

## 19. SUCCINEA ARBOREA, Ad. &amp; Ang., n. s.

*S. testa oblongo-ovata, spira quam apertura brevior, apice papilloso, alba, aureo-cornea, pellucida; anfractibus 3, valde convexis, longitudinaliter strigosis; apertura oblongo-ovata, labio callo tenui instructo; labro arcuato, simplici.*

Long. 4 lin., lat. 2 lin.

*Hab.* Burnside; hills near Adelaide; beneath bark of gum-trees (*Coll. Angas.*).

The habits of this species differ from those of *S. strigata*, Pfr., which are strictly terrestrial, the animals making their appearance after rain, and spreading over the hills in considerable numbers. Our species, on the contrary, shelters itself beneath the loose bark of the *Eucalypti*.

## 20. BLANFORDIA STRIATULA, Menke.

This species of *Blanfordia* is the only example of an operculate land-shell that I have met with in South Australia. The same species is found in Tasmania.

From the hills near Adelaide.

## 4. DESCRIPTIONS OF FIFTEEN NEW SPECIES OF LAND-SHELLS, FROM THE COLLECTION OF H. CUMING, ESQ. BY DR. LOUIS PFEIFFER.

1. HELIX LABUANENSIS, Pfr. *T. imperforata, conoideo-depressa, tenuis, carinata, striatula et liris minutis elevatis prope suturam distinctioribus cincta, cornea; spira concaviusculo-conoidea, apice acutiuscula; sutura marginata; anfr. 7, subplani, lente accrescentes, ultimus non descendens, acutissime carinatus, basi parum convexus; apertura obliqua, depresso securiformis; perist. simplex, rectum, margine supero brevi, antrorsum arcuato, basali a carina recedente, leviter arcuato, ad insertionem subcalloso.*

Diam. maj.  $16\frac{1}{2}$ , min. 15, alt. 6 mill.

*Hab.* In insula Labuan (*Mr. Hugh Low*).

2. HELIX HUGONIS, Pfr. (182 a). *T. sinistrorsa, clause perforata, turbinata, solida, undique conferte et subargute granulato-striata, superne fuscula; spira conoidea, vertice obtusulo; anfr. 8, lente accrescentes, convexiusculi, supra suturam flavescens, ultimus compressus carinatus, infra carinam inflatus, castaneus; apertura obliqua, irregulariter angulato-lunaris, intus margaritacea; perist. subsimplex, margine supero brevi, basali perarcuato, versus perforationem subincrassato et leviter dilatato.*

Diam. maj. 38, min. 35, alt. 21–22 mill.

*Hab.* In insula Labuan (*Mr. H. Low*).

3. HELIX CEROCONUS, Pfr. (194 a). *T. subperforata, conica, tenuiuscula, striatula, cerea; spira convexiusculo-conica, vertice obtusulo; sutura filomarginata; anfr. 6–6 $\frac{1}{2}$ , convexiusculi, lente*

*accrescentes, ultimus convexior, non descendens, periphæria subacute carinatus; apertura vix obliqua, angulato-lunaris; perist. simplex, rectum, marginibus distantibus, supero brevi, basali leviter arcuato, versus insertionem sensim dilatato, reflexiusculo.*

Diam. maj.  $8\frac{1}{2}$ , min. 8, alt.  $5\frac{1}{2}$  mill.

*Hab.* In insula Labuan (Mr. H. Low).

4. *HELIX JUCUNDA*, Pfr. (263 a). *T. subclausæ perforata, conoideo-depressa, tenuis, sub lente conferte striata, nitida, fusco-cornea; spira breviter conoideo-elevata, vertice subtili; anfr.  $6\frac{1}{2}$ , convexiusculi, lente accrescentes, ultimus non descendens, periphæria rotundatus, basi medio impressus; apertura vix obliqua, irregulariter lunaris, intus submargaritacea; perist. simplex, rectum, marginibus distantibus, dextro regulariter arcuato, columellari declivi, parum arcuato, ad insertionem breviter reflexo.*

Diam. maj. 17, min.  $15\frac{1}{2}$ , alt. 9 mill.

*Hab.* In insula Labuan (Mr. H. Low).

