

Cerceis ovata (Baker). (egg-shaped).

The body is strongly convex, suboval rather than ovate in shape, and the head is short. The anterior portion of the abdomen has an indistinct median tubercle. The greater part of the upper surface of the telsonic segment is domed, the dome extremely obscurely divided into three lobes. The inner branch of the uropods reaches to the end of the telson, and is truncate distally, with the inner apical angle rounded and the outer pointed; the shorter outer branch narrows towards its base, and its obtuse apex is cut into small teeth.

The female, which is illustrated, is much larger than the male, lacks the obscure sculpture of the dorsal surface of the abdomen, and has the posterior notch shallower. Length: 12 mm., or $\frac{1}{2}$ in. (S.A.M.)

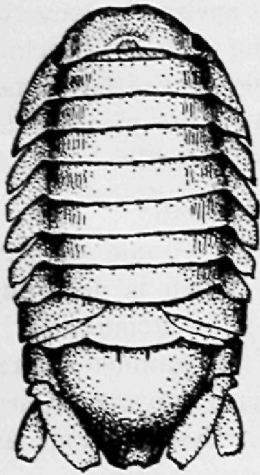


FIG. 301.—*Cerceis ovata* (after Baker, x 4).

Cerceis trispinosa (Haswell). (with three spines).

The body is broadly ovate and convex, and the head is wide and rather short. The surface of the thorax is smooth, and each of the side-plates of the last segment is produced behind into a hook-like apex. The short anterior portion of the abdomen has a small median tubercle on the hinder margin. The telsonic segment is granulate, clothed with short hairs, and has a low dorsal elevation in the middle, just anterior to which is a pair of smaller tubercles; the posterior notch is deep, with the lateral angles produced and acute, and is overshadowed above by the conical median process, which

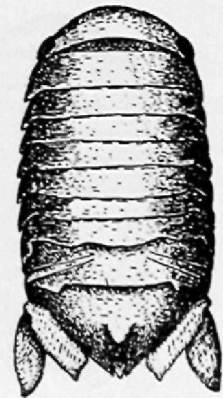
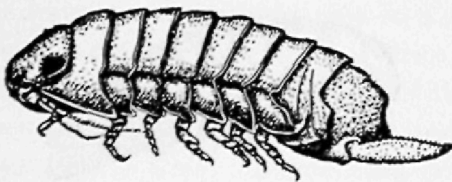


FIG. 302.—*Cerceis trispinosa* (after Baker); male (x 3) and female (x 4).

reaches nearly to the level of the angles of the notch. The inner branch of the uropods reaches nearly to the telsonic notch, and is truncate at the end, with the outer angle acute; the exopod is much longer, acute, and with the outer margin a little serrated near the apex.

The female is smaller than the male, and has the median dorsal tubercle of the telson triangular and much larger, and the exopod of the uropods

only a little longer than the endopod. Also, the side-plates of the last thoracic segment are pointed, not hooked, behind. Length: 11 mm., or $\frac{7}{16}$ in. (S.A.M.)

A species which has been taken in Victoria, Tasmania, and South Australia. Its colour has been described as "uniform light red."

PLATYCERCEIS (Baker).

Distinguished from *Cerceis* by the more flattened body and the outstanding scythe-like side-plates of the thorax.

Platycerceis hyalina (Baker). (transparent).

The body is ovate, with the surface smooth, and the head is elongate, conical, and forms an acute lateral angle at each side of the eye. The side-plates of all the thoracic segments are produced and acute, but those of the last somite are much smaller than the others. The abdomen is only slightly convex; the lateral parts of the anterior portion are acute and outstanding. The terminal notch of the telson is deep and its sides form spiniform projections. The legs are slender, without the usual furry pads, and with strong spines on the propodi. The male appendage of the second pleopods is very long and reaches nearly to the end of the abdomen. The branches of the uropods are subequal in length; each is narrowly lanceolate, slightly curved, extends well beyond the end of the abdomen, and has a ridge above and below.

