THE POLYPLACOPHORA OF TASMANIA.

By W. L. May and W. G. Torr, LL.D., Etc.

(Read May 13, 1912.)

Pl. I.

Recent dredgings and other excursions in connection with the Tasmanian Field Naturalists' Club, but more particularly an extensive examination of the North-West Coast by W. G. Torr, have introduced us to many species not previously known from Tasmania. In addition, much knowledge has been acquired respecting the distribution of forms already recorded, so that the time seemed opportune to bring out a new and up-to-date list, which we believe will be of distinct value to students of this interesting group. We have here increased the Tasmanian list to 32 species, including two new ones. It will be noticed that on comparing our list with previous ones, several names disappear, either because we consider there was a wrong identification, or because we cannot confirm the record, believing that a mistake was made.

"The Census with Brief Descriptions of the Marine Shells of Tasmania, and the Adjacent Islands," by the Rev. J. E. Tenison-Woods, read March 13, 1877, before the Royal Society of Tasmania, contains the following list of Tasmanian Polyplacophora on p. 46 of the Papers and Proceedings of the Royal Society of Tasmania for 1877 :—

1. *Chiton* (*lophyrus*) *australis*. Reeve.
2. *Chiton* (*lepidopleurus*) *liratus*. Ad. and Ang.
3. *Chiton* (*lepidopleurus*) *speciosus*. Ad. and Ang.
4. *Chiton piceus*. Gmel.
5. *Chiton proteus*. Reeve.
6. *Chiton sinclairi*. Gray.
7. *Chiton glaucus*. Gray.

8. *Chiton (planifora) petholatus.* Sby.

9. *Chiton (acanthochæles) zelandius.* Quoy.

10. *Cryptoplax gunnii.* Reeve.

11. *Cryptoplax spinosa.* H. Adams.

In 1901 Professor Ralph Tate and W. L. May published a revised census of the Marine Mollusca of Tasmania in the Proceedings of the Linnean Society of New South Wales, 1901, Part 3, July 31: pp. 412—415. In this census Tenison Woods' eleven chitons were extended to twenty-four species:—

1. *Lepidopleurus inquinatus.* Reeve.

2. *Lepidopleurus matthewsi.* Pilsbry.

3. *Callochiton inornatus.* Ten.-Woods.

4. *Ischnochiton crispus.* Reeve.

5. *Ischnochiton fruticosus.* Gould.

6. *Ischnochiton carinulatus.* Reeve.

7. *Ischnochiton contractus.* Reeve.

8. *Ischnochiton tateanus.* Bednall.

9. *Ischnochiton smaragdinus.* Angas.

10. *Ischnochiton novæ-hollandiæ.* Reeve.

11. *Haploplax mayii.* Pilsbry.

12. *Callistochiton antiquus.* Reeve.

13. *Plaxiphora petholata.* Sby.

14. *Plaxiphora glauca* Quoy and Gaimard.

15. *Acanthochites asbestoides.* Smith.

16. *Acanthochites bednalli.* Pilsbry.

17. *Acanthochites granostriatus.* Pilsbry.

18. *Acanthochites costatus.* Ad. and Ang.

19. *Acanthochites speciosus.* H. Adams.

20. *Cryptoplax striatus.* Lamark.

21. *Chiton jugosus.* Gould.

22. *Chiton pellis-serpentis.* Quoy et G.

23. *Loricella angasi.* H. Adams.

24. *Liolophura gaimardi.* Blainv.

1. LEPIDOPLEURUS INQUINATUS (Reeve).

Chiton inquinatus, Reeve: Conch. Icon, sp. 154, Pilsbry, Man. Conch, Ser. I., Vol. XIV., p. 90.

Lepidopleurus liratus, H. Adams and Angas: Proc. Zool. Soc., 1864, p. 192, Pilsbry, Man. Conch., Ser. I., Vol. XV., p. 101.

The type specimen of this shell was said by Reeve to be taken in Tasmania, and is now, according to Tate and May, in the British Museum. Bednall, in Proc. Mal. Soc., London, Part 4, April, 1897, p. 141, describes it as "a small elongated species, ornamented dorsally with fine, longitudinal, microscopically—closely—beaded riblets, which become coarser and somewhat divergent on the side slopes and with the terminal and lateral areas concentrically sulcate, the lateral areas especially so."

