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ON  
SOME FORGOTTEN GENERA  
AMONG  
THE AMPHIPODOUS CRUSTACEA

BY  
CARL BOVALLIUS.

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WITH ONE PLATE.

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COMMUNICATED TO THE ROY. SWEDISH ACADEMY OF SCIENCE  
FEBRUARY 1885.

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STOCKHOLM, 1885.  
KONGL. BOKTRYCKERIET.  
P. A. NORSTEDT & SÖNER.







In the course of my study of the strange group of Amphipoda Hyperidea I have met in the literature, with some generic names, which by different carcinological authors have been referred to different genera, owing either to the short and imperfect original descriptions or to the extreme rarity of the animal once described. I shall try in this paper to clear up the synonymy of some few of these names, leaving a more exhaustive treatment of the very interesting subject to the larger monographical essay on the Hyperidæ, which I am now preparing for publication.

### Lanceola. SAY.

In the year 1818 the excellent American zoologist THOMAS SAY<sup>1)</sup> proposed the name *Lanceola* for a big amphipodous crustacean, captured in the Gulfstream by Captain HAMILTON. It was only with some hesitation that he constructed a new genus for it, as he knew only one sex of the animal, the two specimens he got being both females. But the description he gave was a very good one for that time, and I do not think I say too much, when I proclaim it as the first accurate description ever given of any animal belonging to the Amphipoda Hyperidea. Nevertheless following authors failed to recognize the animal, and the genus has been regarded as synonymous with the much later founded genera *Hyperia* (1823) or *Vibilia* (1830). H. MILNE-EDWARDS in 1830<sup>2)</sup> considered *Lanceola* synonymous with *Hyperia*, LATREILLE, and although he admitted the priority of SAY's name, he maintained that

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<sup>1)</sup> »An account of the Crustacea of the United States», in »Journal of the Academy of Natural Sciences at Philadelphia». Vol. 1, part. 2. Philadelphia 1818. Pag. 347.

<sup>2)</sup> »Extrait des recherches pour servir à l'Histoire naturelle des Crustacés amphipodes», in »Annales des Sciences naturelles». Tome 20. Paris 1830. Pag. 387.



proposed by Latreille as being generally known among the carcinologists. This was a very fortunate mistake by MILNE-EDWARDS, as the *Lanceola*, SAY, has nothing at all to do with the *Hyperia* LATR., and he would have created an inextricable confusion in the synonymy, if he had put the former in the place of the latter. But the animal described by SAY seems to be very rare; because, as far as I know the literature concerning the Hyperids, it has never since been described or mentioned in its true characters. MILNE-EDWARDS still held the same opinion about the identity of *Lanceola* in 1840<sup>1)</sup>, and ranged it among the doubtful species of *Hyperia* as *Hyperia pelagica*, SAY.

About twenty years later C. SPENCE BATE<sup>2)</sup>, in his Catalogue of Amphipoda, classified it as synonymous with *Vibilia*, MILNE-EDWARDS. He declared the description of SAY to be very obscure, which is natural enough, because, as will be seen from the description below, SAY'S type must be allowed to be widely different from a *Vibilia*. Since the publication of the above named work all following authors have agreed with SPENCE BATE in interpreting *Lanceola pelagica* as a *Vibilia*.

Examining a large number of *Vibilidæ* from all parts of the world, it soon became clear to me that I must try to find the original *Lanceola* among other *Hyperidæ*. I made it out at last, identifying it with a large *Hyperid*, previously marked as a new genus in my manuscript, and I don't think I was wrong in doing so. The following parallel arrangement of SAY'S and my descriptions will show the reasons for my supposition. The description of SAY is given in his own words, only the order is a little changed to render it more systematic. Of course the generic description of SAY contains many purely specific characters, as he knew only one species. On that account I also admit into my description characters of less than generic value, only for the sake of comparison.

| <i>Lanceola</i> SAY ♀.  | <i>Lanceola</i> ♀.   |
|---|--|
| <i>Head</i> very short, transversal.<br><i>Front</i> concave, clypeus projecting into an acute angle. | <i>Head</i> very short, transversally truncated. <i>Front</i> concave, the middle of it projecting into an acute angle or rostrum. |

<sup>1)</sup> »Histoire naturelle des Crustacés». Tome 3. Paris 1840. Pag. 77.

<sup>2)</sup> »Catalogue of the specimens of Amphipodous Crustacea in the collection of the British Museum». London 1862. Pag. 299 and 304.



Eyes longitudinal, placed opposite the base of the superior antennæ.

[Here is a slight difference, but it may be considered only a difference between species, and this the more as among my new species I have two totally blind ones].