5. *HELIX DURA*, Pfr. (387 a). *T. perforata, depressa, solida, carinata, superne subconferte plicato-striata, nitidula, fusco-isabellina; spira brevissime conoidea, vertice minuto obtusulo; sutura linearis, anguste marginata; anfr.  $5\frac{1}{2}$ , vix convexiusculi, lente accrescentes, ultimus non descendens, periphæria compresse et acute carinatus, subtus modice convexus, leviter radiato-striatus; apertura obliqua, depresse subrhombæo-lunaris; perist. rectum, margine supero tenui, basali a carina subito recedente, quasi rostram formante, tum usque ad perforationem leviter incrassato.*

Diam. maj. 34, min. 30, alt. 11 mill.

*Hab.* Waigiou Island (Mr. Wallace).

6. *HELIX NIGROFASCIATA*, Pfr. (1655 a). *T. anguste umbilicata, globoso-trochiformis, solidula, oblique regulariter striata, lineisque impressis antrorsum descendentes dense decussata, lutea, fasciis 2 latis nigris et interdum cinnamomea infra illas cincta; spira turbinata, vertice acutiusculo; anfr. 4, convexi, ultimus inflatus, antice vix descendens, subtus spiraliter leviter striatus; apertura obliqua, rotundato-lunaris, intus alba, nigro fasciata; perist. album, marginibus convergentibus, dextro anguste expanso et reflexiusculo, columellari late reflexo, supra umbilicum fornicatim dilatato.*

Diam. maj. 19, min. 17, alt. 13 mill.

*Hab.* Admiralty Islands.

7. *HELIX LATIZONA*, Pfr. (1912 a). *T. mediocriter umbilicata, depressa, tenuiuscula, striatula, vix nitidula, fusca, zona latiuscula alba ad suturam notata; spira subplana; anfr.  $4\frac{1}{2}$ , superi vix convexiusculi, ultimus rotundatus, superne antice subsulcatus, deflexus, subtus constrictus; apertura obliqua, rotundato-ovalis; perist. undique sublato expansum, marginibus convergentibus, columellari tuberculo oblongo-nodiformi intus munito.*

Diam. maj.  $26\frac{1}{2}$ , min. 21, alt. 11 mill.

*Hab.* In insula Ceram (Mr. Wallace).

8. *BULIMUS DOHRNI*, Pfr. (133 a). *T. imperforata, oblongo-conica, solida, lævigata, sulphurea; spira elongata, subregulariter conica, varicibus nigro-castaneis 1-2 notata, apice obtusulo; anfr. 7, vix convexiusculi, ultimus  $\frac{1}{3}$  longitudinis paulo superans, basi rotundatus, infra medium fascia lata livida vel virescente notatus; apertura parum obliqua, parvula, subrhombico-ovalis; columella brevis, superne subplicata; perist. vix expansum, crassum, lacteum, striga castanea cinctum, marginibus callo crasso albo intrante junctis.*

Long. 45, diam. 21 mill. Ap. 16 mill. longa,  $9\frac{1}{2}$  lata.

*Hab.* Cochin-China.

9. *BULIMUS RECEDENS*, Pfr. (252 a). *T. compresse umbilicata, ovato-subfusiformis, tenuis, lævigata, pallide flavida, strigis undulatis subinterruptis fuscis picta; spira subexacte conica, apice acuta; anfr. 6, planiusculi, ultimus spiram superans, basi recedens, vix attenuatus; columella inflata, torta; apertura vix obliqua, oblongo-ovalis, superne angulata; perist. tenue, albidum, margine dextro latiuscule expanso, columellari reflexo, superne dilatato.*

Long. 27, diam. 12 mill.

*Hab.* Mozobamba.

10. *PUPA SOLUTA*, Pfr. *T. profunde rimata, elongato-conica, tenuis, levissime striatula, pellucida, fusco-cornea; spira ovato-conica, vertice acutiusculo; anfr. 9, convexiusculi, ultimus antice solutus, horizontaliter productus, basi compressus; apertura basi axin excedens, truncato-ovalis, lamellis 6 elongatis fere clausa, 1 parietali et suprema palatali validioribus, marginem attingentibus, secunda palatali, 1 basali et 2 columellaribus profundioribus; perist. continuum, tenue, breviter expansum, margine supero libero, strictiusculo.*

Long. 8, diam. anfr. penultimi 3 mill.

Locality unknown; perhaps of a new genus, allied to *Tomigeres*.

