

ART. XIV.—*On some New Species of Victorian Marine Mollusca.*

By J. H. GATLIFF AND C. J. GABRIEL.

(With Plates XVIII., XIX.)

[Read 14th July, 1910.]

This paper includes description and figures of the following species :—

*Columbella remoensis*, sp. nov.  
*Columbella franklinensis*, sp. nov.  
*Leiostraca joshuana*, sp. nov.  
*Cingulina magna*, sp. nov.  
*Cingulina rhyllensis*, sp. nov.  
*Cyclostrema microscopica*, sp. nov.  
*Saxicava subalata*, sp. nov.

We have to thank Mr. E. C. Joshua for his skilful work in preparing the photographs that the plates are taken from.

***Columbella remoensis***, sp. nov. (Pl. XVIII., Figs. 1, 2).

Shell small, of five and a half whorls ; apex consisting of two smooth whorls, with a central brown spot at the summit, the remaining whorls are ornamented with a peripheral band of rounded gemmules. There is a second band just above the suture of much finer beads, and they are about four times as numerous. The body whorl has a third similar fine row, commencing just below the posterior portion of the columella, and running round the dorsum to the edge of the outer lip. Colour white, the ornament opaque, on a translucent ground.

Mouth lanceolate, channel well open, slightly everted at its termination.

Dimensions of Type.—Length, 3.75 ; breadth, 1.50 mm.

Locality.—San Remo, Western Port.

Obs.—This is a very beautiful and ornate species. Dr. J. C. Verco, of Adelaide, has sent us specimens of this shell, obtained by him from St. Vincent's Gulf, South Australia.

Type in Mr. Gatliff's collection.



**Columbella franklinensis**, sp. nov. (Pl. XVIII., Fig. 3).

Shell small, smooth, acuminate, of six whorls; the body whorl is inflated, and is rather more than half the length of the shell. Whorls convex, suture well defined. Fine ascending striae encircle the base, and cease at the columella; base somewhat restricted, with slightly reverted snout. Outer lip thickened, shouldered at its junction with the body whorl, smooth interiorly. Mouth lanceolate. Colour yellowish white, somewhat translucent.

Dimensions of Type.—Length, 3; breadth, 1.25 mm.

Locality.—Point Franklin, Portsea, Port Phillip, in shell sand.

Obs.—The shell is the smallest of our smooth forms that we have in the genus; its chief distinguishing character is its shape, which differs from that of any other found here.

Type in Mr. Gatliff's collection.

**Leiostraca joshuana**, sp. nov. (Pl. XVIII., Fig. 4).

Shell minute, fusiform, smooth, glassy, and sufficiently transparent to discern the axial pillar through the whorls. Whorls eight, including the apical, which are a trifle more vitreous than the rest. Sutures not impressed, and merely define the whorls. The whorls are without varices, but the last three are ornamented with interrupted, ziz-zag, orange-coloured markings, more pronounced on the body whorl, and which may be plainly seen through the aperture. Aperture pyriform, effuse anteriorly, outer lip thin, and with a callus on body whorl; columella margin nearly straight.

Dimensions of Type.—Length, 3; breadth, 1 mm.

Locality.—San Remo, type locality (T. Worcester); Portland (T. Worcester); Portsea, Port Phillip; Shoreham, Western Port.

Obs.—*L. acutissima*, Sowb., and *L. lodderae*, Hedley, are the other Victorian representatives of the genus, but the present one may be easily separated by its broader, fusiform character, and the zig-zag markings. It somewhat recalls *L. constellata*, Melvill, from Aden. We have named this after Mr. E. C. Joshua, the artist who figured it.

Type in Mr. C. J. Gabriel's collection.



**Cingulina magna**, sp. nov. (Pl. XIX., Fig. 8).

Shell gradually tapering. Shining. Whorls eleven, including protoconch of two smooth whorls, the apex small, asymmetrical. Whorls slightly convex; the earlier ones are transversely puckered at the shoulder. The penultimate whorl is encircled by about six irregularly spaced, narrow, shallow grooves, which gradually fade out as they ascend. Suture incised. Base rounded. Outer lip thin, continuous to where it joins the columella, slightly reflected at the junction. Mouth pyriform. Colour, uniformly creamy white.

Dimensions of Type.—Length, 10.50; breadth, 2.75 mm.

Locality.—Shoreham, Western Port.

Obs.—May be distinguished from our other species chiefly by its greater size.

Type in Mr. Gatliff's collection.

**Cingulina rhyllensis**, sp. nov. (Pl. XIX., Fig. 9).

Shell solid, attenuate, cream-colour, shining. Whorls eight, including a smooth, bulbous, two-whorled protoconch.