The *superior antennæ* are shorter than the inferior, abbreviated, compressed, triarticulate; the basal joints short, robust, concealed by the clypeus; terminal joints not articulated, linear, compressed, obtuse.

[The want of coincidence with respect to the number of the joints of the superior antennæ between SAY'S description and mine is not difficult to explain, if we remember that MILNE-EDWARDS, DANA, SPENCE BATE and others made the same mistake in interpreting a very similar organ: the superior antenna of *Vibilia*. This was stated by all of them to be triarticulate, consisting of a two-articulated peduncle and a large compressed lanceolate flagellum, whereas in fact the case is here the same as in *Lanceola*: the short peduncle is three-jointed and the large basal joint of the flagellum carries at the end 2—4 very minute articles, smaller in the adult animal than in the young one. The small terminal articles in *Lanceola* require in order to be seen a higher magnifying power than was probably used by SAY, and the last of the peduncular joints is very often concealed by the preceding one. Such being the case, I think the characters of the upper antennæ are no obstacles to the identity].

Inferior antennæ very long, four-jointed, compressed; basal joints very short, third and fourth longer, equal, the latter entire.

Mouth protuberant.

Labrum emarginate, supporting two filiform triarticulate processes, of which the first joint is very short, second linear, third shorter, subulate.

Pedipalpi bifid, lacinia linear, inner edge hirsute, tips rounded.

Eyes small, longitudinal, placed opposite the base of the superior or inferior antennæ.

The *superior antennæ* are shorter than the inferior, compressed; the peduncle triarticulate; the basal joints robust, the first concealed by the front, the second and third very short. The flagellum consists of a compressed obtuse large basal joint and 3—4 very minute terminal ones.

Inferior antennæ very long, four-jointed, compressed; basal joints very short, third and fourth longer, equal.

Mouth protuberant.

Mandibles strong, without molar tubercle, with filiform triarticulate palp, of which the first joint is very short, the second the longest, linear, the third shorter, subulate.

Maxillipeds consisting of a strong peduncle and two broad linear laminae, inner edges hirsute, tips rounded.



Thorax oval, convex above and beneath, seven-jointed, sutures imbricate.

Feet fourteen, simple, two anterior pairs compressed, terminal joints conic compressed.

Remaining pairs somewhat cylindrical, armed with a minute subterminal nail.

Sixth pair the longest.

Vesicular branchiæ oblong, distinct, placed at the inner base of the feet, except the first and the seventh pairs.

Abdomen abruptly much narrower than the thorax.

Tail depressed three-jointed; joints furnished each with a lateral style, which consists of a foliaceous, linear peduncle supporting two acute, lanceolate, subequal laminae.

Terminal segment attenuate between the posterior styles.

On account of the evident coincidence of the both descriptions related above, I claim the name *Lanceola*, SAY, as the right and true generic name for the animal, that is the type of my description, and I beg to add here preliminary diagnoses of some new species of this genus. More detailed descriptions, accompanied with figures, will be very soon published in the above-named monographical work on Amphipoda Hyperidea.

### 1. *Lanceola Lovéni*, n. sp.

The sixth pair of pereopoda are much longer than the others, except the fifth pair, which are only a little shorter than the sixth. The pleon and urus together are longer than half the pereion with the head. The upper antennæ do not reach to

Pereion, seen from above, oval, convex above and beneath, seven-jointed, sutures often imbricate.

Pereiopoda seven pairs, none cheliform. The two first pairs compressed, dactyli broad conic compressed.

Third to seventh pairs more or less cylindrical, each leg armed with a strong, often denticulated, retractile claw, concealed in a deep cavity at the end of the metacarpus; when stretched out it looks like a »subterminal» claw. (Fig. 1, a and 1, b).

Sixth pair the longest (except in *L. Clausii*. n. sp.).

Branchial vesicles oblong, distinct, placed at the inner base of the feet, except the first and the seventh pairs.

Pleon abruptly narrower than the pereion.

Urus depressed two-jointed, the second and third joints being fused together; with three pairs of uropoda, each consisting of a linear peduncle, supporting two acute, lanceolate, subequal rami.

Telson attenuate between the last pair of uropoda.



half of the third article of the lower antennæ. The segments of the pereion are smooth, the second is the longest. Rostrum very short, obtuse. The telson is shorter than half the peduncle of the last pair of uropoda.

*Hab.* The North Atlantic.

## 2. *Lanceola Sayana*, n. sp.

(Fig. 1, 1 a and 1 b).

