NOTES ON, AND ADDITIONS TO, THE CHITON FAUNA OF NORTH-WEST TASMANIA, TOGETHER WITH A BRIEF REVIEW OF THE GENUS *STENOCHITON*.

By

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INTRODUCTION.

This paper was commenced over a year ago as a joint paper in collaboration with the late W. L. May, but was laid aside owing to the untimely death of Mr. May, whereby the writer has lost his greatest friend, who was his colleague on so many collecting trips, and Science has lost a conchologist of outstanding ability.

The earlier part of the paper records the results of a collecting trip to the north-western corner of the State. The party consisted of W. L. May, Watson Coleman, Miss Ashby, and the writer.

The 28th and 29th October, 1924, were spent at Robbins Island and the 30th and 31st at Penguin. Robbins Island from a collector's point of view was virgin ground. The main work was done in the two afternoon tides, and the reefs worked were those several miles to the west of the Homestead at Gyton Point. The rocks were diabase or allied igneous rock, the first day's work being confined to the most easterly of the series of reefs that form the western wing of the Homestead Bay, and on the second day, May worked some rock pools on the eastern side of the main reef while Coleman and the writer worked some very likely, somewhat sheltered ground on the western side, immediately below the Bluff upon which the Manager's House is situated. Each of these reefs was found numerically rich in examples but limited in species; so much so that we decided to shorten our stay, in order that some work might also be done at Penguin, before the passing of the low tides.

The work done on the main reef was through an unfortunate circumstance incomplete; as that was the only spot where a representative of the subgenus *Rhyssoplax* was taken, it is certainly worthy of a more thorough investigation. Ashby was the only one of the party that was able

to get out on the reef at Cape Elio near the Homestead, at one of the early morning tides. While the work on that ground yielded no additional species, it was remarkable for the great number of *Ischnochiton lineolatus*, Bl., that were found there, whereas at the three places worked at the western wing of the bay, less than 3 miles away, very few examples of this species were met with. At the latter places, *I. subviridis* was in hundreds, but at the eastern reef the numerical strength of the two species was about equal. The rocks and conditions at each wing of the bay were equally promising, and the reasons for the astonishing discrepancy are not patent. This instance should be a warning to all workers not to assume too readily that a species is necessarily absent from a locality, because one has not found it at the few reefs one has been able to work. The discovery of representatives of the two genera, *Stenochiton* and *Lepidopleurus*, new to the State is of particular interest.

Class AMPHINEURA

Order *POLYPLACOPHORA*, Blainville.

Suborder EOPLACOPHORA, Pilsbry, 1900.

Family LEPIDOPLEURIDÆ, Pilsbry, 1892.

Genus *Lepidopleurus*, Risso, 1826.

Lepidopleurus matthewsianus, Bednall, 1906.

=*L. niger*, of Torr, and *Terenochiton erratus*, of Hull.

A nice series was taken at Robbins Island mostly on the reef immediately below the Mutton Bird Rookery and the Manager's House; most of the examples are pale biscuit colour with bright red bodies, a feature which is characteristic of the species. Only one example has previously been recorded from Tasmania, and that was taken at Devonport. The type locality is Marino, in South Australia, the specimens from which the description was made were given to Bednall by the writer, and came from that locality. The same species was found by Torr at Hopetoun, in Western Australia, and described by him under the name *L. niger*, and later on was found at King George Sound, in the same State, by Hull, and described by him under the name *Terenochiton erratus;* both these names are synonyms of the species under review.

Lepidopleurus badius, Hedley and Hull, 1909.

While much less numerous than the preceding species, a nice series was taken at Robbins Island living in the same sit-

uation as *matthewsianus;* most of them are rufous or orange rufous in coloration, the largest measuring 4.5 mm. in length. The sculpture differs from that of *matthewsianus*, in the wider spacing of the longitudinal rows and the wider spacing of the granules in the rows, in some examples these rows are ill-defined. This is the first record of this shell occurring in Tasmanian waters, and forms an interesting addition to its fauna. The writer has taken it at several localities in Gulf St. Vincent, in South Australia, and in 1923 at Port Stephens, in New South Wales, these places forming the extreme limits of its known range westward and northward The present record from Robbins Island extends its range considerably in a southerly direction. The species seems everywhere to be very local, but this may be due to its minute size making it easily overlooked.

Lepidopleurus profundus.

Lepidopleurus profundus (Ashby MS.) May. Illus. Index, Tas. Shells, 1923.

L. profundus of Ashby, Trans. Roy. Soc. S. Aust., vol. xlvii., read May, 1923.

Parachiton collusor of Iredale and Hull. Aust. Zool., vol. iii., pt. viii., 1925, p. 346.

Parachiton profundus of Iredale and Hull, l.c.

Introduction.—The late W. L. May quite unintentionally published Ashby's name *profundus* a few months prior to the publication of his type description, publishing only a figure without definition. Good as the figures are, without reference to Ashby's definitions, the fig. cannot be separated from *L. liratus*, Ad. and Ang., thus to make the reference complete it will have to be written *Lepidopleurus profundus* (Ashby MS.) May, 1923. Both May and the writer considered that the splitting of the genus *Lepidopleurus* into various genera as proposed or adopted by Iredale and Hull, has not up to the present been justified by adequate generic definitions. In illustration, Iredale and Hull, in their remarks on *L. profundus*, Ashby, state "This shell looks like "a deep water form of *Terencchiton liratus*, in which the "girdle scales have been replaced by spicules," and yet they place it in a different genus.

As before stated, it was originally intended to publish this paper as a joint one in collaboration with W. L. May, and on 30th June, 1925, he forwarded to the writer the shells from which he had made his drawings, in order that by

careful re-examination it might be ascertained whether there was any justification for the action of Iredale and Hull in making two species out of the examples described by Ashby under the name *L. profundus*, the following notes are the results of this re-examination.

Notes.—Iredale and Hull claim that the South Australian shell (type of *profundus* of Ashby) "compared with May's "*L. profundus*, the sculpture of the central areas is finer; "the mucro more posterior."

I have now carefully recompared Tasmanian examples from Pilot Station, D'Entrecasteaux Channel, Port Arthur, and Geographe Strait, with the type of *profundus* of Ashby. I find the character of the sculpture is identical, the longitudinal grooving in the median areas is a little broader in the type from South Australia than in most of the Tasmanian examples, and there is a tendency in those from Tasmania for the ribs to be a little broader, and in some the granulation is a little coarser, but there is as much variation in this respect between the different Tasmanian examples, in some cases between the different valves or portions of the same valve, in the same shell, as between the South Australian specimen and a paired example from D'Entrecasteaux Channel.