The female (which is illustrated) does not differ strikingly from the male, but has feebler spines on the legs, the antennae are more slender, etc.

During life the animal is almost transparent, marked with brownish dots, and elongated spots of blue. and is mottled with brown and yellow on the abdomen and mid-line of the thorax. Length: 7 mm., or $\frac{9}{32}$ in. (S.A.M.)

When curled in a protective attitude this form offers a very great contrast to the markedly convex species, such as *Exosphaeroma bicolor* (fig. 276). Owing to the much flattened body, *Platycerceis* folds like the leaf of a book, with the hinge at the middle of the length.

Even with a cursory examination *P. hyalina* cannot well be confused with any of our other Sphaeromids with the possible exception of *Cymodoce longicaudata*. In that species, however, the telson has a long terminal process, the head is of different shape, and the body is less flattened.

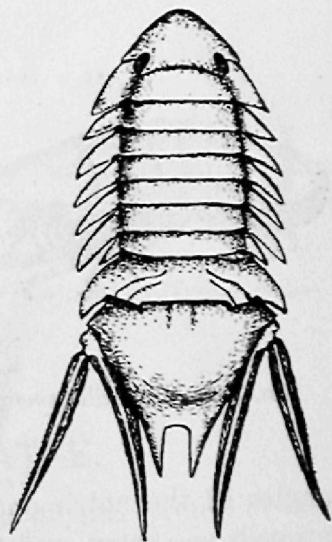


FIG. 303.—*Platycerceis hyalina* (after Baker, x 7).

HASWELLIA (Miers).

The male has a *large* dorsal process from the seventh thoracic somite, a character separating this from the preceding Eubranchiate genera.

- a. Branches of uropods of male subequal in size, the outer ramus plate-like and suboval in shape *emarginata*.
 aa. Branches of uropods very unequal in size, the outer ramus much longer than the inner and subcylindrical in shape . . *cilicioides*.

Haswellia emarginata (Haswell). (with notched margin).

In the adult male the body is ovate and smooth, with a few hairs near the sides. The great dorsal process of the seventh thoracic segment extends beyond the end of the abdomen and tapers to the end, which is truncate with the apical edge notched or incised. All but the sides of the anterior part of the abdomen is concealed by the thoracic process. The telsonic segment is somewhat flattened dorsally, with the surface granulate; the posterior notch is deep; the median process extends well beyond the lateral

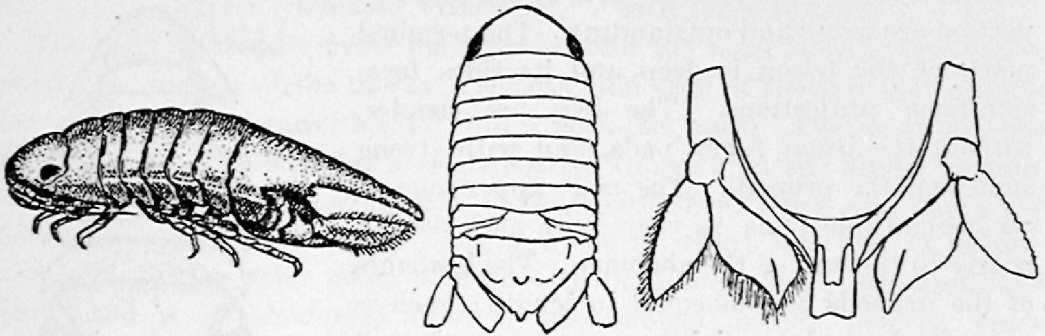


FIG. 304.—*Haswellia emarginata* (after Baker); male and young female (x 4); ventral view of abdomen of male (x 5).

angles of the notch and has the apex truncate and faintly notched. The uropods are hairy, and the margins of both branches are fringed with hair; the inner ramus is slightly broader and longer than the outer and is somewhat S-shaped and apically acute; the outer branch is suboval with the inner margin more convex than the outer.