11. *SUCCINEA COCHINCHINENSIS*, Pfr. (14 a). *T. depresse ovata, tenuis, ruguloso-striata, pellucida, albido-cornea; spira parvula, subpapillata; anfr.  $2\frac{1}{2}$ , ultimus magnus, obliquus, basi subcompressus; columella filaris, callosa, subtorta; apertura obliqua, angulato-ovalis, intus submargaritacea, antice non incumbens; perist. simplex, margine dextro subflexuoso.*

Diam. maj. 11, min.  $6\frac{2}{3}$ , alt.  $4\frac{1}{2}$  mill. Apertura 10 mill. longa.

*Hab.* Cochin-China.

12. *PTEROCYCLOS LABUANENSIS*, Pfr. (1 a). *T. late umbilicata, subdiscoidea, solida, subtilissime striatula, sordide flavida unicolor vel in anfract. superioribus castaneo distanter flammulata; spira vix elevata, vertice corneo submucronato; anfr.  $4\frac{1}{2}$ , convexiusculi, rapide accrescentes, ultimus subdepressa rotundatus, non descendens; apertura fere diagonalis, circularis; perist. duplex; internum porrectum, superne leviter incisum, externum latere sinistro*

*reflexum, dextro sublate patens, superne cucullatim dilatatum et subdeflexum. Operc. planiusculum, calcareum, marginibus anfractuum infundibuliformiter elevatis.*

Diam. maj. 18, min. 14, alt. 5 mill.

*Hab.* In insula Labuan (Mr. H. Low).

13. **PTEROCYCLOS LOWIANUS**, Pfr. (1 b). *T. late umbilicata, subdiscoidea, tenuiuscula, subtiliter striatula, sericina, fulva, flammis saturate castaneis amæne picta; spira planiuscula, vertice submucronato; anfr. 4½, convexi, regulariter accrescentes, ultimus teres, antice paululum descendens; apertura diagonalis, circularis; perist. duplex; internum brevissime porrectum, juxta anfr. contiguum vix sinuatum; externum latere sinistro angustissimum, dextro breviter patens, superne dilatatum et protractum, vix concavum. Operc. præcedentis.*

Diam. maj. 15½, min. 12½, alt. 5½ mill.

*Hab.* In insula Labuan (Mr. H. Low).

14. **PUPINA MERIDIONALIS**, Pfr. (4 a). *T. oblonga, tenuiuscula, levissime striatula, subpellucida, succineo-cornea; spira sensim in conum acutiusculum attenuata; sutura levis, simplex; anfr. 7, summi convexiusculi, sequentes planiores, penultimus longus, ultimus antice subascendens, basi axin excedens; apertura obliqua, circularis, bicanaliculata; callus parietalis arcuatus, latere dextro in linguam triangularem, sinistro in linguam latam transverse truncatam abiens; perist. subincrassatum, breviter expansum, cum lingua sinistra directione parallela recedens.*

Long. 13, diam. 6 mill.

*Hab.* North Australia.

15. **PUPINA PLANILABRIS**, Pfr. (4 b). *T. subrimata, oblongo-conica, tenuiuscula, sub lente striatula, subsericea, carneo-fuscula; spira conica, apice acutiuscula; sutura simplex; anfr. 7, convexiusculi, penultimus longus, latere aperturae subplanulatus, ultimus brevis, descendens; apertura subverticalis, circularis, lineariter bicanaliculata; callus parietalis planus, subsolutus, latere dextro breviter ligulatus, sinistro infra medium oblique resectus; perist. plane expansum, utrinque extus cum linguis junctum et infra rimam umbilicalem cristulam e canali punctiformi exeuntem formans.*

Long. 12½, diam. 5⅔ mill.

*Hab.* North Australia.

5. DESCRIPTIONS OF TEN NEW SPECIES OF LAND-SHELLS, FROM THE COLLECTION OF GEORGE FRENCH ANGAS, ESQ. BY DR. LOUIS PFEIFFER.

1. **HELIX INCLINATA**, Pfr. (387 b). *T. subclausæ perforata, conoideo-depressa, solida, carinata, superne conferte rugoso-striata,*

*nitidula, pallide fusca; spira regulariter conoidea, vertice minuto obtusulo; sutura marginata, carina subprominula; anfr. 6, vix convexiusculi, lente accrescentes, ultimus non descendens, acute carinatus, basi convexus, substriatus, nitidior, medio pallidior, impressus; apertura fere diagonalis, angulato-lunaris, intus margaritacea; perist. rectum, margine supero simplici, basali regulariter arcuato, versus perforationem subincrassato, eam lamina triangulari claudente.*

Diam. maj. 30, min.  $26\frac{1}{2}$ , alt. 14 mill.

