The description and figures are taken chiefly from female specimens; the males I possess, which appear to be full grown, are much smaller.

This genus bears much external resemblance to Chitinopsis, Whitelegge.

Gulf St. Vincent, shallow water.

> Moruloidea, n . gen.

Moruloidea lacertosa, n. sp.
Plate vii., figs. 1 to 10.
The body is expanded, moderately convex, the epimera of the thorax extending obliquely, and form, with their segments each side, a longitudinal shallow groove, which converges a little behind, continuing a similar groove extending round the pleon.

The head is short, with a small depressed rostral projection; much narrower than the first segment of the thorax; nodular and abruptly declivous in front.

The eyes are small.
The first segment of the thorax is broad and longer than any of the others which follow, rather nodular, its sides showing three faint tubercles on each margin; it is depressed anteriorly rather deeply; the extreme antero-lateral angles beneath the eyes are bifid or emarginate. Of the epimera of the following segments the fourth is longer fore and aft than the rest, the last is very short; they (six) are slightly accentuated at each posterior angle by a slight nodule or tubercle.

The anterior portion of the pleon, which is produced to a pointed plate laterally, is short, with the sutural lines scarcely showing. The posterior portion is dome-shaped and tuberculate, with its anterior angles also produced to points, the sides arc-slightly insinuate, thin, ending posteriorly in acute teeth, which do not reach the level of the sides of the posterior notch, the margins between which are insinuate. The notch is oblique in direction, rather deep, rectangular, its base slightly convex.

The basal antennular joints are not much expanded; they are uneven, rounded, and project very little beyond the head ; the distal end of the first joint is not notched, or scarcely so; the second joint is short, small, and has a backward direction; the third joint is narrower and longer than the second; the flagellum short and slender, with 11 joints.

The antennæ are unusually large, all the joints of the peduncle are robust, the second has a distal obtuse tooth

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on the inner side, the fifth joint is a little longer than the preceding one, slightly curved, and bent back at an angle with it. The flagellum, the first four joints of which are robust, is turned in the opposite direction; it bears 11 joints, the terminal ones being very small.

The epistome is short, broader than long, with the small anterior surface nearly at right angles to the posterior part; it is rough, and tapers quickly to an acute point beneath the rostral projection ; the upper lip is slightly convex.

In the maxillipeds the lobes of the palp are rather long, resembling those in the Cymodocince.

The first gnathopods are very robust in contrast to the rest of the legs, a short thick basis is subequal in length to the ischium; the three following joints are sparely provided with spines ( 3 each), which are not serrate, but are apically split. The dactylus is strong, not forming with the propodus a subchelate or prehensile organ, but being somewhat inclined that way.

The first pleopods are smaller than the rest; the exopod is nearly oblong, and, lying obliquely, projects at its base beyond the odge of the peduncle; the endopod is slightly longer than broad. The second pleopods have the endopod a good deal longer than broad, with a thick appendix masculina, which reaches as far as its fringe; the exopod is ovate and smaller than the endopod. In the third pleopods the exopod is longer than the endopod, with an oblique suture ending in a small notch on the inner margin. The exopod of the fifth pleopod has the division very near the end; terminally there are two lobes nearly on the same level, and two small or rudimentary at the inner end, one above the -other, below the suture.
'The uropods are placed on the edge of the pleon, they are sublaminar; the peduncle has an anterior projection slightly over-reaching that of the antero-lateral angle of the pleon; the inner ramus is broad, curved, and distally bifid, its end scarcely reaching the posterior tooth of the pleon; the outer ramus is shorter and narrower, and has its upper surface slightly carinate, with its outer side nearly straight, the inner convex, the end acute.

One male specimen.
This genus seems to differ considerably from any others of the group that I am acquainted with. The much-developed antennæ and the large first pair of gnathopods are, aid far as I know, unique.

Gulf st. Vincent.

## Genus Dynamenopsis, new gen.

Dynamenopsis obtusa, n. sp.
Plate vii., figs. 11 to 17 ; and plate viii., figs. 1 to 7
The body is smooth, except on the pleon, which is rather rough, glabrous, very convex, becoming slightly wider at the end of the thorax.

The hoad is anteriorly rounded, without a transverse anterior ridge, longer than the first segment of the thorax. The eyes are rather small.