The female lacks the large dorsal thoracic process and the uropods are of different shape (see figs.). Young males resemble the females, but the dorsal projection commences to develop early.

The colour is reddish-brown, with the thorax spotted with darker colour. Length: 13 mm., or $\frac{1}{2}$ in. (S.A.M.)

A species very common in St. Vincent Gulf.

Haswellia cilicioides (Baker). (resembling *Cilicæa*).

The body is very convex, ovate, with the surface of the head and thorax smooth. The great process of the seventh thoracic segment reaches beyond the end of the abdomen, is rather broad, and is rounded apically. The

upper surface of the abdomen is granulate; the hinder part of the dorsum of the telsonic segment bears three lobes, behind which the surface descends abruptly to the posterior notch, which is shallow; the median terminal process is subtriangular and extends beyond the lateral angles of the notch. The uropods are granulate; the inner branch is very small with the apex

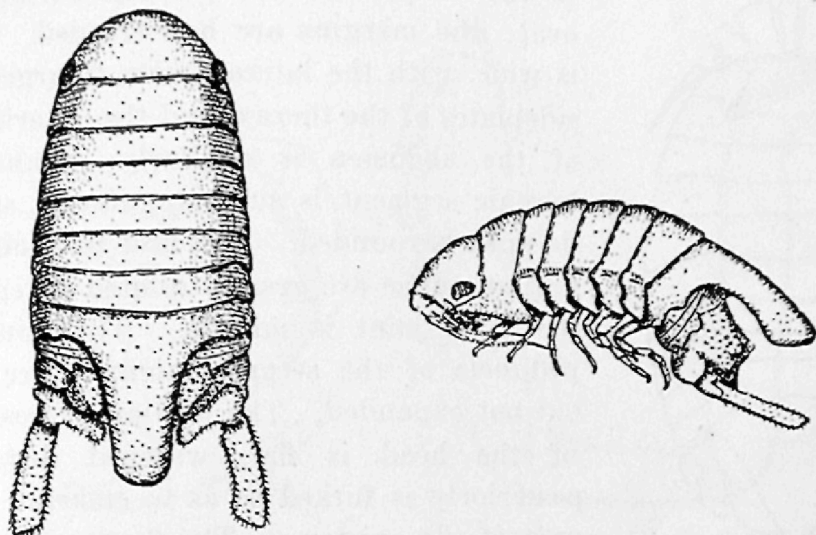


FIG. 305.—*Haswellia cilicioides* (after Baker, x $4\frac{1}{2}$).

acute, and the outer is large, subcylindrical, slightly curved inwards, fringed with fine hairs, and is obliquely subtruncate at the apex. Length: 11 mm., or $\frac{7}{16}$ in. (S.A.M.)

The adult males of this species may be easily separated from those of the preceding by the above characters.

Group **PLATYBRANCHIATAE.**

So far we have found only one representative of this group in South Australian seas, but it must be remembered that most of our dredging has been carried out in the two Gulfs. Much of the sea-bottom of our waters is as yet by no means thoroughly investigated, and when fresh fields are conquered it is certain that much additional material, in all invertebrate groups, will be discovered.

CHITONOPSIS (Whitelegge).

This genus does not even superficially resemble any other of our Sphaeromid genera excepting the Eubranchiata *Amphoroidella*. The resemblance here, moreover, is not very marked, for the antennae of *Chitonopsis* are very different, and the septum separating them at the base is produced anteriorly in the form of a large dilated process, which is not developed in *Amphoroidella*. As in the case of the last-named, *Chitonopsis* resembles a small chiton, hence the generic name.

Chitonopsis spatulifrons (Whitelegge). (with spatulate front).