Some large specimens, length 16 m.m., breadth 7 m.m., were dredged by W. L. May from fifteen fathoms in Geographe Strait, East Coast of Tasmania. Smaller specimens were dredged in nine fathoms off Pilot Station, River Derwent. No specimen, to our knowledge, has been taken near the shore.

The large specimens dredged show the lateral areas distinctly raised, and have irregular strongly-marked concentric growth lines, about ten in number.

2. LEPIDOPLEURUS MATTHEWSIANUS. (Bednall.)

L. matthewsianus.—Bednall and Matthews, Proc. Mal. Soc., Lon., Vol. VII., Part 2, June, 1906, p. 92.

This shell, so common in South Australian waters, has been represented by only one specimen, discovered by W. L. May, near Devonport. It is very similar to *L. inquinatus*, but the lateral, pleural, and dorsal areas can only be separated by the direction of the granulations. The foot of this chiton is always of a sanguinary hue. Length, about 6 m.m., breadth 2 m.m.

3. LEPIDOPLEURUS COLUMNARIUS (Hedley and May.)

L. columnarius. Hedley and May. Records Aus. Mus., Vol. VII., No. 2, 1908, p. 123.

One perfect specimen and several valves were dredged from 100 fathoms, seven miles east of Cape Pillar. It differs from *L. inquinatus*, in that "*L. columnarius* lacks colour, has a more prominent mucro, longer and more arched valves, the granules are sharper, and their radial arrangement more distinct."

4. CALLOCHITON PLATESSA (Gould.)

Chiton platessa, Gould: Proc. Boston Soc. Nat. Hist., Vol. II. (1846), p. 143; Pilsbry, Man. Conch., Ser. I., Vol. XIV., p. 49.

Eleven specimens of this interesting chiton were collected at Burnie, Devonport, Stanley and Ulverstone, on the North Coast of Tasmania, by W. G. Torr. The delicate shagreening of the whole of its area and the slight ridge between the pleural and lateral areas make this specimen easily separated from others. Some of the specimens are uniformly chocolate brown, others are variegated with pale yellow, irregularly blotched. The girdle is not so broad as *C. inornatus*, and has delicate flat elongated scales, while *C. inornatus* is more leathery. Length, 22 m.m., breadth 13 m.m. This species, though common in New South Wales, is rare in South Australian waters.

5. CALLOCHITON MAYI (Torr).

C. mayi, Torr: P. R. S., Tasm. 1912. Pl. I., fig. 5, 6, and 7.

This remarkable and very distinct species is, so far, only known from the unique type, which will be pre-

sented to the Tasmanian Museum. (Others have been found by Mr. Atkinson, on the N.W. Coast, and several specimens have been dredged by Dr. Verco in South Australian waters.)

6. CALLOCHITON INORNATUS. (Ten.-Woods.)

C. inornatus, Ten.-Woods (Chiton): P. R. S., Vict., XVII., 1881, p. 82, Pilsbry, Man. Conch., Ser. I., Vol. XV., p. 68.

C. lobatus, Carpenter, Pilsbry, Man. Conch., Ser. I., XIV., p. 53.

Tenison-Woods' description is exceedingly good for purposes of distinguishing this species. It is dotted all over with minute depressions, the lateral areas are only slightly elevated, the girdle is membranaceous, and is much broader than that of *C. platessa.* The colour when alive is a rich red all over, and the colour is uniform on valves and girdle. Several specimens were taken by W. G. Torr from Burnie, Devonport, Ulverstone and Stanley. The largest dried specimen measures 60 m.m. by 30 m.m.

7. ISCHNOCHITON CRISPUS. Reeve, Conch. Icon., CHITON, f. 120; Pilsbry, Man. Conch., Ser. I., Vol. XIV., p. 89.

I. haddoni, Pilsbry, Man. Conch, Ser. I., Vol. XIV., p. 88.

We confess to some difficulty in separating *I. longycimba* (Reeve), *I. haddoni* (Pilsbry), and *I. crispus* (Reeve), but the Tasmanian specimens are so much like those on the Australian continent, known as *I. crispus*, that we have placed them as one species.