Of the segments of the thorax the first and seventh are longer than the rest, and subequal in length. The seventh almost completely covers the anterior portion of the pleon; its posterior border has four short lobes, the two median ones projecting somewhat behind. The epimeral plates of the thoracic segments are vertical in direction; that of the first segment is well produced anteriorly, but posteriorly very little; the following four are subquadrate; that of the sixth is wedge-shaped and produced behind, more than overlap. ping that of the seventh segment and the lateral portion of the anterior part of the pleon.

The posterior portion of the pleon is dome-shaped, and has a conical tubercle each side of the median line, with a smaller one posteriorly just above the posterior notch. The posterior notch is a transversely-ovate foramen, a closed slit below forming a funnel-shaped tube, the two sides form a small notch at the im- rediate end, while the sides of the pleon are turned under, enclosing the pleopods much more than is usual.

The first joint of the antennulary peduncle is not very broad; it is about twice as long as the second, and is without distal notch or produced angle. The second joint has a slight keel; the third joint is as long as the second, expanding a little distally. The flagellum is as long as the last two joints of the peduncle together, and has 8 short joints. The antennal peduncle is only a little longer than that of the antennule; its flagellum has 11 joints.

The anterior part of the epistome is not separated from the depressed rostral projection; this fits into a notch of the epistome with a sutural line marking the union, the whole being in the same curved surface with the front of the head. The labrum is quadrate.

The mandibles are abnormal, without distinct incisory plates, secondary plate, and spine rows, neither is there a distinct molar, but the part corresponding to the posterior edge of the molar bears a few brown recurved spines.

The maxillipeds are rather slender.

The first pair of gnathopods are robust, the ischium has an anterior lobe, the merus is short and wide, with a small distal spine behind, as also has the wedge-shaped carpus and the propodus; the dactylus is robust. The remaining legs are robust, with a few spines, but with the furry pads on the usual joints. The dactyli are well developed in all.

The endopod of the first pleopod is considerably longer than broad, thickened on its inner margin, with the outer margin slightly insinuate, but with a proximal angle or projection. The exopod is much larger, although reaching the same distance as the endopod; it lies obliquely, and the fringes of both are long. The outer end of the peduncle of this limb narrows out somewhat. In the second pair the exopod is much shorter and smaller than the endopod; the appendix exceeds the length of the endopod, including its fringe; there is a short ridge on the inner side of the endopod. The third pleopod has the peduncle much longer at its inner side; the exopod is divided near its end.

The uropods are lamellar, subequal in size, rounded on their distal margins, the outer one being slightly concave above.

The two processes of the seventh sternite of the thorax are short.

This species, represented by only one male, is from Denial Bay, and was, collected by Drs. Verco and Torr in January, 1908.

Genus Circeis, M. Edw.
Circeis tridentata, M. Edw.
Plate viii., figs. 8 to 16.
This species is the type of the genus, and is here noted for purposes of comparison.

The body is shaped typically, being somewhat vertically compressed, with the head gradually declivous and narrowing considerably, and is very like $C$. acuticaudata, Haswell ; in fact, the females are hard to distinguish from those of that species.

The posterior notch of the pleon in the male is deep, narrow, widening inwardly, the median process slightly raised, broadly triangular, obscuring the base in a dorsal view, not projecting as far as the arms of the notch, which are terminally obtuse.

The distal end of the first joint of the antennule has the posterior limb of the notch curved, and projecting much more than the anterior limb, but not quite reaching the end of the second joint.

The exopod of the first pleopod has 11 strong teeth.

The exopod of the second pleopod has 21 teeth.
The exopod of the third pleopod with a division and 10 teeth.

The exopod of fifth pleopod with two lobes on the distal portion, and two on the inner margin, near the middle of the lamina.

The legs in both sexes are provided with the furry pads so common in this group.

The female is more convex than the male, with a more ovate outline. The posterior portion of the pleon is more dome-shaped, the small median tubercle less marked, and this portion is less hairy. The posterior notch is simple, narrow, rather deep, cut nearly vertically, U-shaped. The uropods are similar in shape to those of the male, but smaller. The legs are less: robust, and the teeth on the pleopods smaller.

