  
 „ „ 5·0, „ 9·5, „ „ 5·0, „ 6·5 millim.

*Locality.* [Only found in one locality, at the base of granite cliffs above Hadibu.—*B. B.*]

Only one specimen found. This shell might be taken for a *Helix* at first sight; but its columellar margin shows it to be a close ally of the two next species, as well as the general coloration and appearance of the epidermis. Living specimens of this species and its allies would be very desirable.

14. *BULIMINUS (PACHNODUS) FRAGILIS*, n. sp. (Plate LXIX. fig. 8.)

Shell dextral, narrowly rimate, obtusely pyriform, very thin; sculpture fine irregular transverse lines of growth; colour olive-green; spire pyramidal, sides flat, apex sharp, tapering rapidly, suture moderate; whorls 5, sides flat, last whorl large; aperture oblique, ovate; peristome thin; columellar margin straight, thin and reflected.

Size :—

Major diam. 0·19, alt. axis 0·30, alt. apert. 0·13 inch.  
 „ „ 4·7, „ 7·5 „ 3·2 millim.

*Locality.* [From under granite boulders, hills above Adona, over 2000 feet.—*B. B.*]

15. *BULIMINUS (PACHNODUS) ADONENSIS*, n. sp. (Plate LXIX. figs. 9, 9 a.)

Shell dextral, ovately fusiform, thin, semitransparent; sculpture, under high power, epidermis rough with a few irregular transverse ridges; colour olive-brown; spire elongate, sides flatly convex; apex blunt, suture well marked; whorls 6, sides rather flat; aperture oval, oblique; peristome thin; columellar margin flat, triangular, with a slight curve or twist.

Size :—

Major diam. 0·38, alt. axis 0·27 inch.  
 „ „ 9·5, „ 8·5 millim.

*Locality.* [From under granite boulders, hills above Adona, over 2000 feet.—*B. B.*]

16. *ENNÆA PASSAMAANA*, Petit, Journ. Conch. 1853, p. 366, pl. xiii. figs. 7, 8. (Plate LXVIII. fig. 11.)

Shell dextral, tumidly fusiform, moderately solid, with deep hollow rimation; sculpture distinct well raised costulation; colour dull grey-white; spire acutely pyramidal, slightly convex; suture well impressed, whorls 6, all well rounded, the last with a deep dentation just behind



the aperture on the outer margin; aperture ear-shaped, contracted; peristome thin, reflected, continuous, a small double tooth on the outer margin, with another strong tooth on the columellar margin.

Largest specimen, size:—

Major diam. 0·27, alt. apert. 0·22, alt. axis 0·48 inch.

„ „ 6·8, „ 5·7, „ 12 millim.

*Locality.* South side of the island, on limestone rocks at nearly 1000 feet. [This shell was first discovered by a French officer of marines, Monsieur Passama.]

17. *ENNÆA BALFOURI*, n. sp. (Plate LXVIII. fig. 12.)

Shell elongately fusiform, rather solid; sculpture very regular shallow ribbing; colour wax-white or dull pale umber; spire elongate, sides convex, apex blunt; suture shallow; whorls 6, flatly convex; aperture subvertical, oval, one flat-shaped tooth on body-whorl; peristome continuous, with a narrow notch on the upper outer margin of the aperture; columellar margin strong, with a single tooth, and one largely developed triangular tooth on the outer margin.

Size:—

Major diam. 0·24, alt. axis 0·58, alt. apert. 0·24 inch.

„ „ 6·1, „ 14·5, „ 6·2 millim.

*Locality.* On the slopes of the ridge bounding the Gollonsir valley.

[The ridge is capped with limestone resting on a granite basis. This shell I did not find abundantly, and only on the slope of the hill below the limestone cap; altitude over 500 feet.—*B. B.*]

18. *PUPA SOCOTRANA*, n. sp. (Plate LXVIII. fig. 13.)

Shell fusiform, oblate; sculpture smooth, covered with pale umber epidermis; spire with slightly convex sides; suture shallow; whorls 6; aperture elongately oval, subvertical; peristome moderately thickened, slightly rimate on the middle of the outer margin, where there is a single rounded solid tooth; columellar margin strong, perpendicular, with a well-developed tooth.

Size:—

Major diam. 0·15, alt. axis 0·32, alt. apert. 0·13 inch.

„ „ 4·0, „ 8·0, „ 3·5 millim.

*Locality.* [Found under granite boulders over 2000 feet.—*B. B.*]

19. *STENOGYRA GOLLONSIRENSIS*, n. sp. (Plate LXIX. fig. 1.)