Hab. Louisiade Group, New Caledonia. *Guinea*

2. **HELIX LINCOLNIENSIS**, Pfr. (564 a). *T. umbilicata, subconoideo-depressa, tenuis, superne conferte rugoso-striata et subtilissime granulata, pellucida, unicolor castanea; spira subconoideo-elevata, vertice obtusulo; anfr. 5, convexiusculi, ultimus subdepresso-rotundatus, antice non descendens, subtus circa umbilicum angustum leviter radiato-striatus; apertura obliqua, rotundato-lunaris; perist. simplex, rectum, marginibus convergentibus, columellari superne in laminam reflexam fuscam dilatato.*

Diam. maj. 22, min. 19, alt. 12 mill.

Hab. Port Lincoln.

3. **HELIX MURRAYANA**, Pfr. (654 a). *T. umbilicata, depressa, tenuiuscula, confertissime filoso-plicata, vix nitidula, fusca; spira plana; anfr. 5, convexiusculi, regulariter accrescentes, ultimus rotundatus, non descendens; umbilicus  $\frac{1}{4}$  diametri subæquans; apertura parum obliqua, rotundato-lunaris; perist. simplex, rectum, marginibus conniventibus, columellari juxta umbilicum vix dilatato.*

Diam. maj. 7, min. 6, alt. 3 mill.

Hab. Murray Cliffs, South Australia.

4. **HELIX CASSANDRA**, Pfr. (1080 b). *T. mediocriter umbilicata, globoso-depressa, tenuis, striatula et minutissime granulata, parum nitens, superne pallide isabellina, fasciis nonnullis saturatioribus obsolete notata, subtus albida; spira breviter conoideo-elevata, vertice minuto; anfr. 5, regulariter accrescentes, superi vix convexiusculi, ultimus inflatus, antice vix deflexus; apertura parum obliqua, rotundato-lunaris, intus submargaritacea; perist. simplex, tenue, margine dextro recto, basali reflexiusculo, juxta umbilicum in laminam triangularem fornicatam dilatato.*

Diam. maj. 26, min. 22, alt. 15 mill.

Hab. Murray Cliffs, South Australia.

5. **HELIX ZENOBIA**, Pfr. (1131 a). *T. sublata umbilicata, conoideo-lenticularis, solida, superne ruditer et conferte plicata, acute carinata, rufa; spira breviter conoidea, apice obtusa; sutura submarginata; anfr.  $5\frac{1}{2}$ , convexiusculi, lente accrescentes, ultimus non descendens, supra carinam convexior, basi leviter radiato-striatus, sensim in umbilicum transiens; apertura perobliqua,*

*subrhombeo-lunaris; perist. rectum, marginibus subconvergentibus, supero antrorsum arcuato, basali incrassata.*

Diam. maj. 22, min. 20, alt. 9 mill.

Hab. New Georgia.

6. *HELIX EVANDALEANA*, Pfr. (1167 b). *T. subanguste umbilicata, depressa, solidula, carinata, superne rugoso-striata et granulata, pilis brevibus obsita, subpellucida, fusca; spira parum elevata, vertice obtuso; sutura profunda, carina magis minusve prominente marginata; anfr. 4, convexi, ultimus supra medium carina funiformi et interdum angulo secundo obsolete circumdatus, basi levius striatus, plano-convexus; apertura obliqua, late lunaris; perist. simplex, marginibus vix convergentibus, dextro recto, basali reflexiusculo, juxta umbilicum subdilatato.*

Diam. maj.  $17\frac{1}{2}$ , min. 15, alt. 9 mill.

Hab. Evandale, South Australia.

7. *HELIX PERINFLATA*, Pfr. (1601 a). *T. umbilicata, globosa, solida, striis incrementi rugosis et lineis impressis antrorsum descendentibus decussata, isabellino-albida; spira convexo-conoidea, apice obtusa; anfr.  $4\frac{1}{2}$ , ultimus magnus, ventrosus, subtus perinflatus, striis spiralibus obsolete sculptus, antice deflexus; apertura diagonalis, lunari-rotundata; perist. breviter expansum, margine columellari supra umbilicum angustum fornicatim dilatato.*

Diam. maj.  $23\frac{1}{2}$ , min. 20, alt. 20 mill.

Hab. McDonnell Ranges, Central Australia; found by Mr. Waterhouse on Stuart's Expedition.