The eggs I have found deep in the body, quite to the dorsal surface, and the usual modifications of the mouth parts and viscera occur.

Circeis trilobata, n. sp.
Plate viii., figs. 17 to 20 ; and plate ix., figs. 1 to 7 .
The body of the male narrows anteriorly, as seen in other species of this genus; it is smooth-except on the posterior portion of the pleon, where there are a few small granules-and glabrous.

The head is longer than the first thoracic segment and narrower, with a very small depressed rostral projection.

The eyes are large, and slightly projecting.
The first segment of the thorax and the seventh are subequal in length, and are longer than the remaining segments. The epimeral plates are marked off from their respective segments by faint longitudinal grooves; the anterolateral angle of the first segment projects forward very much, but not much posteriorly; the succeeding plates project behind each in a slightly increasing degree, except the last, which also is not so deep.

The anterior portion of the pleon is subequal in length to the seventh thoracic segment, and it is slightly raised in the middle. The posterior portion bears three bosses, the median one of which is somewhat triangular and abrupt behind, the lateral ones less so; behind these is a semicircular depression, but the immediate region of the posterior notch is tumid. The notch is simple, cut nearly vertical, quadrate, with a convex base, but no real process.

The epistome is long, anteriorly appearing thickened, but actually slightly turned upward at the tip, occupying
most of the interantennulary space. When viewed in profile the two posterior limbs each show two small projections, ono above the other, on the inner borders.

The basal antennular joint is rather short, its posterior distal angle produced, reaching nearly to the end of the second joint; the anterior angle is scarcely produced. The second joint is distally truncated, and does not show a slight notch or insinuation above, as in C. tridentata and C. acuticaudata. The under keel is well marked. The third joint is much narrower and about as long as the second; the flagellum has 10-11 joints.

The antenna has a flagellum of 13 joints, and is slightly longer than its peduncle.

The legs are of the usual type, rather robust, sparingly spined, their places being occupied by furry pads, even in the first pair of gnathopods. The dactyli are short.

The mandibles have incisory plates, moderately strong and dentate; the left mandible has a secondary plate, tridentate. The spine row and molar of each are well developed.

The filaments of the male on the seventh thoracic sternite are short.

The endopod of the first pleopods is nearly twice as broad as long; the exopod has a row of well-marked teeth on the external border. The exopod of the second pleopod has a row of teeth and a row of small simple setæ close to the external border ; the fringes of the usual sete are very dense. The appendix masculina is short, and proceeds from about the middle of the inner border of the endopod. The exopod of the third pleopod has a suture rather near the end, and 5 or 6 distal teeth, also a row of small simple setæ near the external border. The exopod of fifth pleopod has a distal suture very obscure; the two lobes which this carries are rather distant from each other. A third small lobe is on the proximal division, rather far down on the inner side.

The uropods are lamellar.
The female resembles the male when not young-bearing. The young-bearing female is broader or more ovate and shorter, and the legs are much slenderer; the posterior notch is similar in shape, but rather deeper; the greatest difference is found in the uropods, the shape of which is seen by reference to the figure. The marsupial plates are large and overlapping, and the young and eggs are found deep in the body. The mouth parts are strongly modified. The young males and females bear great resemblance to the females of Haswellia cmarginata.

Gulf St. Vincent, from jetty piles.

## Circeis obtusa, n. sp.

Plate ix., figs. 8 to 17.
The body is rather broad, convex, the surface is rather rough, with granules becoming well developed on the pleon, glabrous.

The head is not so pointed as in other species of this genus; rather short, anteriorly strongly declivous, with an anterior faint transverse ridge.

The eyes are well developed.
The opimeral plates of the thoracio segments are not distinctly marked off from the segments. They are vertical in direction.

The anterior portion of the pleon is short. The posterior portion dome-shaped, with a very slight depression each side of a median faint elevation. The po, cerior notch is well marked, narrower at its apex than at its base, with a V shaped median lobe, which reaches about halfway to the end. In a side view the end appears slightly turned up.

The epistome has its anterior portion slightly convex.
The basal joint of the antennular peduncle has a distal notch whose posterior limb does not reach the end of the second joint; the anterior limb is nearly as long as the posterior, and is slightly turned forward at its apex. The third joint is narrow and slightly longer than the second ; the flagellum has 11-12 short joints of a moniliform appearance.