The body is much depressed, smooth, and is convex down the middle. The basal joints of the first antennae, the aforementioned process in front of the head, the side-plates of the thorax, and the uropods are all flattened, expanded, and fit one against the other so as to form a wide, thin border

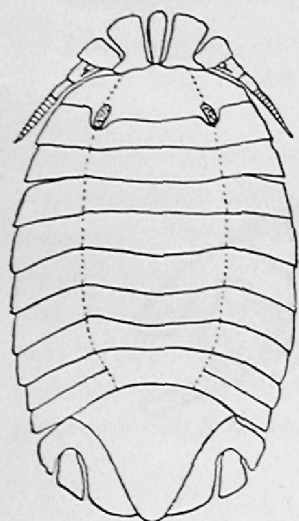


FIG. 306.—*Chitonopsis spatulifrons* (after Whitelegge, x 3).

to the body, with the general outline broadly oval; the margins are hair-fringed. The head is wide, with the lateral parts enlarged like the sideplates of the thorax, and the anterior portion of the abdomen is similarly expanded. The telsonic segment is subtriangular in shape, and its apex is rounded. The first two joints of the first antennae are greatly dilated anteriorly, but the third joint is minute. The joints of the peduncle of the second antennae are flattened but not expanded. The median process in front of the head is flat, widened distally, and posteriorly is forked so as to embrace the front part of the epistome. The first pair of legs are slender, and the others successively increase in size backwards; some of the joints are armed with comb-like spines. The base of the uropods is expanded outwards and slightly downwards, and below this peduncle plate the short truncate exopod is hinged; the inner branch reaches almost or quite to the end of the abdomen. Examples recently dredged amongst sea-grass were green in colour.

The female, which is illustrated, differs little from the male, but has the second antennae a little shorter. Length: 15 mm., or $\frac{3}{8}$ in. (S.A.M.)

Family SEROLIDAE (Sand-lice).

The Serolids somewhat resemble the extinct Trilobites, but are not closely related. The body is usually exceedingly depressed, and the thoracic segments are furnished with long, sickle-shaped side-plates, which add greatly to the width of the body. The head is large, and has a small beak, or rostrum. As is usual in the order, the first segment of the thorax is coalesced with the head, but here the first *free* somite has also been included in the fusion to form a short cephalothorax, as in *Tanais* (see also p. 341). The head is partly surrounded by the expanded lateral parts of these two thoracic segments, and its outline is defined by a furrow. The abdomen consists of three short segments, and a large caudal shield, or tail segment. In the male the first two pairs of legs are subchelate (fig. 307), but in the female only the first pair is so modified. It has been said that during mating the male "in grasping his partner by the front rim of the carapace with the claws of his second gnathopods sometimes drives his over-affectionate nails through the tender chitinous integument of his beloved."

In our species there is no transverse line on the first body segment (indicating the fused suture between the first free somite and head segments); the dorsal part of the penultimate thoracic segment is very narrow, and that of the last thoracic segment is absent or united with the abdomen.

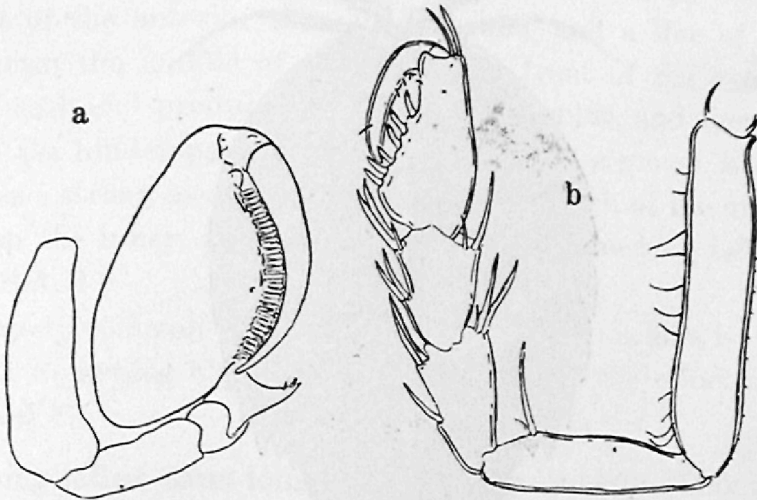


FIG. 307.—a, First and (b) second legs, or gnathopods, of male *Serolis tuberculata* (after Chilton).