I. crispus is the commonest *ischnochiton* in Tasmanian waters, and is found all round the coast. It has been found by W. L. May along the East Coast. It is somewhat less plentiful in the Southern Bays, but W. G. Torr found large numbers along the North Coast. It is a shell of many colours, and endless variety of markings. Brown, green, olive, black, with white stripes, and white with black stripes. A very unusual five-valved specimen was found by W. G. Torr, at Ulverstone, in July, 1908. Several specimens of the colour variety known as *I. crispus*, var. *decoratus*, were found along the North Coast, and also in Frederick Henry Bay.

8. ISCHNOCHITON DIVERGENS. (Reeve.)

Chiton divergens. Reeve, Conch. Icon, 1847. Pilsbry, Man. Conch., Ser. I., Vol. XIV., p. 90.

Some very fine specimens were taken at Ulverstone and Stanley, on the North Coast. Length 47 m.m, breadth 20 m.m. The large, convex, closely and deeply striated pebbly scales of divergens distinguish it from *fruticosus.*

9. ISCHNOCHITON CONTRACTUS. (Reeve.)

Chiton contractus, Reeve: Conch. Icon., 1847. Pilsbry: Man. Conch., Ser. I., Vol. XIV., p. 93.

The zig-zag wrinkles in the pleural and dorsal areas are a distinct marking of this fine species. Some of them are of a deep pink, while others are a light gray, flamed in the middle with brown-olive. They were taken all along the North Coast from Devonport to Stanley. Tasmania (Mus. Cuming) is given as the habitat of the type specimen. Length 40 m.m., breadth 20 m.m.

10. ISCHNOCHITON (HETEROZONA) CARIOSUS.

(Pilsbry.)

Heterozona cariosa (Carpenter, 17 S.), Pilsbry: Man. Conch., Ser. I., Vol. XIV., p. 65.

Specimens taken at Penguin, Devonport, and Ulverstone, on the North Coast. The girdle in the vicinity of the valves is crowded with flattened projecting scales, unequal in size, and growing smaller towards the margin.

11. ISCHNOCHITON SMARAGDINUS.

(Angas 1867.)

Lophyrus smaragdinus, Angas: Proc. Zool. Soc., 1867, p. 115; Pilsbry, Man. Conch., Ser. I., Vol. XIV., p. 137.

Next to *C. pellis-serpentis* and *I. crispus* this is the commonest chiton on the North Coast. It was seen from Devonport to Stanley. It occurs also on the East

Coast, and in Frederick Henry Bay, where, however, but few specimens have yet been taken. It may be recognised by its peculiar colour markings, which vary greatly, some having black terminal valves, and creamy white central valves, the majority are black, brown or dark green, splashed with creamy white. The thimble-like appearance of the valves under a strong magnifying power is easily seen, and the pearly girdle scales help to distinguish it.

12. ISCHNOCHITON (HAPLOPLAX) MAYII.

(Pilsbry.)

I. mayii, Pilsbry, "Nautilus," VIII., p. 128, 1895.

I. mayii, Hedley and Hull, Rec. Aus. Mus., Vol. VII., No. 4, 1909.

This black rounded chiton seems almost peculiar to the South Coast of Tasmania. Several examples have been taken near Kelso, Tamar Heads. Some specimens of a greenish hue, with black girdle, were found at Bruni Island. The breadth is three-fourths of the length, and this striking feature, with its uniform colour of jet black or pale green, makes it easily distinguishable. It has not been reported elsewhere in Australian waters. Habitat: Frederick Henry Bay, Pirate Bay (type specimen), Norfolk Bay, and D'Entrecasteaux Channel, and Tamar Heads, also plentiful at Maria Island.

13. ISCHNOCHITON AUSTRALIS. (Sowerby.)

I. australis, Sowerby; Pilsbry: Man. Conch., Ser. I., Vol. XIV., p. 144,

C. australis, Sowerby; *Lophyrus australis*, Angas; *C. evanidus*, Sowerby; *C. metallicus*, Reeve.

This shell occurs abundantly on the East Coast, at Kelvedon, near Swansea, and at Maria Island, more sparingly in Frederick Henry Bay. This species is distinguished from *I. novæ-hollandiæ* by the longitudinal riblets in the pleural area of *I. australis*. The separation of these species emphasises the Bass-Isthmian of Mr. Hedley, because *I. novæ-hollandiæ* is found in abundance on

the North-West Coast of Tasmania, where *I. australis* has not been seen, and *I. australis* is found on the East and South Coasts where *I. novæ-hollandiæ* is missing. Length 63, breadth 35 m.m.