The flagellum of the antenna has 13 longer joints.
The mandibles are large, the primary plates are well developed and dentate ; the secondary plate also is well developed, as also are spine rows and molars.

The maxillipeds have the plate of the second joint as long as the joint itself; the palp is well developed.

The legs are strong. The first gnathopoas have welldeveloped spines on fourth, fifth, and sixth joints. In the other legs the spines are replaced mostly by the furry pads.

The first pleopods have short endopods, much broader than long. The exopod is without marginal teeth, or with only one or two faint ones. Internally, from the usual row of marginal setæ, there is a row of setules, as noticed in other species. Second pleopods, with the endopods also short, bearing the appendix, nearly halfway along its internal border. The appendix is thick, and nearly of the same diameter its whole length. The exopod has $4-5$ small teeth on its external border and a row of setules. The exopod of the third pleopods has a division and a row of setules, as in the others. The exopod of the fifth pleopods has three lobes, which are slender, the most distal one projecting horizontally, the most proximal close to the inner margin. The division is very obscure.

The uropods are lamellar, rather broad, the inner ramus distally truncate and exceeding the end of the pleon. The outer ramus rather ovate, slightly exceeding the inner, the margins of both faintly and irregularly serrate.

This species is represented by two males, the females being unknown.

Gulf St. Vincent.
Haswellia emarginata, Haswell.

$$
\text { Plate ix., fig. } 18 \text {; and plate x., figs. } 1 \text { to } 11 .
$$

The body becomes narrower anteriorly, smooth, with very fow hairs towards the lateral margins.

The head is slightly longer than the first segment of the thorax, with a well-marked rostral projection very acute at the tip.

The eyes are large, and project slightly.
The segments of the thorax behind the first increase in length successively behind, while the seventh tapers to a long process, which extends beyond the end of the pleon, and is terminally truncated and notched or emarginate.

The epimeral plates of the thoracic segments are produced subacutely behind, except that of the seventh, which is large and rounded; sutures marking off these plates are not evident.

The anterior partion of the pleon is covered, except at the sides. The posterior portion is depressed and slightly granular. The posterior notch is very deeply cut, its median process projecting well beyond the sides, is truncated, and slightly notched.

The first joint of the antennular peduncle is rather broad; there is a deep distal notch, the arms of which are equal in length, and do not reach the end of the second joint; the anterior one is curved outwards a little at the end. The second joint has a prominent keel below, ending distally in an acute tooth. The flagellum has 17 small joints.

The antennal flagellum has 17 joints.
The mandibles are rather slender, the incisory plates are entire, the other parts are well developed.

The legs are similar to those found in the genus Circeis.
The exopods of the first and second pleopods are toothed, as also in the genus mentioned. The appendix masculina is small, and originates rather far along the inner margin of the endopod of the second pleopods. In the third pleopods the transverse suture is near the end; the setules noticed before are present.

The uropods are broad and very rigid. The exopod has the inner margin more convex than the outer; this is minutely serrate. The inner ramus is large and slightly
sigmoid, its inner margin has a slight prominence near the distal acute end; both are densely fringed with short setre, as well as having hairy surfaces, and project slightly beyond the median process of the seventh thoracic segment.

In an egg-bearing female the first and second pleopode are aroolate in both rami; the exopods in both instances have teeth, but they are less numerous and weaker than in the males. The setules near the margin are present.

The marsupial plates are large and overlapping, the eggs are internal in densely packed masses up to the dorsal region, and even amongst the muscles which control the pleopods. The mouth parts are very much modified.

The end of the pleon has a deep vertical notch with its roof slightly projecting behind; this is rather obtusely pointed and conspicuous from the side.

Females without brood and young males approach each other, though at an early stage the young male has a short developing process to the seventh thoracic segment. In both these cases the posterior notch, though not so deep, is more roofed over by the triangular process than in the female with brood, and the process is more acute.

I have repeated the observation with regard to the eggs with Circeis acuticaudata, Haswell, and have found the young deep in the body apparently as well developed as those immediately under the marsupial plates; few were in that position, the majority-very numerous-were within the body, even over the pleopods.

As Dr. Hansen remarks, Haswellia is closely allied to Circeis, there being, as far as I am aware, only the character of a dorsal process separating them.