The sixth pair of pereiopoda are much longer than the others. The pleon and urus together are longer than half the pereion with the head. The upper antennæ do not reach to half of the third article of the lower antennæ. The segments of the pereion are imbricated, the third is the longest. Rostrum curved, acute. The telson is longer than the peduncle of the last pair of uropoda.

*Hab.* The Atlantic.

## 3. *Lanceola felina*, n. sp.

The sixth pair of pereiopoda are much longer than the others. The pleon and urus together are longer than half the pereion with the head. The upper antennæ reach nearly to the end of the third article of the lower antennæ. The segments of the pereion are smooth, the second is the longest. The rostrum is curved, acute. The telson is longer than half the peduncle of the last pair of uropoda.

*Hab.* Tristan d'Acunha, The South Atlantic.

## 3. *Lanceola serrata*, n. sp.

The sixth pair of pereiopoda are longer than the others. The pleon and urus together are shorter than half the pereion with the head. The upper antennæ reach a little farther than half of the third article of the lower antennæ. The segments of the pereion are smooth, the fourth is the longest. The dorsal side of the pleonal segments forms a serrated keel. The rostrum is short, obtuse. The telson is a little shorter than the peduncle of the last pair of the uropoda.

*Hab.* The Atlantic.



4. *Lanceola curticeps*, n. sp.

The sixth pair of pereopoda are much longer than the others. The pleon and urus together are shorter than half the pereion with the head. The upper antennæ reach beyond the end of the third article of the lower antennæ. The segments of the pereion are smooth, the third is longest. The rostrum is very short but acute. The telson is equal to half the peduncle of the last pair of uropoda.

*Hab.* Cape Verde Islands.

5. *Lanceola Clausii*, n. sp.

The sixth pair of pereopoda are a little *shorter* than the third. The pleon and urus together are shorter than half the pereion with the head. The upper antennæ reach farther than half of the fourth article of the lower antennæ. The third and fourth segments of the pereion are swollen each; into a roll at the anterior margin the second, fifth, and sixth segments carry such rolls but smaller. The third segment is the longest. The rostrum is wanting. The telson is shorter than the peduncle of the last pair of uropoda.

*Hab.* Davis Strait.

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**Daira.** H. MILNE-EDWARDS.

The Hyperidean amphipoda were scientifically made out for the first time in the year 1830, when H. MILNE-EDWARDS published his treatise on the system of the Amphipoda<sup>1)</sup>. Among the new genera then established by him was also *Daira*, one of the most intricate genera with regard to its identification, that I have met with during my studies of the Crustacea. Indeed, the results of my researches on the genus, here to be set forth, are rather to be looked upon in the light of conjectures, submitted to the judgment of experienced carcinologists, than as the outcome of my own established conviction. In the year 1840 MILNE-EDWARDS repeated his

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<sup>1)</sup> »Extrait des recherches pour servir à l'histoire naturelle des Crustacés amphipodes», in »Ann. Sc. nat». Tome 20. Paris 1830. Pag. 392.



generic description<sup>1)</sup> in somewhat different terms, giving at the same time a diagnosis of the species, *Daira Gabertii*, from the Indian Seas. In the literature we do not meet again with the name *Daira*, M.-E., before 1853, in the great work of DANA<sup>2)</sup>. But I am quite sure that DANA was wrong in introducing the animals described by him into the genus *Daira* of MILNE-EDWARDS, and a comparison between the descriptions of MILNE-EDWARDS and of DANA will easily show how little the *Daira* of the latter has to do with that of the former. At the same time I will give a parallel description of *Paraphronima*, CLAUS, which genus comes in my opinion nearest to, if it not is identical with, the *Daira* of MILNE-EDWARDS. In any case the name *Daira* must be rejected, as it was already used at an earlier period for a genus of crabs. It was in fact rejected by DANA, who substituted *Dairinia*, but as DANA'S types belong to a widely different family of Hyperids (Lycæidæ, CLAUS)<sup>3)</sup>, this name cannot be adopted instead of *Daira*. If *Paraphronima* cannot be considered identical with it, which is a little doubtful, a new name must be proposed for the type of *Daira Gabertii*. After the parallel descriptions of the genera I give short diagnoses of some new species of *Paraphronima* and for the sake of comparison also of the two species of CLAUS.

| <i>Daira</i> . H. MILNE-EDWARDS.  | <i>Dairinia</i> . DANA.   | <i>Paraphronima</i> . CLAUS.  |
|---|---|---|
| Head large tumid.   | Head oblong subtriangular small.  | Head large tumid.   |
| The antennæ very short, subulate, inserted as in <i>Hyperia</i> .                             | The antennæ inserted in lower side of the head, short, five- to seven-jointed.  | The upper antennæ short, the flagellum swollen, tapering towards the end, inserted on the anterior side of the head, as in <i>Hyperia</i> . |
| The thorax not tumid, but decreasing backwards, the seventh segment being much the narrowest. | The thorax highest at middle, not very decreasing backwards, the seventh segment being nearly as high as the preceding. | The pereion not tumid, but decreasing backwards, the seventh segment being much the narrowest.  |

1) »Hist. nat. des Crustacés». Tome 3. Paris 1840. Pag. 83.