14. ISCHNOCHITON NOVÆ-HOLLANDIÆ

(Gray), Reeve, 1847.

I. novæ-hollandiæ (Gray), Reeve; Pilsbry: Man. Conch., Ser. I., Vol. XIV., p. 145.

Chiton novæ-hollandiæ. Reeve, Conch. Icon. t. 21. 1847.

The central areas of this shell are smooth, except for a very dense and regular microscopic granulation, but the fine longitudinal riblets of *I. australis* are missing So far, it has not been found on the East and South Coasts, but is found in numbers on the North-West Coast, from Devonport to Stanley. The colour is a dark green, marbled with blue. One specimen is a chocolate brown, probably stained with iron. Length 58, breadth 27 m.m.

15. CALLISTOCHITON ANTIQUUS, Reeve.

C. antiquus, Reeve, Conch. Icon., Chiton f. 169; Pilsbry: Man. Conch., Ser. I., Vol. XIV., p. 274.

Specimens found at Leven by Miss Lodder, and at Devonport, Burnie and Stanley by W. G. Torr. It may easily be known by having two strongly elevated ribs in the lateral area. W. G. Torr has traced this shell all around the Coast of Australia, from Queensland to West Australia.

16. PLAXIPHORA COSTATA (Blainville).

C. costatus, Blain.; Dict. Sci. Nat., 1825, Vol., XXVII., p. 548; Pilsbry, Man. Conch, 1893, Vol. XV., p. 105.

P. costata, Blain.; Thiele, Zool. Chun., 1909, Heft LVI., p. 24.

P. costata, Blain.: Iredale; Proc. Mal. Soc., Lond., Vol. IX., Part II., June 1910, p. 98.

Specimens taken at Burnie and other places on the North-West Coast, Frederick Henry Bay, and all round the South and East Coasts. This shell was commonly known as *P. glauca*, and is so named by W. T. Bednall, of South Australia, and is distinct from *P. albida*, formerly known as *P. petholata*, by the latter having distinct corrugated markings.

17. PLAXIPHORA ALBIDA (Blainville).

C. albidus, Blain., Dict., Sci. Nat., 1825, Vol. XXXVI., p. 547; Pilsbry, Man. Conch, 1893, Vol. XV., p. 105.

C. glaucus, Q. and G., Voy. Astrolabe, Zool., 1834, Vol. III., p. 376.

C. petholatus, Sow.

Chaetopleura conspersa, Ad. and Ang.

P. albida, Blain.: Thiele, Zool. Chun, 1909, Heft VI. p. 24.

P. tasmanica, Blain.: Thiele, loc. cit., p. 25.

P. bednalli, Blain.: Thiele, loc. cit., p. 25.

P. albida, Blain., Iredale: Proc. Mal. Soc., Lond., Vol. IX., Part II., June, 1910, p. 98.

We have had some difficulty in satisfying ourselves that Iredale is right in his conclusions with regard to *P. albida* and *P. costata*. The question we had to decide was whether the South Australian *glauca*, which according to W. T. Bednall, Proc. Mal. Soc., London, Vol. II., Part 4, April, 1897, pp. 154-5, is not corrugated like *P. petholata*, is *I. costata*. Iredale says, loc cit., p. 98: "South Australian *glauca* were easily *costata*." If that is so, our nomenclature is right. *P. albida* is the one with zigzag corrugations in the pleural and lateral areas, and is found well distributed on our coasts.

18. PLAXIPHORA MATTHEWSI (Iredale.)

Plaxiphora conspersa (Non. Ad. and Ang.), Bednall, Proc. Mal. Soc., 1897, Vol II, p. 154.

P. matthewsi, Iredale, Proc. Mal. Soc., Lond., Vol. IX., Part II., June, 1910, p. 99.

Five specimens of this somewhat rare shell were found at Burnie and Devonport, on the North-West Coast, and one in Frederick Henry Bay, in the South. The specimens agree with the *P. conspersa* of Bednall, referred to above, but they are smooth between the nodulose riblets of the lateral area, as well as on the pleural areas. Whether this is due to erosion or the growth of algæ, it is difficult to say. Length 29, breadth 17 m.m. (a large specimen). Some of the specimens show granulous markings over the central area, which may probably be the remains of the wrinkled V-shaped sculpture of Iredale's description.