Shell dextral, elongately turreted; sculpture smooth, with shallow lines of growth; colour dull white; spire turreted, apex rounded, solid; suture moderately impressed; whorls 12, sides very slightly convex; aperture fusiform; peristome thin; columellar margin solid, straight, and scarcely reflected.



Size :—

Major diam. 0·74, alt. axis 2·45, diam. apert. 0·35,  
 „ „ 18·2, „ 61·8, „ 9·2,  
 alt. apert. 0·57 inch.  
 „ 14·3 millim.

[On limestone at an altitude of over 1000 feet on the top of the ridge overlooking Gollonsir village, and on the S.W. of it (Gollonsir is at the west end of the island); not abundant in this locality.—*B. B.*]

In the form of its aperture this shell approaches the subgenus *Bacillum* of Theobald, from Eastern India.

20. *STENOGYRA FUMIFICATA*, n. sp. (Plate LXIX. figs. 2, 2 a.)

Shell dextral, elongately turreted, solid, not rimate; sculpture irregular-sized fine transverse lines of growth crossed by spiral lines, giving a cloth-like appearance; colour ruddy ochre; spire elongate, sides convex; apex contracting rather rapidly at the sixth whorl, rounded; suture shallow, but well marked; whorls 11, regular, flat-sided; aperture semioval, angular above, rounded below, nearly vertical; peristome thin, columellar margin strong, simple, slightly curved inwards at base.

Size :—

Major diam. 0·73, alt. apert. 0·70, alt. axis 2·35 inch.  
 „ „ 18·5, „ 17·5, „ 59·0 millim.

[Common on limestone at east end of island. This shell is used often by the natives for a pipe-bowl.—*B. B.*]

This is a remarkable form, also with characters somewhat like those of *Bacillum*, and may eventually be placed in a subgenus of its own next to *Bacillum* and *Prosopaeas*.

21. *STENOGYRA JESSICA*, n. sp. (Plate LXIX. fig. 3.)

Shell elongately turreted, dextral, decollate in the three specimens obtained, scarcely rimate; sculpture very fine longitudinal ribbing; colour white; spire long, with sides flatly convex; suture very shallow; whorls 8+; sides very flat; aperture oval, oblique, angulate above; peristome thin; columellar margin weak and but slightly reflected.

Size :—

Major diam. 0·22, alt. axis 0·76, alt. apert. 0·20 inch.  
 „ „ 5·3, „ 19·2, „ 5·0 millim.

*Locality.* [Not very common. On limestone-ridge S.W. of Gollonsir, at high altitude; at 1000 feet on south side of the island.—*B. B.*]

22. *STENOGYRA ADONENSIS*, n. sp. (Plate LXIX. figs. 4, 4 a.)

Shell not rimate, dextral, elongately turreted, glassy, polished; a few faint longitudinal shallow lines of growth; colour very pale ochraceous; spire high, sides slightly convex; apex blunt, rounded,



and rather rapidly tapering at the fifth whorl; suture shallow, adpressed; whorls 10, somewhat convex; aperture elongately oval, subvertical; peristome thin; columellar margin thin, straight.

Size :—

Major diam. 0·34, alt. axis 0·97, alt. apert. 0·27 inch.

„ „ 8·5, „ 24·8, „ 7·0 millim.

*Locality.* [This shell I only found in one locality, east of Hadibu, near a place called Adona, altitude over 1500 feet, rock granite.—*B. B.*]

This shell approaches somewhat in its general form to *B. magilensis*, Craven, from Magila, East Africa.

23. *STENOGYRA* (SUBULINA?) *ENODIS*, n. sp. (Plate LXIX. fig. 5.)

Shell dextral, elongately turreted, not rimate, very thin, glassy, diaphanous; no sculpture; colour milky white; spire long, apex blunt and rounded, suture moderately deep; whorls 9, sides convex, regularly increasing; aperture quadrate, subvertical (not fully formed); peristome thin; columellar margin straight, vertical.

Size :—

Major diam. 0·17, alt. axis 0·54, alt. apert. 0·12 inch.

„ „ 4·0, „ 13·0, „ 2·8 millim.

*Locality.* [South side of the island, from limestone rocks, altitude 1000 feet.—*B. B.*]

Only one specimen was found.

24. *STENOGYRA* (OPEAS?) *HIRSUTUS*, n. sp. (Plate LXIX. figs. 6, 6 a.)

Shell dextral, elongately turreted, scarcely rimate, covered with a thick epidermis; sculpture a rough surface with regularly disposed longitudinal lines of fine hairs; colour dull ochre; spire elongate, sides flat, apex blunt, suture well impressed; whorls 11, sides slightly convex; aperture oval, oblique; peristome thin; columellar margin thin, slightly reflected.