The type from South Australia, although not disarticulated, shows the whole of the dorsal portion of the tail valve, thus making it possible to take measurements, and this was possible only in the case of one very juvenile shell amongst the Tasmanian series.

As no disarticulated specimen was available to settle the question raised about the mucro, I disarticulated one medium-sized example from the Pilot Station and found that the mucro is central, as is also that of the South Australian shell. Measurements were made under a microscope with the aid of a micrometer, but, finding the adjustment was loose, one had to discard these and content oneself with the use of callipers, which gave the following:—South Australian shell, 2 mm. between the anterior margin of tail valve and mucro, and between the posterior margin and mucro also 2 mm., in the Tasmanian example the same measurements are respectively 1½ mm. and 1½ mm.

Conclusions.—

(a) Iredale and Hull's contention that the South Australian shell can be specifically separated from the Tasmanian on the grounds of the sculpture of the median valves is demonstrated to be incorrect.

(b) The contention that the mucro in the former "is "more posterior" than the latter, is unsupported, and can only exist in an unimportant degree in selected examples.

(c) The writer unhesitatingly endorses the opinion which the late W. L. May and himself jointly came to, and which has already been emphatically expressed in his paper l.c., viz., that the dredged shells from South Australia and Victoria described by himself under the name *L. profundus* are conspecific with the Tasmanian shells figured by May under the same name; Iredale and Hull's name *Parachiton collusor* is a synonym of *Lepidopleurus profundus* (Ashby MS.) May.

(d) As it is believed that the publication of the name *profundus* by May, unintentionally preceded the publication by Ashby by a month or two, the two specimens figured by May, which were paratypes of Ashby's *profundus*, now become co-types of *profundus;* May's complete figure represents a shell dredged at Port Arthur, and the enlarged portion of a median valve is from a specimen dredged in nine fathoms off Pilot Station, D'Entrecasteaux Channel. The statement made by Iredale and Hull, l.c., p. 347, "That the foregoing description is the "first published of May's species" is of course incorrect. Neither are they correct in stating that the shell figured by May was one of the original series, nor did it come from the Pilot Station, River Derwent.

Lepidopleurus profundus and *liratus* Compared.

In *liratus* the sculpture of the pleural areas consists of longitudinal rows of circular, convex, separated granules, which are bridged across from one row to another by irregular, ill-defined ridges. In *profundus* this sculpture consists of longitudinal, granulose ribs, the granulations in the ribs being flat-topped, and each granulose rib is bridged across to the next one by numerous, regular, well-defined narrow ridges.

The sculpture of *liratus* may be likened to a string of circular beads almost touching one another and roughly and widely bridged across from one row to another, whereas the sculpture of *profundus* is quite distinct, and may be likened to a longitudinal string of beads that have been squeezed together when soft and planed or flattened along the top and narrowly bridged across to the next rib at each granulation.

Suborder CHITONINA, Thiele, 1910.

Pilsbry places the *Ischnochitonidæ* and the *Mopaliidæ* earlier than the *Acanthochitonidæ*, in the order named, but Thiele considered this latter Family more primitive than the *Ischnochitonidæ*. Owing to the additional light thrown upon this group by the examination of examples of the fossil genus *Protochiton*, I place the Family *Protochitonidæ* immediately above the *Lepidopleuridæ*, considering that these forms were the progenitors of the *Acanthochitonidæ*, expressing it as my opinion that this latter family was never derived from the *Lepidopleuridæ*, but from an even more primitive stock, along parallel lines, and await the confirmation of this surmise by the discovery of intermediate fossil forms. Should this data be forthcoming a suborder *Protochitonina* will have to be introduced and the Phylum *Acanthochitonidæ* built up thereon. As now treated I cannot but think that the suborders *Eoplacophora*, Pilsbry, *Lepidopleurina*, Thiele, and *Chitonina*, Thiele, are taxonomically incorrect.

Family ACANTHOCHITONIDÆ, Hedley, 1916.

Subfamily ACANTHOCHITONINÆ, Ashby, 1925.

Genus *Acanthochiton*, Gray em. 1821.

Acanthochiton sueuri, Blainville, 1825.

Numerous at Robbins Island and less so at Penguin.

Acanthochiton bednalli, Pilsbry, 1894.

Found both at Robbins Island and Penguin, but in greater numbers at the former, it is easily distinguished by the deep longitudinal grooving in the dorsal areas; a few large examples were found at Port Sorell, one measuring 18 x 9 mm.

Acanthochiton granostriatus, Pilsbry, 1894.

Two examples were taken at Penguin, the dorsal area is narrower than in *bednalli*, is smooth except for growth lines, and is polished.

Acanthochiton variabilis, Ad. and Ang., 1864.

Not uncommon at Penguin, where some rather striking colour varieties were met with, it was not noted at Robbins Island, but several large specimens were secured at Port Sorell, one measuring 13 x 7 mm.

Genus *Notoplax*, H. Adams, 1861.

Notoplax glyptus, Sykes, 1896.

I am glad to be able to record this rare species as from Tasmania. A couple of specimens were in a collection made by the late Mrs. Alfred Smith, at one time resident at Swansea, on the East Coast; her daughter, Miss K. C. Smith, writes me that all the specimens in this collection were certainly Tasmanian, and adds "Chitons were especially peculiar "to the Swansea Beaches, and always after a storm we used "to find them in great numbers," and again, "My mother "collected some of her best specimens from the Stanley "Beaches, N.W. Coast." While there is not the slightest doubt that these examples were collected in Tasmania, the choice of locality is between Stanley and Swansea, the weight of probability is in favour of Stanley. The known examples of this shell are very limited, all have hitherto been credited to Victoria from Port Phillip Heads, Portsea, Western Port, and two examples taken from off the cable in Bass Strait by the late Mr. Joseph Gabriel in 1910. Mr. May first noticed a strange Chiton in this collection, which was still in its original glass case, and took the writer round to determine whether it was an undescribed species or not. The two specimens were presented us by the present owner, Miss P. Bailey, of Hobart—one is in Mr. May's collection, the other in my own. The following are particulars of this latter specimen: The shell is curled, girdle wasted, and semi-transparent, with a few exceptions the spicules have disappeared from the sutural pores, but in a few cases the bases of the spicules are retained. The valves are in excellent preservation with the exception of a fracture of one median valve; the shell is highly polished, the ground colour greyish green, flecked and mottled with ivory white; the pleural areas show four broad but shallow longitudinal grooves, the rest of shell is smooth and highly polished. In one of the small specimens taken off the cable, now in my collection, the ground colour is creamy white with a slight greenish shade in the mottling, the sutural hairtufts are furnished with slender spicules, and short spicules are scattered about the girdle. The specimens in the Smith collection have evidently been washed up, the body being absent, I indicate Stanley as the probable locality.