19. ACANTHOCHITES ASBESTOIDES, Smith.

Chiton (*acanthochiton*) *asbestoides* (Cpr., MS.), Smith: Zool. Coll., H.M.S. "Alert," p. 83; Pilsbry: Man. Conch., Ser. I., Vol. XV., p. 17.

Acanthochites asbestoides, Cpr.: Pilsbry, Proc. Acad. Nat. Sci., Philad., 1894, p. 79.

Tom. Iredale, in Proc. Mal. Soc., Lond., Vol. IX., Part III., Sept., 1910, p. 155, quotes Dr. Thiele (Revision . . . Chitonen, I., p. 48) that *Sueurii*, Blainv., must replace the familiar *Asbestoides*, Smith. Unfortunately, we have not had access to Dr. Thiele's Revision, and have allowed the old name to stand.

This species can be easily recognised by the long asbestos-like golden or silver tufts that lie right along the sutures, reaching to the dorsal areas. They are generally black in colour, and the dorsal areas smooth; viz., without longitudinal striæ. Specimens were found at Devonport, Ulverstone, Burnie and Penguin, on the North-West Coast, and all around on the South and East Coasts. Length 20, breadth 12 m.m.

20. ACANTHOCHITES (LOBOPLAX) VARIABILIS (Ad. and Angas.)

Hanleya variabilis, Ad. and Ang.: Proc. Zool. Soc, 1864, p. 194; Pilsbry: Man. Conch., Ser. I., Vol. XV., p. 101.

Acanthochites (*notoplax?*) *variabilis*, Pilsbry: Proc. Acad. Nat. Sci., Philad., 1894, p. 84.

This beautiful *acantho.* has not been reported previously from Tasmania. Specimens were found all along the North-West Coast, from Devonport to Stanley. Its fern-leaf appearance of the dorsal area and the granulose character of the whole of the tegmentum make this shell easily distinguishable from other *acanthochitons.* Characteristic tufts are often missing, being easily rubbed off, but the corneous base remains. Length of dried specimen, 11 m.m., breadth 6 m.m. So far it is unknown on the South and East Coasts, probably another evidence of the influence of the Bassian Isthmus.

21. ACANTHOCHITES BEDNALLI, Pilsbry.

Acanthochites bednalli, Pilsbry: Proc. Acad. Nat. Sci., Philad., 1894, p 81.

Acanthochites granostriatus. Pilsbry: Nautilus, Vol. VII. (1894), p. 119; Proc. Acad. Nat. Sci., Philad., 1894, p. 81.

We have not been able to separate *A. bednalli* from *A. granostriatus*, as the distinction made by Pilsbry as to the solidity of the valves and the deeper striations of *A. bednalli* are not so clear when a long series of 20 or 30 specimens are being examined. As both names were published in the same paper, we have preferred to keep the name *A. bednalli* in memory of one to whom Australian chiton hunters owe a great deal.

Between 20 and 30 specimens of this chiton were obtained on the North-West Coast from Devonport to Stanley, seven specimens from Cole's Bay (East Coast), and several slightly varying, with a more wedge-shaped dorsal area from Frederick Henry Bay.

The tear-drop particles of the latero-pleural area combined with the large lateral tufts and more or less deep striations of the dorsal area are a good guide to distinguish this species.

22. ACANTHOCHITES SP.

Five valves of this chiton were dredged in one hundred fathoms off Cape Pillar. It was wrongly named *A.*

crocodilus, in the list of Tasmanian shells, found at Cape Pillar. Records Aus. Mus., Vol. VII., No. 2, 1908, by Hedley and May. It has more resemblance to *A. verconis*, Torr and Ashby, and is probably a new species, but the material at hand is scarcely sufficient to describe it.

23. ACANTHOCHITES (NOTOPLAX) SPECIOSUS

(H. Ad.)

Cryptoplax (*notoplax*) *speciosus*, H. Adams: Proc. Zool. Soc., 1861, p. 385.

Acanthochites speciosus, H. Ad.: Pilsbry, Man. Conch, Ser. I., Vol. XV., p. 32.