Size :—

Major diam. 0·12, alt. axis 0·45, alt. apert. 0·8 inch.

„ „ 3·0, „ 11·0, „ 2·0 millim.

*Locality.* [Found underneath granite boulders on hills above Adona, altitude over 2000 feet.—*B. B.*]

Only one specimen of this beautiful hairy shell was found.

## EXPLANATION OF THE PLATES.

### PLATE LXVIII.

Fig. 1, 1 a. *Buliminus* (*Achatinelloides*) *socotrensis*, Pfr., p. 802.

2. *Buliminus* (*Achatinelloides*) *socotrensis*, var. *elongatus*, p. 803.

3, 3 a. *Buliminus* (*Achatinelloides*) *hadibuensis*, n. sp., p. 803. 3 b, right side of base, showing rimation.



- Fig. 4. *Buliminus (Achatinelloides) hadibuensis*, var. *alba*, p. 804.  
 5, 5 a. *Buliminus (Achatinelloides) balfouri*, n. sp., p. 804.  
 6. *Buliminus (Achatinelloides) tigris*, n. sp., p. 805.  
 7. — (—) *zebrinus*, n. sp., p. 806.  
 8. — (—) *longiformis*, n. sp., p. 806.  
 9. — (—) *semicastaneus*, n. sp., p. 807.  
 10. — (—) —, var. *alba*, p. 807.  
 11. *Ennæa passamaana*, Petit, p. 808. 11 a and 11 b, views of basal portion, from right side and below.  
 12. — *balfouri*, n. sp., p. 809. 12 a and 12 b, right side of base, and as seen from below vertically to columella.  
 13. *Pupa socotrana*, n. sp., nat. size, p. 809.

## PLATE LXIX.

- Fig. 1. *Stenogyra gollonsirensis*, n. sp., nat. size, p. 809.  
 2, 2 a. *Stenogyra fumificata*, n. sp., nat. size, p. 810.  
 3. *Stenogyra jessica*, n. sp., p. 810.  
 4. — *adonensis*, n. sp., p. 810. 4 a, right side of base.  
 5. *Stenogyra (Subulina?) enodis*, n. sp., p. 811.  
 6. — (*Opeas?*) *hirsutus*, n. sp., p. 811. 6 a, epidermal hairs, magnified.  
 7, 7 a. *Buliminus (Pachnodus) heliciformis*, n. sp., p. 807.  
 8. *Buliminus (Pachnodus) fragilis*, n. sp., p. 808.  
 9. — (—) *adonensis*, n. sp., p. 808. 9 a, the columellar margin, enlarged.  
 10. *Buliminus (Achatinelloides) gollonsirensis*, n. sp., p. 805.

# 11. Notes on the Muscular Anatomy of *Cercopithecus callitrichus*. By G. E. DOBSON, M.A., M.B., &c.

[Received April 5, 1881.]

Having lately had occasion, while working at a question on general comparative anatomy, to dissect partially a fine male specimen of *Cercopithecus callitrichus*\*, I offer the following notes, then made, to the Society for publication, as they contain some points of considerable morphological interest.

Anterior bellies of the *digastrics* greatly expanded and partially double, occupying the whole intermandibular space, but united by their fascial margins only, connected posteriorly by an aponeurotic expansion with the body of the hyoid bone, the greater cornu of which is also connected laterally by a tendinous band with the well-developed intermediate tendon above, and behind by a small tendon with the lower margin of the muscular fibres forming the posterior part of the muscle, which are inserted obliquely into the intermediate tendon, the infero-internal margin of which is seen to be directly

\* The following are the measurements of this specimen :—Length of head and body (along back) 3' 7''·25; tail 2' 1''·25; ear 1''·2×1''; elbow to end of middle finger 9'', knee to end of middle toe 11''·75, manus 3''·4, pollex 1''·5, middle digit 1''·5, pes 5''·3, hallux 1''·2, middle digit 2''.





Godwin-Austen, Henry Haversham. 1881. "On the Land-Shells of the Island of Socotra collected by Prof. I. Bayley Balfour." *Proceedings of the Zoological Society of London* 1881, 801–812.

<https://doi.org/10.1111/j.1096-3642.1881.tb01338.x>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/96698>

**DOI:** <https://doi.org/10.1111/j.1096-3642.1881.tb01338.x>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/73319>

#### **Holding Institution**

Natural History Museum Library, London

#### **Sponsored by**

Natural History Museum Library, London

#### **Copyright & Reuse**

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.