Subfamily CRYPTOPLACINÆ, Thiele, 1910.

Genus *Cryptoplax*, Blainville, 1818.

Cryptoplax striatus, Lamarck, 1819.

This was a common species at Robbins Island, examples measuring up to 80 mm. in length dry. In "A Review of "the genus *Cryptoplax*" (Trans. Roy Soc. S. Aust., vol. xlvii., 1923), the writer pointed out that specimens from King Island had shorter and broader spicules than examples from South Australia, the type locality, and he considered from his examination of Reeve's type of *gunni* in the British Museum, that the King Island shell might well be referred to that variety. As both forms exist side by side in the southern part of Tasmania the character mentioned hardly deserves distinguishing with a name as a variety. Iredale and Hull (Aust. Zool., vol. iv., pt. ii., 1925), under *C. iredalei*, Ashby, refer to May's fig. pl. xvi., no. 7, as if it was intended for the form with short slender spicules described by the writer under the name *C. iredalei*. This is an error, May's figure was intended I believe to depict Reeve's *var. gunni*, and this means that Iredale and Hull's name *C. iredalei meridiana*, must be considered a synonym of *gunni* of Reeve. I have not seen their type.

Cryptoplax iredalei, Ashby.

Several examples of this shell were secured at Robbins Island, the largest measuring over 70 mm. in length when dry. This species can easily be separated from the common form *C. striatus*, in that *iredalei* has short and slender spicules, giving a velvety appearance to the girdle. Both May and the writer considered that hitherto the only example recorded from Tasmania was a single example taken by May on his return from King Island in November, 1922, I think at Devonport. The occurrence is recorded by the writer, l.c., p. 238. Thus Robbins Island forms an interesting extension of its Tasmanian range.

Family CALLOCHITONIDÆ, Thiele, 1910.

Subfamily CALLOCHITONINÆ, Thiele, 1910.

Genus *Callochiton*, Gray, 1847.

Thiele proposed a subgenus *Icoplax* with *C. puniceus*, Couthony, as type, a New Zealand species. Iredale and Hull l.c. propose to elevate *Icoplax* to full generic rank, but the characters referred to in their definitions can only be

considered as of specific or at most subgeneric value, and until adequate generic characters are defined I prefer to leave *C. mayi* under the genus *Callochiton.*

Callochiton mayi, Torr, 1912.

A nice specimen, 10 mm. in length, of this striking and rare *Callochiton* was taken at Penguin in a rock pool at the lowest point of the tide. It was the second example the writer has taken, the other having been collected in the D'Entrecasteaux Channel, in Southern Tasmania. The only records other than Tasmanian are Portland, Victoria, 1 example, and several dredged by Sir Joseph Verco in South Australian waters.

Genus *Eudoxochiton,* Shuttleworth, 1853.

Subgenus *Eudoxoplax,* Iredale and May, 1916.

Both May and the writer were agreed that Iredale and Hull l.c. have furnished no justification for their proposal to elevate *Eudoxoplax* into generic rank. We considered it was not generically separable from *Eudoxochiton,* and doubted as to whether even subgeneric separation was justified. Decision on this latter point must be left to a careful investigation.

Eudoxochiton (*Eudoxoplax*) *inornatus,* Ten.-Woods, 1881.

One example taken at Penguin.

Family MOPALIIDÆ, Pilsbry, 1892.

Genus *Plaxiphora,* Gray, 1847.

Plaxiphora albida, Blainville, 1825.

A few examples were taken at both Robbins Island and Penguin, all of which are the costate and wrinkled form; limitations of available time prevented the collecting of more material to enable one to determine the extent of variation in the respective localities. Thiele seems to have had very few examples available to him for examination, and to have found the variation so great, that he was led to suggest a different name (almost) for each example. One had hoped that Iredale and Hull would have given the time to enable them to make an exhaustive examination of a large series, but this has not been done. They reproduce Thiele's figures of *costata, albida, tasmanica,* and *bednalli,* and allow only the two former. I have already pointed out (Trans. Roy. Soc. S. Aust., vol. xlvi., 1922, p. 575) that both Blainville's types were conspecific, the fact that this was so having been overlooked by Thiele through the valves of the type of *albida* having had the original sculpture eroded, but in one median valve sufficient coarse wrinkling is present to determine its character — unfortunately the name *albida* has page precedence. It is absurd for Iredale and Hull to attempt to retain both names. Thiele, in view of the apparent absence of coarse wrinkling in the eroded type of *albida,* concluded that it must be conspecific with the "microscopically wrinkled" or smooth shell, which was described by Quoy and Gaimard under the name *Chiton glaucus,* the type of which was shown to me in Paris.

To make confusion worse confounded Iredale and Hull have reversed the application of Thiele's letterpress. His drawing of *costata* is a poor one, as it does not show the, what we now term, coarse wrinkling, which is very much in evidence in the type which was handled by Thiele and referred to and drawn by him under the name *costata.*

Genus *Kopionella,* Ashby, 1919.

Kopionella matthewsi, Iredale, 1910, *var. intermedia.*

Three examples were taken at Penguin, each having the peculiar "oar-headed spicules" which were discovered by the writer and described by him in 1919, the generic name being founded on this feature coupled with the distinctive shape of the tail valves, as major characters.

The Penguin specimens correspond with the South Australian shell in the coarse granulose character of the two radial ribs of the lateral areas, and in the girdle being furnished with numbers of "oar-headed spicules" placed irregularly around the whole girdle, but the "oar-heads" are not as broad as in *matthewsi,* neither are they bent over as in that species as it is known in South Australia, the type State.

The examples from D'Entrecasteaux Channel, in Southern Tasmania, described by the writer under the name *tasmanica,* possess few of these spicules and their swollen extremities are long, slender, and straight (stiletto shape). It is quite difficult to determine to which species these examples from Penguin are most nearly allied. Until more material is available I suggest recognising them as a variety of the type species under the varietal name *intermedia,* the characters defined as above.

Note.—In 1910 Iredale proposed the name *Plaxiphora matthewsi* for specimens received from South Australia. In 1916 Iredale and May figured a Tasmanian specimen under the same name and genus, either through having overlooked the existence of "oar-headed spicules" or because in the

examples they examined this feature had been removed through careless handling. Iredale and Hull l.c. have now placed this genus immediately following the genus *Loricella*, a possibility that was foreshadowed as possible by the writer in his definition of the genus *Kopionella;* but Iredale and Hull supply no new data in support of this treatment. I prefer to leave the genus under the *Mopaliidæ* until one has time to study the radula in this relationship.