Gulf St. Vincent; a common species.

## Haswellia cilicioides, n. sp.

Plate x ., figs. 12 to 23.
The body is very convex, gradually narrowing towards the anterior end; smooth, except on the pleon and uropods, which are granulate and glabrous, except the margins of the uropods, which are slightly hairy.

The head is obliquely declivous and rounded in front. The eyes are scarcely raised above the surface.

The first and sixth thoracic segments are subequal in length, the seventh produced as a process which is rather broad, curved downwards, and distally obtusely rounded, over-reaching the end of the pleon and excavated a little underneath. The epimeral plates of the thorax are vertical in direction, not forming with their respective segments a perceptible longitudinal groove.

The anterior portion of the pleon, with its two transverse sutures, are well seen at the sides. The posterior portion has three lobes, the middle one slightly projecting behind more than the others; below these the surface is slightly excavated medianly, and then descends obliquely to the posterior notch. The posterior notch is shallow, the channel becoming deeper inwardly; there is a median triangular process which over-reaches the sides, is oblique in direction, and subacute.

The first peduncular joint of the antennule has the usual distal notch, the posterior limb of which is longer than the anterior, but does not reach the end of the second joint. The third joint is longer and narrower than the second. The flagellum has 14 joints.

The antenna has the last peduncular joint longer than the one which immediately precedes it; its flagellum has 16 joints.

The epistome shows very slight projections in the corresponding positions as in Circeis trilobata.

Mandibles well developed, with the usual features well marked.

The first gnathopods are shorter and stouter than any of the legs which follow, though not markedly so; the basis is thickened, the ischium subequal in length to the three succeeding joints taken together, these are posteriorly spined; the dactylus is moderately developed.

The following pairs of legs are moderately long, and differ only in the relative length of the joints; they are poorly or scarcely at all spined. The furry pads are present on the usual joints.

In the first pleopods the endopod is much broader than long. The exopod has 6-7 marginal teeth; both rami are areolate. The exopod of the second pleopod has areolate markings, and the row of setules near the outer margin; on the same margin there are 12 teeth. The appendix masculina is short and thick, and is attached to about the middle of the inner margin of the endopod. The endopod is broader than long, and has a few areolate markings. The third pleopods are larger than the two pairs which precede them without marginal teeth on the exopod, but with the row of setules as in the others. The division is near the end, and there are indistinct areolx. The endopod is distally truncate. The exopod of the fifth pleopod has three lobes, the two distal ones well developed and well apart, the third on the inner margin also well marked.

The uropods have the inner ramus much reduced, the outer one strongly developed, subcylindrical, curved inwards,
fringed with fine hair, and over-reaching the median process of the seventh thoracic segment.

The female of this species has not been recognized. Gulf St. Vincent.

## DESCRIPTION OF PLATES.

All figures are from adult males, except where otherwisc mentioned.

The legs are drawn to approximate proportion in each individual.

## Plate III.

Fig. 1. Cymodoce longicaudata, n. sp., magnified 21 diameters.
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| $\begin{gathered} 2 . \\ 3 . \\ 4 . \\ 5 . \\ 6 . \\ 7 . \\ 7 . \\ 8 . \\ 9 . \\ 10 . \\ 11 . \\ 12 . \\ 14 . \\ 15 . \end{gathered}$ |
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side viow of malo. pleon from below. antennula, antenna, and epistome.
left mandible. maxilliped.
first gnathopod.
second gnathopod.
fourth pereiopod.
second pleopod.
, exopod of fifth pleopod.
Stebbing, magnified 4 diameters. pleon from below. antennula, antenna, and epistome. second pleopod.
Plate IV.

1. Cymodoce hamata,

female, magnified 4 diameters.
," 3 . ", ", side view of male.
" $5 . \quad$ ". ", $\quad$ female pleon from below.
2. " " maxilliped.
$9 . \quad$.,
3. "," second pleopod.
" 13. Ciliceat curtispina, Haswell, magnified 21 diameters.
,13. ,, ,, side view of male.
", 14. ", ", female, magnified $2 \frac{1}{2}$ diameters.
, 15 . ", pleon from below.
, 16. "," female pleon from below.
4. ", ", antennula, antenna, and epistome.