A. (*notoplax*) *speciosus*, H. Ad.: Pilsbry, Proc. Acad. Nat. Sci. Philad., 1894, p. 83.

Three specimens were dredged in about nine fathoms in D'Entrecasteaux Channel. Length (dried specimen), 45, breadth 17 m.m. In life the specimens would be more than twice as large—the girdle being of a spongy nature, and very large in proportion to the shell. This species may be recognised by the flat-topped pustules on the latero-pleural areas. It appears to be confined to deep water.

24 ACANTHOCHITES LACHRYMOSUS.

Spec. Nov.

GENERAL APPEARANCE.—Shell elongated, narrow, in proportion to width, slightly carinated, side slopes curved. Exposed portion of valves about one-third of total width of dried specimens. Colour: Uniformly brown, or olive green to pale green, with dorsal area much darker, almost black.

ANTERIOR VALVE.—Five costæ extending from apex to margin, corresponding to the five dental slits and clothed with irregular rounded granules, small at the apex, and becoming much elongated towards the margin. Dentition, five slits, rays leading to the apex. Sinus broad; in certain plates broader than the exposed part of the valves.

POSTERIOR VALVE.—Mucro-post median dorsal area striated as on median valves. The exposed portion is almost circular, and the surface is covered with elongated pustules as in the other valves. Two slits.

MEDIAN VALVES.—Dorsal area V-shaped, beaked, longitudinally striated. Latero-pleural area covered with irregular elongated tear-like pustules, becoming elongated towards the eaves. A slightly-raised costæ extends from the apex, and divides the latero-pleural area in two sections, making the lateral area much smaller than the pleural. Teeth 1—1, corresponding with ribs. Sinus, shallow and broad. Sutural plate very deep. Greenish colour inside.

GIRDLE.—A spongy mass, densely clothed with needle-like spicules. The pores are conspicuous with bundles of green spicules lying in the sutures.

MEASUREMENT.—Length 33, breadth 12 m.m. (dried specimen).

HABITAT.—On stones in shallow water in Frederick Henry Bay. Type to be presented to the Tasmanian Museum.

Pl. I. Figs. 1—4.

REMARKS.—This shell is very closely related to *A. maughani*, Torr and Ashby: T. R. S., S. Aus., 1898, p. 218. Pl. 7, fig. 5, of which it may be a giant form. The length of their type is only 8 mill., whilst this species attains a length of 33 mill., and is, therefore, immensely larger. The pustules on the valves are much more numerous, and closely massed together, not separated into distinct rows, and are even more elongated; the median valves are also of a different outline, if their figure correctly represents it. The girdle in our shell seems wider in proportion, and is very densely covered with a mass of needle-like spicules, instead of being "loosely clothed with minute scales."

A. lachrymosus also resembles *A. speciosus*, but the tear-drop pustules, and the longitudinal striation of the dorsal areas distinguish it from that species.

25. CRYPTOPLAX STRIATUS (LAMK), VAR. GUNNII.

Chitonellus gunnii, Reeve: Conch. Icon., sp. 5.

Cryptoplax striatus, var. *gunnii*, Pilsbry: Man. Conch. Ser. I., Vol. XV., p. 54.

This vermiform shell occurs commonly on the East and North-West Coasts. The first two valves are wider and more rounded than the others. These are narrower than the valves of *C. striatus*. The valves are long and narrow, and are embedded in the girdle, which is five or six times as large as the valves. The dorsal area is smooth, narrow, horny, and is sometimes smaller towards the middle than at each end. The ridges in the latero-pleural area may be regular or irregular, sometimes (in young specimens) beautifully pustulose. The girdle is generally covered with seal-like hair. Some are leathery or smooth. These are probably worn specimens. Length of dried specimen, 45, breadth 9 m.m.

26. CHITON JUGOSUS, Gould.

Chiton jugosus, Gould: Proc. Boston Soc. Nat. Hist. II. (1846), p. 142.

Chiton concentricus, Reeve: Conch. Icon. (1847), sp. 95.