They remark that the "South Tasmanian form has been "differentiated specifically, but no such value is apparent in "the series examined by us," . . . . "the only feature for "separation appears to be in the formation of the corneous processes." These gentlemen have in a number of cases treated differences "in the formation of corneous processes" (i.e., girdle scales) as of the value of generic distinction; it is indeed regrettable that in this case they are not prepared to recognise such characters as of even specific value, and it is unfortunate that they did not avail themselves of the opportunity offered to them to see the types of this and other species.

Family ISCHNOCHITONIDÆ, Pilsbry, 1892.

Subfamily ISCHNOCHITONINÆ, Pilsbry, 1892.

Genus *Ischnochiton*, Gray, 1847.

Ischnochiton lineolatus, Blainville, 1825,
non lineolatus of Iredale and Hull.

Iredale and Hull propose to recognise in this species *Chiton elongatus* of Blainville, but do not advance the slightest shred of evidence in support of their proposal, neither do they attempt to controvert the apparently incontrovertible evidence advanced by Dupuis, Lamy, and the writer, in support of the recognition in *Ischnochiton crispus*, Reeve, the *Chiton lineolatus*, Blainville, the type of which is still in the Museum de Histoire Naturelle, Paris, and has been carefully examined and compared, by each of the foregoing. The whole question has been fully discussed by the writer (in Trans. Roy. Soc. S. Aust., vol. xlviii., 1924, pp. 329-330). The type locality for this shell is King Island, where it was collected by Péron and Lesueur in 1802; three of the original examples collected by them are now in the writer's collection and written on the inside of the shell of one, in faded ink, but still quite legible are the words "ile King" presumably in the handwriting of one of the famous explorers and naturalists.

As has already been mentioned, this species was scarce on the reefs below the Manager's House, but very numerous at the rocky point near the Homestead. Both sites appeared equally suitable, so the reason for this preference is quite obscure. At Penguin and Port Sorell it was numerous, and at all the localities the species is very variable in colour, pattern, and sculpture. At both Robbins Island and Penguin a variety occurs that has not been noticed elsewhere—it has a grey black central band with light coloured scalloped edging, and is an almost perfect imitation of a dark form of *Ischnochiton subviridis*, which also seems peculiar to those localities.

Ischnochiton atkinsoni, Iredale and May, 1916.

=*I. a. lincolnensis* of Ashby.

=*I. variegatus* of Iredale and Hull, *non* of Angas.

Was fairly common at both Robbins Island and Penguin. It is discussed at some length later in this paper.

Ischnochiton iredalei, Dupuis, 1918.

Subspecies *kingensis*, Ashby and Hull.

I. iredalei, Dupuis=*I. lineolatus* of Iredale and Hull, *non* of Blainville.

Synonymy given fully by Ashby (Trans. Roy. Soc. S. Aust., vol. xlviii., 1924, p. 329).

This species was in great numbers at both Robbins Island and Penguin and noted at Port Sorell. Many specimens measured 40 mm. in length, but what was most remarkable about the whole series was the extraordinary variation in both colour and pattern. In South Australia (type locality by designation) except in juvenile shells, there is but little variation in colour, pattern, and sculpture, whereas in the three dozen N.W. Tasmanian examples mounted on card before me, all but one specimen, which is large, worn, and pale, are easily distinct from any example

Note.—The writer has recently discussed with Messrs. Gatliff and Gabriel the advisability or otherwise of retaining the name *Chiton pallidus* of Reeve for this shell. On the following grounds we have decided not to accept the name *pallidus*, but to return to the name *I. iredalei*, Dupuis.

The type of Reeve's *Chiton pallidus* is worn smooth, the description is consequently ineffective, the locality is unknown. While I am still of the opinion that Reeve's type is probably a worn example of *I. iredalei*, Dupuis, the accuracy of such an identification can only be determined by disarticulation of the type which may or may not reveal sufficient existing sculpture for determination. I concur with the gentlemen named, in rejecting identifications founded on mere opinions, without the support of adequate data. I therefore retract my identification and agree to consider *Chiton pallens* of Reeve, as a non-Australian shell, until such time as the production of additional data may disprove this course.

seen from the mainland. The colour varies from rose pink, through orange to dark reddish brown, grey brown, and greenish grey, practically all extensively darkly streaked or mottled; the sculpture in all good examples is distinctly sharper and coarser than the South Australian form; it seems well to retain the subspecific name for the King Island and Tasmanian shells to distinguish them as a geographic race. If, later on, material from the northern side of Bass Strait should demonstrate that there is a gradual transition from the typical form to that of the Tasmanian, *kingensis* will then have to be relegated to the rank of a variety only.

Ischnochiton versicolor, Sowerby, 1840, *var. milligani*, Ire. and May.

Ischnochiton proteus, Reeve, 1847, *var. milligani*, Ire. and May.

Two or three examples only were taken at Robbins Island. They are easily distinguished by the large size of the girdle scales. On the mainland typical *versicolor* merge into *milligani*, and it can therefore only be considered a variety.

Since drafting this paper, I have, in conjunction with Mr. J. H. Gatliff, compared Sowerby's figures (Mag. Nat. Hist. IV., 1840, p. 292, figs. 75 and 122) with *I. proteus*, Reeve, and we concur with Iredale and Hull in considering them conspecific.

Ischnochiton virgatus, Reeve, 1848.

A few examples of this charming little shell were taken at Robbins Island. Hitherto the only record of its occurrence within Tasmanian waters is that of King Island and Clark Island. It certainly should be found along the coast between Robbins Island and Penguin. It is remarkable that it has hitherto been overlooked.

Subgenus *Haploplax*, Pilsbry, 1894.

Ischnochiton (*Haploplax*) *smaragdinus*, Angas, 1867.

Common at Robbins Island and Penguin and noted at Port Sorell. At the two former localities the variation in both pattern and coloration was very great. Some of the colour schemes that we have considered as characteristic of Port Jackson re-occur here; two examples from Robbins Island are 30 mm. in length, a size that is only equalled in South-East Tasmania and there very rare.

Subgenus *Heterozona*, Carpenter, 1878.