SEROLIS (Leach).

Our sand-lice live on sand, and, like the flat-fishes, have a habit of partially burying themselves therein. Five species have been collected in from four to thirty fathoms off the South Australian coasts. The illustrations show essential differences not mentioned in the necessarily short descriptions.

- a. Upper surface of body wholly covered with a great number of small tubercles *australiensis*.
- aa. Upper surface of body not wholly covered with tubercles.
- b. Apex of abdomen truncate and concave. Rostrum moderately long.
- c. First four free segments with a row of large tubercles on each side. Body nearly oval, with the tail segment wider than long *tuberculata*.
- cc. Upper surface without rows of lateral tubercles. Body pear-shaped; the tail segment longer than wide *longicaudata*.
- bb. Apex of abdomen rather narrowly rounded, not truncate or concave. Rostrum short and stout.
 - d. Posterior margin of each segment of body with a conspicuous median tubercle *minuta*.
 - dd. Posterior margins of segments without median tubercle, excepting on head and on third segment of abdomen *bakeri*.

Rough Sand-louse. *Serolis australiensis* (Beddard). (Australian).

The body is covered with an immense number of tubercles, more or less distinctly arranged in rows, the projections being most distinct on the

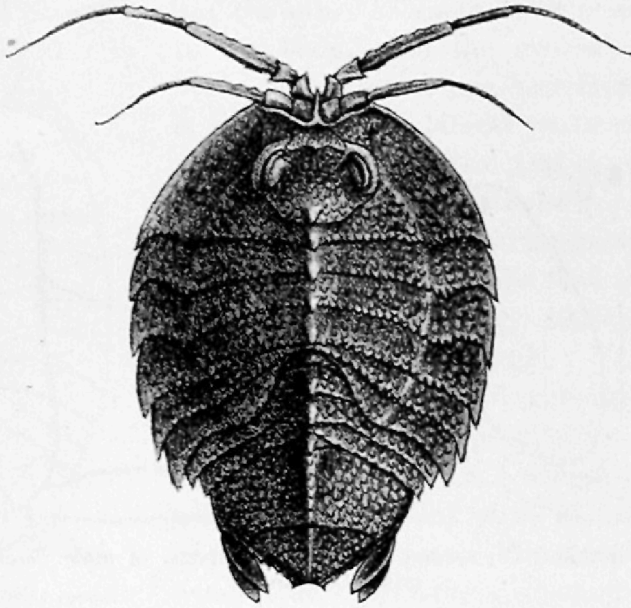


FIG. 308.—*Serolis australiensis* (after Beddard, x 4).

caudal shield and on the hinder margins of the other segments. This feature is not found in our other sand-lice. The head and each of the body segments

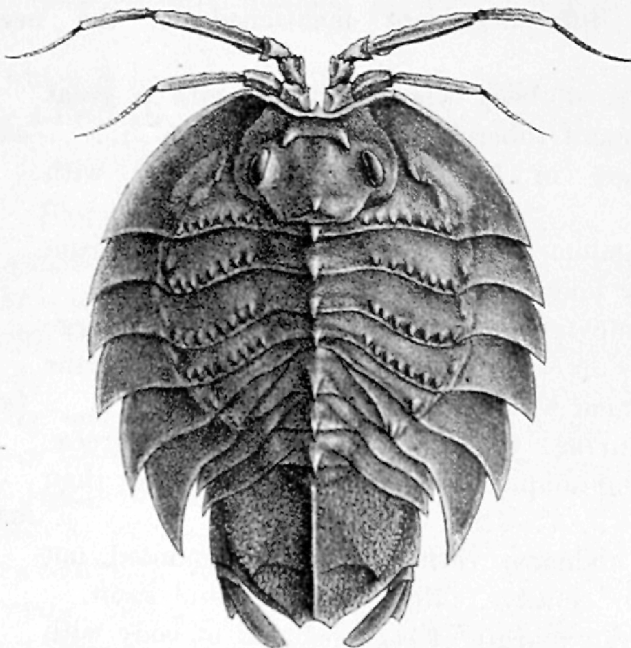


FIG. 309.—*Serolis tuberculata* (after Beddard, x 3).