Specimens of this very beautiful true chiton have been found at Ulverstone, Burnie and Stanley, on the North-West Coast, and at Frederick Henry Bay, and the estuary of the Derwent, on the South Coast. It loves the smooth rocks in deep water, about 3 feet below low tide. The colour markings of the Tasmanian species are more like the South Australian specimens than those of New South Wales. In the Records of the Australian Museum, Vol. VII., No. 4, 1909, Hedley and Hull give an interesting comparison between *jugosus*, *torrianus* and *coxi*. Measurement: Length 49, breadth 24 m.m.

27. CHITON PELLIS-SERPENTIS. Q. et G.

Chiton pellis-serpentis, Q. and G., Voy. Astrolabe, III., 1835, p. 381, Pilsbry: Man. Conch., Ser. I., Vol. XIV., p. 173

This is the commonest of all the Tasmanian Chitons, and may be found crawling over the rocks everywhere, even up to high water mark. The distinct black wedge-shaped polished dorsal area distinguishes it from *C. sinclairi*. It is very often difficult to separate the two species. The growth lines of the central areas in *pellis-serpentis* are very distinct, and are crossed by numerous longitudinal riblets, which give the growth lines a nodulose appearance. Length 46, breadth 25 m.m.

28. CHITON TRICOSTALIS, Pilsbry.

Chiton (*canaliculatus* var. ?) *tricostalis*, Pilsbry: Nautilus, Vol. VIII. (1894), p. 54.

This prettily marked and distinctive chiton was found at Devonport and Stanley, one being red, with creamy splashes, and the other olive green, with dark and white splashes. This shell is not uniformly three-ribbed—it sometimes has more, young specimens have only two. It must be searched for in clean pools in moderately deep water.

29. CHITON QUOYI, Deshayes.

Chiton viridis, Q. and G., Voy. Astrol, III., p. 383 (1834).

Chiton quoyi, Desh. in Lam., Anima, s. Vert., VII, p. 509 (1836).

Chiton glaucus, Hutton, Man. N.Z. Moll., p. 112 (1880).

This shell was in Tenison-Woods' Census of Tasmanian Shells, but was dropped by Tate and May in their census of 1901. It has been re-discovered in 1910 by W. L. May at Bellerive Bluff. It was referred to by May in his additions to the Catalogue of Marine Shells of Tasmania in the Proc. Roy. Soc. Tasmania, 1910, p. 310. It is uniformly dark olive green. Length 32, breadth 21 m.m.

30. CHITON CALLIOZONA, Pilsbry.

Chiton (*aereus* var.) *calliozona*, Pilsbry: Nautilus, Vol. VIII. (1894), p. 55.

In looking through Miss Lodder's collection, W. G. Torr

discovered a median valve of this interesting and beautiful chiton. It is generally found on smooth stones in clear sandy pools, in deep water.

31. LORICELLA ANGASI (Ad. and Angas).

Lorica Angasi, H. Adams and Angas: Proc. Zool. Soc., 1864, p. 193; Pilsbry, Man. Conch., Ser. I., Vol. XIV., p. 238; Proc. Acad. Nat. Sci., Philad., 1894, p. 87.

This deep water shell has been found washed up on the North-West Coast by the late Miss Lodder, to whom we are both indebted for specimens. Anterior valves were collected on the beach at Ulverstone by W. G. Torr.

32. LIOLOPHURA GAIMARDI, Blainville.

L. gaimardi, Blainv. (Chiton), Dict. Sc. Nat.; Vol, 36, p. 546, 1825: Pilsbry, Man. Conch., XIV., p. 240, 1893.

This shell is reported from Kangaroo Point by W. F. Petterd, and W. G. Torr has one specimen in his collection. We have not been able to discover the species.

Fig. 1.—*Acanthochites lachrymosus*, May and Torr, n.sp. posterior valve.

Fig. 2.—*Acanthochites lachrymosus*. interior valve.

Fig. 3.—*Acanthochites lachrymosus*, median valve.

Fig. 4.—*Acanthochites lachrymosus*, portion of girdle.

Fig. 5.—*Callochiton mayi*, Torr, anterior median valve.

Fig. 6.—*Callochiton mayi*, interior of anterior valve.

Fig. 7.—*Callochiton mayi*, posterior valve, not disarticulated.

FIG. 1.
MARGINELLA IN.EQUIDENS
Sp. Nov.