This section of the genus *Ischnochiton* was treated by Pilsbry as a subgenus; Iredale and Hull grant it full generic rank, but furnish no definitions that can be considered of generic value. The subgenus *Heterozona* is defined by Pilsbry (Man. Con., vol. xiv., p. 65), "Shell like normal "*Ischnochiton;* girdle bearing small scales with large striated "scales intermingled." Type *I. cariosus*. The writer noticed some years ago that *I. fruticosus*, Gould, from Port Jackson, was apparently identical with *cariosus* with the exception that the "large striated, intermingled scales" are not developed as maturity is reached, as is the case with *cariosus*. It was my intention to point out the affinity of these two and to suggest the suppression of the subgenus *Heterozona* on the ground that the accident of the appearance of these large scales in mature examples of *cariosus* can have no other than specific value. Now Iredale and Hull place *fruticosus* (and quite correctly so) next to *cariosus*, a species with which it certainly has the closest affinity, but instead of suppressing the subgenus *Heterozona*, they elevate it to full generic rank and place with it in that genus a species which exhibits none of the defined subgeneric characters, a course that seems absurd. I have, for the purposes of this paper, retained the subgenus *Heterozona* for the two following species, hoping at some future time to revise the subgeneric definition, and if deserving, place it on a more stable basis. I submit that variation in the epidermal clothing of the girdle cannot, unless supported by more important features, be considered as having the value of generic distinction. *Note.*—The writer (in Proc. Roy. Soc. Vict. 33 (N.S.), 1921, p. 151), in error, omitted the generic name *Ischnochiton* before the subgeneric name *Heterozona*.

Ischnochiton (*Heterozona*) *cariosus*, Pilsbry, 1873.

Several examples ranging up to 36 mm. in length, were taken at Robbins Island and one at Penguin. This species, although very common in South Australia, seems to be rare in Tasmania, and has only been recorded from the North Coast. Westward it extends around Cape Leeuwin and up the west coast as far as Dongarra.

Ischnochiton (*Heterozona*) *subviridis*, Iredale and May, 1916.

This species was astonishingly abundant at Robbins Island, especially the reefs to the west of the Bay. There I should estimate that they formed 90 per cent. of the Chiton

fauna. While varieties of various green shades and patterns exist, the great majority are black or blackish grey. In some cases all marking is absent, but in most there is evidence of lateral whitish banding, forming a longitudinal stripe bordering the black dorsal stripe. These black forms seem peculiar to this north coast and occur on black diabase rock.

Genus *Ischnoradsia*, Shuttleworth, 1853.

I here reproduce in full a note by the late W. L. May, of Sandford, Tasmania, which formed an addendum to the writer's Review of the Australian members of this genus (Trans. Roy. Soc. S. Aust., vol. xlii., 1918, pp. 62-64), "Having been "more or less associated with my friend, Edwin Ashby, in "his investigation into *Ischnoradsia*, I am thoroughly in ac- "cord with his treatment in the present communication. From "a superficial glance at specimens from the various localities, "they appear as one species, in shape, size, and colour, and "this impression is confirmed by an examination of the "girdle, which is practically the same in all.

"To maintain the several separate species, viz., *aus- "tralis*, *evanida*, and *novæ-hollandiæ*, we have to rely solely "on the absence or presence, in varying degrees, of the "longitudinal sculpture; and as this can be shown to be "quite inconstant in the southern and western shells, and "as some of these approximate rather nearly to the Port "Jackson form, it seems necessary to treat them all as mem- "bers of one variable species, but for convenience to main- "tain *evanida* for the southern and generally smoother form "either as a subspecies, which is perhaps preferable, or as a "variety."

This Chiton was numerous at both Robbins Island and Penguin, and from both places examples vary from those in which longitudinal ribbing is absent, through all stages of broken longitudinal ribbing to those in which these ribs traverse the whole area. One example taken at Penguin has distinctly coarser sculpture than is exhibited in a perfect, well-grown specimen taken by the writer at the Quarantine Station, Port Jackson, in 1918. Iredale and Hull recognise two full species, *australis* and *evanida*, and two subspecies, *divaricata* and *novæ-hollandiæ*. The examination of the material before me does not, in my opinion, justify such treatment. It is noteworthy that the juveniles of all are identical.

Stenochiton cymodocialis, Ashby, 1918.

Several examples of this shell were taken at Robbins Island on a small bed of the Sea Grass *Cymodocea*, and about a score taken on the cylindrical stems of the same plant at Penguin. The examples exhibit the variation characteristic of the species; the largest was from Robbins Island, and measures 13.5 mm. in length.

This is the first record of the occurrence of a member of this genus on the Tasmanian coast line, and one example of *S. longicymba* is credited by Blainville to King Island. This is discussed later.

Subfamily CALLISTOPLACINAE, Pilsbry, 1892.

Pilsbry associated with his genus *Callistochiton*, *Nuttallina*, *Craspedochiton*, *Angasia*, *Callistoplax*, and *Ceratozona* under the subfamily name *Callistoplacinæ*. Thiele removed *Craspedochiton* into his subfamily *Acanthochitoninæ*, though, as I have elsewhere shown, probably through mistaken identity, he was unacquainted with its true characters. Thiele then placed *Callistochiton* under the subfamily *Ischnochitonina* immediately following his genus *Tonicina*. It seems to me that the issues involved need additional research, basing such revision on the combined characters of the insertion plate and the radula. It seems that no one has up to the present attempted or been qualified to codify the classification of Polyplacophora on the basis of these dual taxonomic features; therefore, as far as possible one attempts to correlate existing taxonomic work rather than make rash departures. The peculiar "festooned" character of the insertion plate in *Callistochiton*, which was pointed out by Pilsbry, seems, failing the production of evidence to the contrary, sufficient grounds for the preservation of Pilsbry's name of *Callistoplacinæ*, but if the genus *Callistoplax* is definitely removed from association with the genus *Callistochiton*, then we must introduce the name *Callistochitoninæ*.

Genus *Callistochiton*, Carpenter, 1882.

Callistochiton meridionalis, Ashby, 1918.

One example of the variety of this species, described by the writer under the name *mayi*, was taken at Penguin and measured 20 mm. in length. This variety in which the reticulate sculpture of the very juvenile shell is retained beyond that stage of growth, seems peculiar to the N.W. Tasmanian coast.

Family CHITONIDÆ, Pilsbry, 1892.

Subfamily CHITONINÆ, Pilsbry, 1892.

Genus *Chiton*, Linne.

Subgenus *Rhyssoplax*, Thiele, 1893.

Chiton (*Rhyssoplax*) *oruktus*, Maughan, 1900.

One example only was taken in a deep hole far out on the reef below the Manager's House. Through a mischance this particular reef was but superficially examined. The discovery of this shell was not noted until all arrangements had been made for the party's departure to Penguin; its occurrence here may be taken as an indication that this spot will justify a more exhaustive examination and may yield some surprises.

Chiton (*Rhyssoplax*) *calliozona*, Pilsbry, 1894.