8. *HELIX CARCHARIAS*, Pfr. (1606 a). *T. subobtectate perforata, conoideo-globosa, solidula, sub lente minutissime granulata, carnea; spira conoidea, vertice laevigato obtusulo; anfr. 5, convexiusculi, superi irregulariter tuberculato-plicati, ultimus ventrosus, superne levius plicatus, subtus radiato-striatus, albidus, antice profunde deflexus; apertura diagonalis, subcircularis; perist. simplex, tenue, anguste expansum, marginibus approximatis, columellari fornicatim supra umbilicum late reflexo.*

Diam. maj. 17– $19\frac{1}{2}$ , min.  $13\frac{1}{2}$ –16, alt.  $10\frac{1}{2}$ –14 mill.

Hab. Sharks' Bay, N. W. Australia.

9. *HELIX CURTISIANA*, Pfr. (1681 a). *T. anguste umbilicata, conoideo-semiglobosa, solida, striata, castanea; spira conoideo-convexa, superne albida, vertice obtusulo; sutura albo filosa; anfr. 6, lente accrescentes, ultimus magnus, convexus, supra medium subangulatus, basi planiusculus, antice descendens; apertura fere diagonalis, rotundato-lunaris; perist. vix incrassatum, anguste expansum, margine columellari superne triangulatim dilatato.*

Diam. maj. 29, min. 25, alt. 17 mill.

Hab. Port Curtis, N. E. Australia.

10. *BULIMUS ANGASIANUS*, Pfr. (773 a). *T. imperforata, ovato-conica, tenuis, plicis longitudinalibus confertis, sulcis spiralibus*

*interruptis sculpta, castanea, fasciis 2 albis ornata; spira convexo-conica, apice obtusulo alba; anfr. 5, modice convexi, ultimus spiram superans, infra medium leviter striatus, basi rotundatus; apertura parum obliqua, angulato-ovalis, intus margaritacea, albo fasciata; perist. simplex, rectum, margine dextro antrorsum subcurvato, columellari albo-callosa, arcuato, intrante.*

Long.  $25\frac{1}{2}$ , diam. 14 mill.

*Hab.* Port Lincoln, South Australia.

6. ON THE BREEDING OF THE GREEN SANDPIPER (*HELODROMAS OCHROPUS*). BY ALFRED NEWTON, M.A., F.L.S., F.Z.S.

Ornithologists are aware of the very different positions often chosen for their nests by birds of the same species. Thus Eagles may be found sometimes building their eyries upon trees, at others on cliffs, and again sometimes absolutely upon the flat ground. The same may be said of some species of Falcons and of some Herons. Certain Crows also and the Stock-Dove (*Columba ænas*) exhibit a like disparity of habit. Even among the members of the Gallinaceous order a similar diversity is occasionally, though rarely, to be observed. I have been told, on authority I cannot question, of a common Pheasant (*Phasianus colchicus*) and of a Capercally (*Tetrao urogallus*) each choosing a nest in a tree wherein to lay its eggs. Instances of the common Wild Duck (*Anas boschas*) breeding in hollow stumps of trees are very frequent; and with the Ducks of the genus *Aix* this seems to be the normal mode of nidification. But, excepting in the last case, this peculiarity in the selection of a site for the nest seems to result from the particular fancy (or instinct, it may be) of the individual; and in that exceptional case the general habits of the birds are so essentially arboreal that we need not wonder at the fact of their using trees for their nurseries as well as for their usual places of lodging. The only instances parallel to the one I am going to adduce are, so far as I can call to mind, those of the Golden-eye (*Clangula glaucion*), the Goosander (*Mergus serrator*), and the Smew (*Mergus albellus*). Each of these three birds departs from the manner of nidification which obtains among its brethren, just as I shall show that the Green Sandpiper (*Helodromas ochropus*\*) does.

Though I do not pretend to lay before you any novel facts this evening, yet it will be, I think, admitted that hitherto we have had in England but little positive information on the mode of breeding of the Green Sandpiper; such as it is, however, I will proceed to notice it. First, I must say that I think the story of the nest of this bird "by the side of a clay-pit" in Norfolk, as told in Mr. Yarrell's 'British Birds' (vol. ii. p. 529) and in Mr. Lubbock's

\* The osteology of the *Tringa ochropus*, Linn., presents such a marked deviation from that of the other *Totani* which I have examined, that I do not hesitate in this case to follow Dr. Kaup in considering it the type of a distinct genus.