Whorls exclusive of apex, flatly convex, separated by a well-defined, deeply impressed suture; sculptured with equidistant flat-topped spiral lirae, six on the penultimate, and increasing to eleven on the body-whorl; this encircling sculpture being crossed by faint, oblique axial ribs, more plainly seen on the earlier whorls. Distinctly visible are the lines of growth. Base imperforate, sloping and with the lirae a little more pronounced than the preceding. Aperture pyriform, interior shining; columella slightly concave; labium reflexed, the outer lip being somewhat damaged.

Dimensions of Type.—Length, 8.5; breadth, 2.5 mm.

Locality.—Dredged between Phillip and French Islands, Western Port, 5—7 fathoms.

Obs.—Distinguished from *Cingulina spina*, Crosse and Fischer, by its more numerous and flat-topped lirae.

Type in Mr. C. J. Gabriel's collection.



**Cyclostrema microscopica**, sp. nov.

(Pl. XVIII., Figs. 5, 6, 7).

Shell very minute, of four whorls, rapidly increasing in size, rounded. The apex is smooth, and is succeeded by lirate whorls, the lirae numbering about five on the penultimate whorl, which increase in number by intercalation to about fifteen at the outer edge of the lip. Deeply umbilicated. Mouth circular, outer lip simple. White, semitranslucent.

Dimensions of Type.—Diameter, .75 mm.

Locality.—Shoreham, Western Port (T. Worcester).

Obs.—An interesting minute form.

Type in Mr. Gatliff's collection.

**Saxicava subalata**, sp. nov. (Pl. XIX., Figs. 10, 11, 12).

Shell white, inflated, somewhat angular; sub-equal, inaequilateral. Valves slightly gaping anteriorly. Beaks depressed, slightly incurved, produced anteriorly. Dorsal margin straight, somewhat alate posteriorly. Post-dorsal border curved. Ventral margin straight. Post-ventral margin subangulate, anterior end rounded. From the umbo to the posterior end runs an oblique, well-defined ridge, steep on dorsal side and becoming more rounded as it approaches the ventral margin: the posterior slope thus formed covering about one-third of the entire shell. Ligament external, well developed, and faintly darker than the epidermis.

Sculpture.—At the umbonal region appear very fine lines of growth, which develop into irregular, somewhat undulating rugae. Besides this concentric sculpture, the whole surface is studded with minute granular excrescences developing with age and approaching more the form of tubercles, and which may be plainly seen from the interior of the shell. These are arranged roughly parallel with the rugae. When portions of the shell are examined under a high power (preferably a ninth), these granules can be focussed from both the inner surface below which is seen the striated vitreous layer, and from beneath the external layer; the granules then resolve themselves into pillars which extend from surface to surface, and are more or less cylindrical. Sometimes the granules coalesce and



form bundles of three or more. The shell is invested with a very thin olivaceous epidermis. Interior somewhat iridescent. Muscular impressions strong, the anterior oblong and the posterior subcircular. Pallial line not sinuated. Hinge simple, the characteristic curved tooth of the juvenile form having become almost obsolete. The post-dorsal edge of valves is dehiscent.

Dimensions of Type.—Length, 7.5; breadth, 3.75; depth of single valve, 1.5 mm.

Locality.—Dredged off Point Cook, Port Phillip, 8 fathoms (type locality). Type taken alive. Dredged off Portsea, Port Phillip, Frankston and Dromana (T. Worcester).

Obs.—In the young condition, the hinge exhibits a rather prominent, much curved tooth in the right valve, with a corresponding cavity in the left, thus presenting a character differing in its entirety from the senile form. This is characteristic of the genus *Saxicava*, and it was the young form of *S. rugosa*, Linn., where Daudin erred in erecting his genus *Hiatella*. Superficially the species much resembles a North American palaeozoic shell, *Modiomorpha subalata*, Conrad, but the hinge alone severs it from that genus. Like other representatives of *Saxicava*, the present one is variable, several specimens showing more pronounced alation. The angular form and granular surface serve as useful recognition marks, but with beach-worn specimens, the latter is difficult to discern. The irregular dehiscence of the valve-edges is not seen on all the specimens, and is not confined to the post-dorsal edge.

Type in Mr. C. J. Gabriel's collection.

#### EXPLANATION OF PLATES XVIII., XIX.

- |              |   |   |   |                                    |
|--------------|---|---|---|------------------------------------|
| Figs. 1, 2-  | - | - | - | Columbella remoensis, sp. nov.     |
| „ 3          | - | - | - | Columbella franklinensis, sp. nov. |
| „ 4          | - | - | - | Leiostraca joshuana, sp. nov.      |
| „ 5, 6, 7    | - | - | - | Cyclostrema microscopica, sp. nov. |
| „ 8          | - | - | - | Cingulina magna, sp. nov.          |
| „ 9          | - | - | - | Cingulina rhyllensis, sp. nov.     |
| „ 10, 11, 12 | - | - | - | Saxicava subalata, sp. nov.        |

All figures variously magnified.



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