In the Smith collection before referred to, were two specimens of this shell. The one in the writer's collection is curled and would measure, if flat, 30 to 40 mm. in length. Both are interesting in having extensive areas of the shell coloured dark brown. The general colour varies from a greenish tinge to various shades of drab, the general effect being much paler than is this species in South Australia. It was probably collected at Stanley. It has rarely been taken in Tasmania, and then only on the northern coast.

Subgenus *Sypharochiton*, Thiele, 1893.

The writer, in common with many other conchologists, has in the past been in the habit of following Iredale's dictum in the giving of generic rank to names originally proposed as of subgeneric value only.

Thiele, neither in his original work (Das Gebiss der Schnecken, ii., p. 365), nor in his later one (Revis. des Syst. der Chitonen) considered either of his genera *Rhyssoplax* or *Sypharochiton* to rank other than subgenera or sections. He defines their distinguishing characters chiefly on the radula, and as far as we are aware, no one has since carried the study of Chiton radula further. While writers may be justified in adopting his divisions on the data he supplies, I fail to see why, without defining additional generic factors, anyone is justified in following Iredale and Hull in according full generic rank to these groups.

Chiton (*Sypharochiton*) *pellis-serpentis*, Quoy and Gaimard, 1835.

This species was very common at Robbins Island, Penguin, and Port Sorell. A fine series was taken varying

from shells in which the pleural area had no longitudinal ribbing, to those that possessed coarse almost beaded longitudinal ribbing. Some of the specimens certainly can be paired with examples from New South Wales. The writer in his paper on the Chiton fauna of Port Stephens in that State uses the following words in connection with this species: "Messrs. Iredale and May distinguished the Tasmanian "forms of this shell, under the designation of *Maugeanus*: "while I think the better way would be to consider them "mere varieties of the New Zealand shell, if students prefer "to consider the Tasmanian shell a geographic race, I suggest "that the somewhat more highly sculptured form found in "New South Wales be distinguished by the subspecific name "*septentriones*, a name suggested by the more northern habi-"tat." The results of a joint examination by W. L. May and the writer, as to the validity of separating the Tasmanian, New South Wales, and New Zealand shells from one another was published in Trans. Roy. Soc. S. Aust., vol. xlvi., 1922, p. 21. The following quotation will suffice: "We can-"not agree with Iredale and May in separating the Tasmanian "shells from the New Zealand ones, or from those from New "South Wales. Pilsbry, in his paper on 'Port Jackson "Chitons' (1894), also states that he was unable to detect "any difference between New South Wales and New Zea-"land shells, therefore *S. maugeanus*, Iredale and May, be-"comes a synonym of *S. pellis-serpentis*, Quoy and Gaimard." Iredale and Hull now do not recognise *S. pellis-serpentis* as an Australian species and grant full specific rank to *maugeanus* and *septentriones* as representing the Tasmanian and New South Wales shells respectively, which is a course which I consider is without any justification whatsoever.

Lepidopleurus variegatus, H. Adams and Angas, P.Z.S., 1864, 192.

Iredale and Hull (in Aust. Zool., vol. iii., pt. vi., 1924) propose to recognise this species in *Ischnochiton atkinsoni lincolnensis*, Ashby (Trans. Roy. Soc. S. Aust., xliv., 1920, p. 275, pl. xii.). The type figured and described was from Port Lincoln, South Australia, and not San Remo, Victoria, etc., as quoted. Iredale and Hull state "The type of *I. variegatus* "is at present missing, but we figure a neotype collected for "us by Mr. E. H. Matthews, at Minlacowie, Hardwicke Bay, "South Australia, the exact locality whence Angas describ-"ed it." They do not supply the slightest justification for their assertion that the specimen described by Adams and Angas came from Minlacowie, Hardwicke Bay, Spencer's

Gulf. The habitat as given in the type description as quoted by Pilsbry is "Yorke's (correctly spelt without the s) Peninsula, S. Australia, under stones at low water (Angas)." The habitats of *Hanleya variabilis*, A. and A., and *Lepidopleurus liratus*, Ad. and Ang. are also given in the same words. I have been informed that Angas did a good deal of collecting near Edithburg, on Gulf St. Vincent opposite to Adelaide, Yorke Peninsula, and we have hitherto believed that that was the type locality for the three species named.

Iredale and Hull further remark: "This species was well described but not figured, and was recognised by Pilsbry, Bednall, Matthews, and Torr, but Ashby, through an oversight, neglected it, and re-described it as a form of *I. atkinsoni*, I. and May, naming it *I. a. lincolnensis*." The facts are that Ashby left it out of his consideration because he was aware that Pilsbry placed *L. variegatus*, Ad. and Ang., under his list of "Insufficiently described Chitons," and that Bednall personally considered it a variety of *I. crispus* now *lineolatus*, Bl., and that Torr was of the same opinion. The only oversight was in making no mention of so discredited a name.

Reasons for not accepting *I. variegatus*.

(a) The type specimen was never figured.

(b) The type was lost.

(c) The description is insufficient for determination, as distinguishing specific characters are not given. It will apply equally as well to varieties of the common *I. lineolatus* as to *lincolnensis*.

(d) Bednall's, l.c. p. 146, adds no information to the original description beyond colour patterns, which are not determining factors in specific separation. He alleges that, having sent examples, Pilsbry approved of the identification, but does not quote him as having given any reasons for same.

Matthews has not as far as I am aware published anything *re* same. Torr (Trans. Roy. Soc. S. Aust., vol. xxxvi., 1912) states in reference to *variegatus*: "It is probably a "cream coloured variety of *crispus*"=*I. lineolatus*.

(e) The writer has found both *I. lineolatus*, Bl., and *I. a. lincolnensis*, Ashby, living together in equally plentiful numbers on the coast of Yorke Peninsula within a few miles of Edithburg.

The only determining factor in the separating of these two very variable species is the size and fluting of the girdle scales, a feature that was unrecognised and completely ignored as a means of comparison in the original description and by Bednall and Torr. For convenience it will be more satisfactory to consider *Lepidopleurus variegatus*, Ad. and Ang., as a synonym of *I. lineolatus*, as representing one of its varietal forms.

Ischnochiton atkinsoni, Ire. and May, and *I. a. lincolnensis*, Ashby, discussed.

Iredale and Hull l.c. accept two species describing one under the *I. variegatus*=*I. a. lincolnensis* on page 230 and *I. atkinsoni* on page 237. The descriptions will do equally well for either with the following exceptions:—

(a) They introduce nine species between their description of the South Australian shell and that of the N.W. Tasmanian shell.