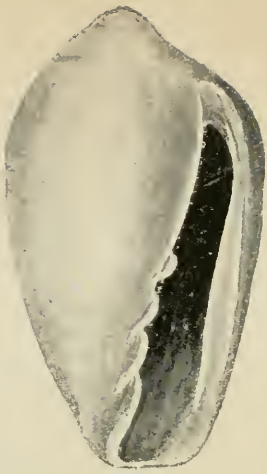

FIG. 2.
MARGINELLA SCHOUTANICA,
Sp. Nov.

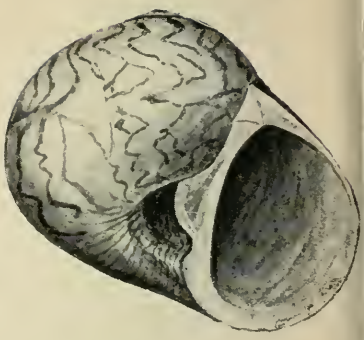

FIG. 3.
NATICA SCHOUTANICA
Sp. Nov.

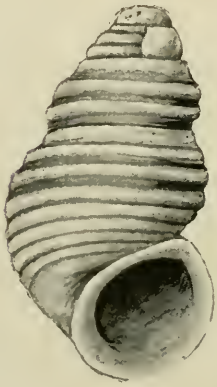

FIG. 5.
RISSOA ARCHENSIS, Sp. Nov.

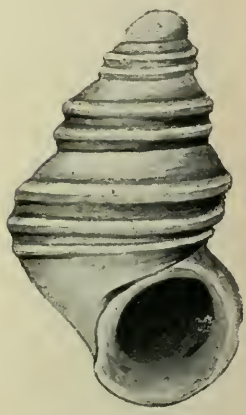

FIG. 6.
RISSOA SCHOUTANICA, Sp. Nov.

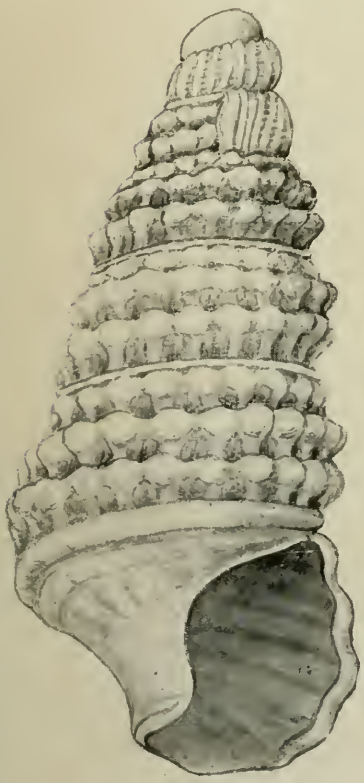

FIG. 4.
CERITHIOPSIS TRISCULPTA,
Sp. Nov.

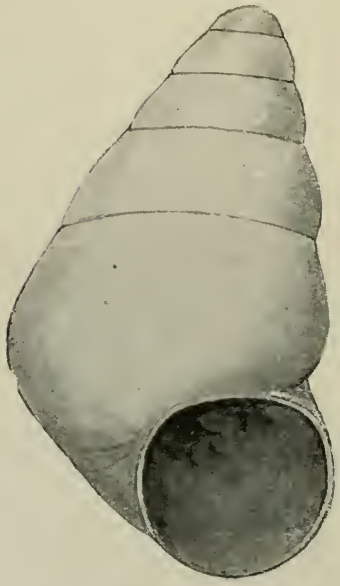

FIG. 7.
AMPHITHALIMUS ERRATICA
Sp. Nov.

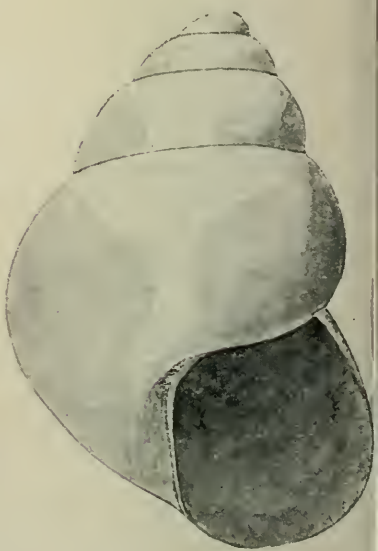

FIG. 8.
RISSOA PERTRANSLUCIDA,
Sp. Nov.