Plate V.

1. Cilicca curtispina, Haswell, left mandible, with palp.
", 2. ", " maxilliped.

- "3. ", " first gnathopod.
"4. ", ", second gnathopod.
" $6 . \quad$. $\quad$. fifth pereiopod.
"6. ", ". endopod of first pleopod, anterior and posterior aspect.
exopod of fourth pleopod.
exopod of fifth pleopod.
" 8. ", ", exopod of fifth pleopod.
", 9. Dynamene ramuscula, n. sp., magnified 6 diameters.
,, 10 , ," side view of male.

Fig. 11. Dynamene ramuscula, female, magnified 6 diameters.

| " 12. | " | " |
| :---: | :---: | :---: |
| , 1. | " | " |
| ", 10. | " | " |
| ", 16. | " | ", |
| ", 17. | ", | " |
| " 18. | ", | ", |
| " 19. | " | ," |
|  | " |  | pleon from below. female pleon from below. antenmula, antenna, and epistome. maxilliped.

first gnathopod.
second gnathopod.
fifth pereiopod.
second pleopod.
third pleopod.
Plate VI.
", 1. Amphoroidea angustata, n. sp., male magnified 4 diameters.

| " | 2. | " |
| :---: | :---: | :---: |
| " | 4. | " |
|  | 5. | ", |
| " | 6. | " |
| ", | 7. | " |
|  | 8. | " |
|  | 10. | " |

pleon from below. antennula, antenna, and epistome. maxilliped.
first gnathopod right.
second gnathopod right.
third pereiopod right.
first pleopod.
second pleopod.
exopod of fifth pleopod.
, 11. Amphoroidella elli"ptica
n. sub-gen., n. sp., magnified $2 \frac{1}{2}$ diameters.

| ", 12. | ", | ", | oral region from |
| :--- | :--- | :--- | :--- |
| ", 13. | "leon from below |  |  |
| ", 15. | ", | ". | right mandible. |
| ", 16. | ", | ". | seond gnathopo |
| ", 17. | fifth pereiopod. |  |  |
| ", | ", | first plepod. |  |
| second pleopod. |  |  |  |

", 1. Moruloidea lacertosa, n. gen., n. sp., magnified $3 \frac{1}{2}$ diameters.

|  | 2. |  |  | side view. |
| :---: | :---: | :---: | :---: | :---: |
|  | 3. | " | ," | antennula, antenna, and epistome. |
|  | 4. | " | " | maxilliped. |
|  | 5. | ", | ", | first gnathopod. |
| " | 6. | " | ,' | second gnathopod. |
| $״$ | 7. | " | " | fifth pereiopod. |
|  | 8. | " | " | first pleopod. |
| " | 10. | " | I | exopod of fifth pleopod, |
|  |  | Dynamenopsis | olitusa, | n. gen., n. sp., magnified 5 diameters. |
| $"$ | 12. |  | ,' | side view. |
|  | 13. | " | ", | antennua, anelow. ${ }^{\text {pleon from }}$ belo |
|  | 15. | " | "," | left mandible. |
|  | 16. |  | , | right mandible. |
|  | 17. |  | , | maxilliped. |

plate Vili.

| 1. Dynamenopsis obtusa, | n. gen., n. sp., first gnathopod in- |
| :--- | :--- | :--- | :--- |
| side view left. |  |

Fig. 8. Circeis tridentata, M. Edw. magnified 21 diameters.

| 9. | " | " | female, magnified $2 \frac{1}{2}$ diameter |
| :---: | :---: | :---: | :---: |
| $\because 11$ | " | " | side view of male. |
| " 11. | " | " | antennula and epistome. |
| $\cdots 13$. | " | " | pleon from below, male. |
| ," 14. | ", | ", | first gnathopod. |
| $\because 15$. | " | " | fourth pereiopod. |
| " 16. | " |  | second pleopod. |
| $\cdots 17$. | " | trilobata, | n. sp., magnified 4 diameters. |
| 18. | " | ", | side view of male. |
| 19. | ", | " | pleon from below, male. from |
| 20. | " | " | female pleon (egg-bearing) from | Plate IX.

," 1. Circeis trilobata, n. sp., antennula, antenna, and epistome.


Plate X.