(b) They refer to a colour distinction which is most inconstant, more often absent than present.

(c) *Variegatus* is described as "semi-carinated" and *atkinsoni* is described as "round-backed, not carinated."

(a) Needs no discussion. (b) Of the 19 specimens on my card from the type locality of *lincolnensis*, i.e., Port Lincoln, in South Australia, less than half of the examples possess the lateral banding they refer to, and they vary in colour from almost white through shades of biscuit colour to the orange rufous that is so common in examples of *atkinsoni* from N.W. Tasmania; in other parts of South Australia and Victoria the variation of colour, pattern, and absence of pattern is much greater still. (c) In some of the Port Lincoln examples, especially near the beak, the jugum is slightly raised "semi-carinated," in others the shell is "round-backed not carinated," but this "semi-carination" is also met with, although more rarely, in examples from N.W. Tasmania. Thus we have to admit that this slight variation is neither of specific nor subspecific importance and *lincolnensis* is conspecific with *I. atkinsoni*, Ire. and May.

Ischnochiton atkinsoni bruniensis, n. subsp.

On collecting a good series at Robbins Island and Penguin, the type locality (Sulphur Creek is a local name of a suburb), we noticed at once the resemblance to some of the Mainland forms heretofore recognised under the subspecific name of *lincolnensis*. The mistake had occurred in this

way. The only available co-types of *atkinsoni* were more or less eroded, and although W. L. May in 1917 picked out two or three from examples of the original lot of Port Lincoln specimens, which he considered as "typical" of the Tasmanian *atkinsoni*, when early in 1920, he, with the writer, collected a long series of *atkinsoni* in the D'Entrecasteaux Channel, Southern Tasmania, it became possible to compare the Port Lincoln shells with these, when the subspecific differences were defined in the writer's paper (Trans. Roy. Soc. S. Austr., xliv., 1920, pp. 275-276).

It is now clear that the shells from D'Entrecasteaux Channel were not typical *atkinsoni* and require a subspecific name, I therefore suggest *bruniensis* after the Island from which the earliest specimens were collected. A slight amendment of the description l.c. will meet the case. By substituting for the words "Tasmanian shell" Bruny Island shell, and for the words "Mainland shell," *I. atkinsoni*, Ire. and May, we have the following definition: "Under a simple lens the "rugged character of the sculpture of the Bruny Island "shell is most consistent, whereas *I. atkinsoni* s.s., always "seems to have a polished appearance, and the granulose "sculpture is less in evidence." Iredale and Hull, in their description of *I. atkinsoni*, l.c. p. 237, use the words "central "areas coarsely quincuncially granulose, granules rounded "and flat-topped." In the definition of *bruniensis* as compared with *atkinsoni* s.s., the word very, must be inserted and read as follows: "Pleural area in median valves, very coarse-"ly quincuncially granulose, granules round and convex, not "flat-topped, the interspaces being much deeper than in *at-"kinsoni* s.s." The coarse nodulose radials referred to in the type description of the lateral areas of *I. atkinsoni* are as variable in that species, whether from the mainland or from N.W. Tasmania, as they are in *bruniensis*. The specimen I have selected as type comes from Lunawanna, Bruny Island, and measures 12.5 x 6 mm. There is no doubt in the writer's mind that if the eleven examples on card examined were mixed up with any number of *atkinsoni* from either side of Bass Strait, the specimens from Bruny Island could easily be sorted out. Its treatment as a subspecies seems well justified, but if, later, intermediates are discovered, it would have to be treated as a variety, occurring at the southern extremity of the range of *atkinsoni*.

Genus *Stenochiton*, Ad. and Ang., 1864.

Pilsbry considered *Stenochiton* deserving of subgeneric rank. In his paper on this genus (Trans. Roy. Soc. S. Austr., vol. xlii., 1918), the writer proposed the elevation of *Stenochiton* to full generic rank on external and internal grounds. In the Classification List in "Victorian Naturalist," vol. xliii., No. 1, issued May, 1926, he only ranked it as a subgenus of genus *Ischnochiton*, because in the face of a number of new genera proposed by Iredale and Hull, many of which, in the writer's opinion, are unsupported by any true generic definitions, he preferred to review the position he took in his Monograph l.c. Now, having reviewed the position, he confirms his original opinion, supported as it is by the multislitting of the insertion plates, often in the median valves as well as in the end valves, and the specialised character of the shell.

Stenochiton posidonialis, Ashby, 1918

=*S. pilsbryanus*, of Iredale and Hull.

The writer in his paper on the genus *Stenochiton* l.c. showed that Bednall's figures and description of his *S. pilsbryanus* (Proc. Mal. Soc. Lon., vol. 2, pt. 4, 1897, pp. 142-3) not only could not be identified with the above, but did not coincide with any known form. The fact that collectors had sent away specimens of *S. posidonialis* under the name *S. pilsbryanus* did not, in his opinion, seem to affect the question. He showed both by description and figures, that in *S. posidonialis* the anterior valve is concave and not convex as stated by Bednall, also that in *S. posidonialis* the tail valve is very flat, entirely different from the figure of that valve as supplied by Bednall in his type description. The suggestion made by Iredale and Hull that juvenile shells of *S. posidonialis* may not show any concavity in the anterior valve is not supported by an examination of a number of specimens of a similar size to Bednall's type, viz., 5.75 mm., as all have exhibited this feature.

The writer would have liked to find a way out of the dilemma both in accordance with the wishes of Dr. H. A. Pilsbry and in harmony with the International Rules, and will reserve a final review of this problem till a later date.

Stenochiton tatei, n.sp.

Stenochiton tatei, Ashby, a new name for the shell described by Ashby under the name *Stenochiton* (*Zostericola*) *pilsbryanus*, Bednall (Trans. Roy. Soc. S. Austr., vol. xliii., 1919, pp. 66-69, pl. xi., figs. 2, 2a, 2b, 2c).

The writer has always been in doubt as to the validity of his having attached the name of *S. pilsbryanus*, Bed., to the new species he described in 1919 (l.c.), it having been

done with the desire of preserving that name in connection with a valid species. The refusal of Iredale and Hull to accept that course reopens the question, and I take this opportunity for supplying a new name for the shell then described under the name *Stenochiton* (*Zostericola*) *pilsbryanus*, Bed.

In my paper (l.c.) it was pointed out that the species under description was broad and short, instead of, as is the case in other known forms belonging to this genus, being "long and narrow," and because of this fact suggested the subgeneric name of *Zostericola* for its reception, but on further consideration it would seem better to enlarge slightly the conception of the genus *Stenochiton*, by slight emendations and the insertion of the word "usually" into Adam and Angas's Definition thus—*Amended Definition of genus Stenochiton*: Shell unusually elongated, highly polished, almost unsculptured; convex, i.e., rounded or arched as distinct from carinated, plates of insertion small, multifissate in end valves and usually more than one slit in median valves; girdle covered with minute, polished, imbricating scales; living on Sea-Grasses.