(with the exception of the last two thoracic segments and the caudal shield) have a larger tubercle at the middle of the hinder margin. The tail segment

is apically truncate and concave, and bears a strong median ridge. The rostrum in this and the two following species is comparatively long. Length: 14 mm., or $\frac{9}{16}$ in. (S.A.M.)

Serolis tuberculata (Grube). (with tubercles, or small elevations).

There is a series of seven to nine pointed tubercles on each side of the hinder part of the anterior thoracic segments, and a line of rather larger tubercles down the middle of the back. In front of the eyes is a curved ridge, with each end produced to form a short spine, and there is a pointed tubercle on the hinder part of the head. The tail segment is apically truncate, and has a strong median ridge; the outer branch of the uropods is much shorter than the inner, and has the hinder end concave. Length: 19 mm., or $\frac{3}{4}$ in. (S.A.M.)

A moderately common form in our gulfs. The colour is white to pale brown, with numerous black dots in imitation of the sand on which the creature lives.

Long-tailed Sand-louse. *Serolis longicaudata* (Beddard).
(long-tailed).

Distinguished from our other sand-lice by the pear-shaped body. As in the two preceding species, the apex of the abdomen is truncate, but the tail segment is relatively longer than in these. The upper surface is

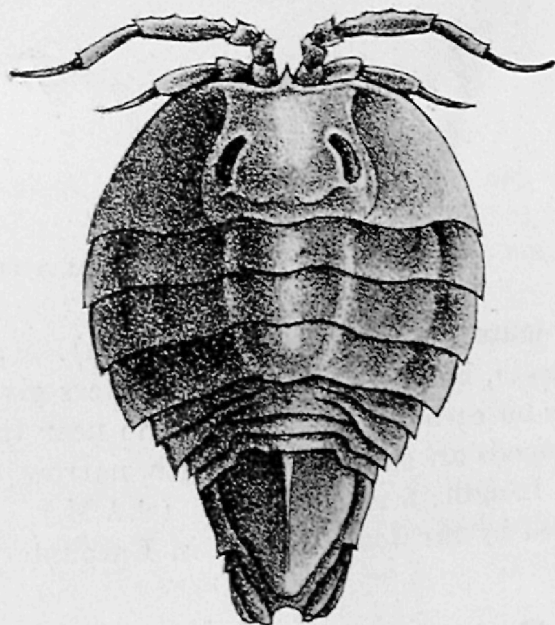


FIG. 310.—*Serolis longicaudata* (after Beddard, x 8).

smooth, sometimes with fairly distinct median tubercles on the three free segments of the abdomen, and similar less distinct projections on the thorax. The branches of the uropods are of about equal length. Length: 8 mm., or $\frac{3}{10}$ in. (S.A.M.)

Serolis minuta (Beddard). (very small).

The body is almost circular. The head has three rounded tubercles on the posterior margin, and the following segments have a blunt median tubercle on their hinder edges. Each thoracic segment also has a projection on each side near the coxal plate. The tail segment is keeled; the branches of the uropods are narrow and elongate, not of equal length, and the posterior margin of the inner ramus is toothed. Pigmentation is not markedly developed. This and the following species are readily separated from the three described above by the shape of the terminal segment of the body, this being narrowly rounded and not truncate. Length: 8 mm., or $\frac{3}{10}$ in. (S.A.M.)