It is not necessary to repeat the description published by the writer under the name *S. Z. pilsbryanus*, Bed., l.c., as that now becomes the type description of *Stenochiton tatei*, Ashby, and the example figured and described becomes the type. But the following comments and data are supplied as supplementary to that description. The dried type of *S. tatei* measured 5.5 x 3 mm., but if well preserved probably would have measured 6 x 3.5 mm. It has every appearance of being an adult shell. Iredale and Hull under *Stenochiton pilsbryanus*, p. 286 l.c., include "*?Zostericola pilsbryanus*, "Ashby"; adding the note, "Which may be a juvenile example "of *S. pallens*." If they had taken the trouble to compare the co-type of *pallens*, which they had had on loan, with the photo accompanying the description of this species, they would at once have seen that the peculiar elongation and tapering of the tail valve of *pallens* was entirely absent, for while the photo is not first class, it sufficiently demonstrates this fact.

Stenochiton longicymba, Blainville, 1825.

Chiton longicymba, Blain. Dict. Sci. Nat., vol. xxxvi., p. 542.

Stenochiton juloides, Ad. and Ang. (Proc. Zool. Soc., 1864, p. 193).

In Proc. Mal. Soc. Lon., vol. xv., pt. v., June, 1923, was published a paper by the writer entitled "Notes on the genus

"*Stenochiton* and the discovery and recognition of the type of "Blainville's *Chiton longicymba* in *Stenochiton juloides*, Ad. "and Ang." In it he referred to Thiele's description of a Chiton mounted on a card in the Paris Museum and labelled *Schizochiton nympha*, Rochebrune. Thiele identified it with the genus *Stenochiton*, but expressed his opinion that it was not conspecific with either *juloides* or *pallens*. Ashby then quoted as follows from "Misnamed Tasmanian Chitons," Iredale and May: "There is certainty that Rochebrune renamed "the Blainvillean species, and that *Chiton longicymba*, Blain- "ville, is a *Stenochiton*. Thiele does not definitely make this "a synonym of *Stenochiton juloides*, Ad. and Ang., and until "King Island specimens are again collected, we prefer to "allow *Stenochiton longicymba*, Blain., as a separate species." Ashby then gave details of his comparison of the type of *S. nympha*, Roch., with examples of *juloides*, and points out that the specimen belongs to that form of *juloides* that is "variegated or streaked with white," as is so well expressed in Blainville's description. Iredale and Hull, in their paper entitled "A Monograph of the Australian Loricates," l.c., Oct., 1924, do not refer in any way to Ashby's paper or his identification of Blainville's species with *S. juloides*, Ad. and Ang., neither do they supply a reference to the paper which was read in March, 1923, and of which Iredale had early advice. They remark on page 285 l.c., "Iredale and "May, familiar with Rochebrune's idiosyncrasies, recognised "in Thiele's figures the long lost *longicymba* of Blainville. "As Hull and Ashby did not meet with the species on King "Island, and Hull found it very common at King George "Sound, W. Aust., Hull suggested that the latter locality was "the source of Péron's specimen." They then state: "Ile "King, errore=Kangaroo Is." In the first place, Ashby was never in King Island, and the only published reference to the possibility of the type having come from Western Australia is in a paper giving the results of the collecting trip to King Island of May, followed later by Hull (Aust. Zool., vol. iii., pt. ii., issued March, 1923, by Ashby and Hull).

I strongly dissent from the attempt to remove this interesting species from the recorded fauna of Tasmania on the following grounds:—

(1) It was absolutely impossible for either May or Hull to have made an exhaustive investigation of such a large field as King Island within the limits of the time available to them.

(2) Hull noted beds of the sea-grass *Cymodocea*, but found no examples of *S. cymodocialis*, but we are certainly justified in assuming its presence there, now that the writer and May have discovered this species both at Robbins Island and at Penguin on the North-West Coast of Tasmania. Here it was overlooked by both Torr and Atkinson, who both did much collecting at the latter place.

(3) For example.—*Ischnochiton lineolatus*, Blain., which was described as from King Island, was quite rare at the three reefs worked jointly by May, Coleman, and Ashby at Robbins Island, but on the Eastern reef near Homestead, Ashby found it in very large numbers. Port Stephens in N.S.W. had been examined by both Brazier and Hull, who reported it very poor in Chiton fauna, whereas Thackway, May, and the writer, in 1923, located a spot there which was extremely rich in this fauna, one of the richest in Chiton fauna in that State.

These illustrations will suffice to show the unwisdom of disallowing King Island as the type locality for *Stenochiton longicymba*, on such slender evidence.

ECOLOGY AND RANGE OF HABITAT.

S. cymodocealis, Ashby, living on the cylindrical stems of *cymodocea*, range extending from Penguin and Robbins Island in Tasmania, along the South Australian coast and up the western coast as far as Geraldton.

S. posidonialis, Ashby, living on the flat stems and leaves of *Posidonia*, chiefly just above the sand, range extending along the South Australian and Western Australian coast and up the West Coast as far as Dongarra.

S. longicymba, Blainville, living in the brown basal sheaves, buried in the sand, of *Posidonia*, range extending from King Island in Tasmania along the whole of the southern coast of Australia and up the west coast as far as Garden Island.

S. pallens, Ashby, a few examples only, dredged by Sir Joseph Verco in Gulf St. Vincent, and one dredged at Port Phillip Heads in Victoria.

S. tatei, Ashby, type off *Zostera ? Posidonia*, Troubridge Shoal, Gulf St. Vincent, and ? one juvenile off *Posidonia* in the same Gulf.

Probably the whole of these species extend into the North Tasmanian Region.

A SHORT KEY TO SPECIES OF STENOCHITON.

Head valve, anterior slope slightly to strongly convex	*longicymba, cymodocealis, pallens, tatei.*
Head valve, anterior slope concave	*posidonialis.*
Tail valve elevated	*cymodocialis, longicymba, tatei, pallens.*
Tail valve shallow, flat, slightly concave	*posidonialis.*
Tail valve exceptionally long and tapering	*pallens.*
Tail valve short and rounded	*tatei.*
Mucro anterior to central ..	*cymodocealis, tatei, posidonialis* (anterior third example 5.5 mm. long).
Mucro posterior	*longicymba, pallens* (posterior third in co-type).