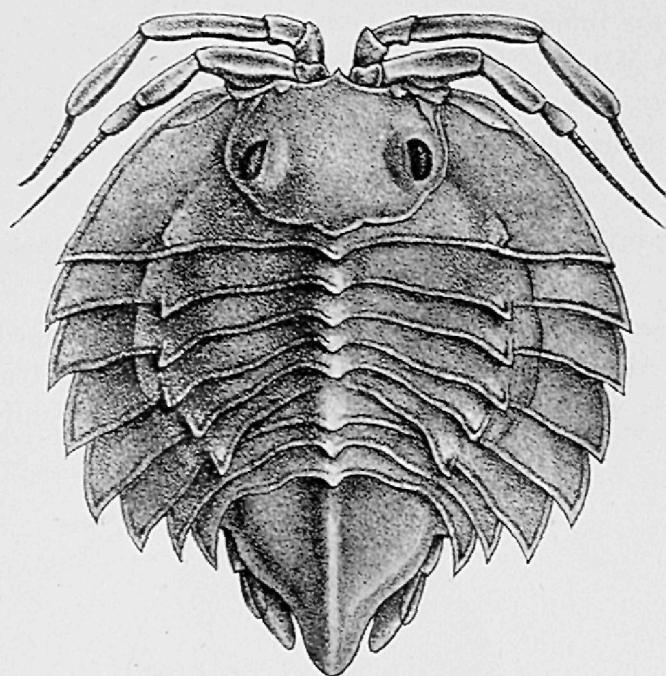


FIG. 311.—*Serolis minuta* (after Beddard, x 14).

Baker's Sand-louse. *Serolis bakeri* (Chilton). (personal name).

Very like *S. minuta*, but differs in the characters given in the key; also, there is no process on each free thoracic somite near the coxal plate. The branches of the uropods are subequal in length, narrow, and have the hinder margins toothed. Length: 6 mm., or $\frac{1}{4}$ in. (S.A.M.)

A species dredged by Sir Joseph Verco in Encounter Bay.

Suborder VALVIFERA.

In the key to the suborders of the Isopoda the salient feature of the Isopoda-Valvifera is referred to, viz., the uropods are remarkably modified and form a pair of folding doors which close over and protect the pleopods. The apparatus is described and illustrated in Chapter II. of this handbook (fig. 10). It has been pointed out comparatively recently that the Valvifera

differ from other Isopoda in that the vasa deferentia of the male do not open on the seventh thoracic segment, but are situate on the first abdominal segment. The suborder embraces two distinct groups.

- a. Body very elongate and often cylindrical. First four pairs of thoracic limbs slender, ciliated, and with terminal joint minute, or rather stout, flattened, and armed with strong setae; last three pairs ambulatory. Second antennae long and strong *Astacillinea*.
- aa. Body narrowly oval or oblong. Legs usually nearly alike in structure. Second antennae not enlarged as a rule. . . . *Idoteinea*.

Group **ASTACILLINEA.**

Family **ASTACILLIDAE.**

The bizarre, slender-bodied crustaceans of this family are often very difficult to distinguish in their natural surroundings, so closely do they resemble the algae, or weed, amongst which they live. Two genera are represented.

- a. Second antennae very stout and massive. First four thoracic limbs stout, flattened, and armed with spine-like hairs . . *Parastacilla*.
- aa. Second antennae moderately stout. First four thoracic limbs slender and fringed with long, fine hairs *Neastacilla*.

PARASTACILLA (Hale).

The body is cylindrical, and the second antennae are raptorial, with the peduncle large, massive, and compressed; the flagellum is tiny. The first free segment of the thorax is fused with the head, and its lateral parts are expanded forwards and fused with the underside of the head; the fourth free segment of the thorax is much longer than any of the others. The segments of the abdomen are all fused together, and there are indications of three fused sutures. Two species are known:

- a. No large spines on thorax *truculenta*.
- aa. Third and fourth segments of thorax each with a large dorsal spine *bakeri*.

Warty Skeleton-louse. *Parastacilla truculenta* (Hale). (ferocious).

The surface of the cylindrical thorax is ornamented with some large and small, scattered, low warts. During life the animal was pinkish-brown in colour, with the legs and antennae pale. Length: 18.5 mm., or $\frac{3}{4}$ in. (S.A.M.)

A single example was dredged in a mass of cylindrical algae, which it greatly resembled in form and colour; it was in the position shown in the