2) »United States Exploring Exped. Crustacea». Part. 2. Philadelphia 1853. Pag. 981, 991 and 1442.

3) *Dairinia*, Dana, is, in my opinion, synonymous to *Thamyris*, SPENCE BATE.



The two first pairs of thoracic legs very small, slender, compressed.

The last joints of the second pair forming a didactyle hand; the moveable finger consists of the two last joints, and is longer than the fixed one.

The third and fourth pairs of thoracic legs are the longest.

The peduncles of the swimming feet are longer and more slender than in *Hyperia*; the rami are almost linear.

The rami of the appendices of the tail are lanceolate, long and sharp.

The two first pairs of thoracic legs small but robust, not compressed.

The last joints of the second pair forming a chela, not a didactyle hand, the moveable finger consists of the two last joints.

The third and fourth pairs of thoracic legs are shorter than the fifth pair.

The peduncles of the pleopoda are short and thick, the rami are broad robust elliptical.

The rami of the uropoda are broad ovate or elliptical, commonly not very long, sharp.

The two first pairs of pereopoda small, slender, compressed.

The last joints of the second pair forming a didactyle hand, the moveable finger consists only of the last joint, and is longer than the fixed one.

The third and fourth pairs of pereopoda are the longest, or as long as the fifth pair.

The peduncles of the pleopoda are longer and more slender than in *Hyperia*, the rami are almost linear.

The rami of the uropoda are commonly lanceolate, long, and sharp.

### 1. *Paraphronima gracilis*, CLAUS.

Head deeper than long (26 : 23), nearly equalling the four following segments in length (23 : 24). The upper antennæ about a third of the length of the head. The fourth pereional segment is longer than the first and second together (5 : 8). The seventh is longer than the fourth (11 : 10). The first and second pairs of pereopoda<sup>1)</sup> are equal in length, the carpus of the first is very broad with the infero-anterior angle very sharp. The third and fourth pairs equal, shorter than the fifth and sixth, which are equal. The seventh pair are shorter than the sixth (11 : 16). The first pleonal segment is the longest; it is longer than the seventh pereional segment, its sides are saddle-shaped. The pleon equals the four preceding pereional segments in length. The peduncles of the pleopoda are more than twice longer than the rami. The first pair of uropoda are shorter than the second and third.

*Hab.* The Atlantic.

<sup>1)</sup> »Gnathopoda» SPENCE BATE.



## 2. *Paraphronima crassipes*, CLAUS.

The head is almost as long as deep, equalling the three following pereional segments in length. The upper antennæ of the female are longer than half the head, in the male only a little shorter than the head. The fourth pereional segment is shorter than the first and second together (5:6). The seventh is longer than the fourth (15:13). The first and second pairs of pereiopoda are equal. The carpus of the first is narrow, the tibia projects into a process; the second ends with a slender dactylus and two spines, which are a little shorter. The third and fourth pairs are equal, only a little longer than the fifth and sixth (11:10). The seventh pair are as long as the sixth. The first pleonal segment is a little longer than the seventh pereional one. The sides are rounded. The pleon is as long as the four preceding pereional segments. The peduncles of the pleopoda are only a little longer than the rami. The first pair of uropoda are shorter than the second and third.

*Hab.* The Atlantic. The Mediterranean.

## 3. *Paraphronima clypeata*, n. sp.

(Fig. 2).

The head as long as deep, equalling the four following segments in length. The pleon is as long as the four preceding pereional segments. The first pair of pereiopoda shorter than the second, without carpal process. The end of the metacarpus of the second pair is spoon-shaped, with the dactylus forming a chela. The third and fourth pairs, equal, are the longest of all; the seventh pair is shorter than the sixth. The peduncles of the two last pairs of uropoda are very broad; those of the first pair are much narrower, with the outer ramus very short and narrow.

*Hab.* The Atlantic.

## 4. *Paraphronima californica*, n. sp.

The head a little deeper than long, equalling in length the three following segments; the second pereional segment is longer than the first. The pleon is shorter than the four last pereional segments. The first pair of pereiopoda are only



a little shorter than the second, of *the same form*. The metacarpus of the second pair ends with two long spines on the sides of the dactylus, without any spoon-shaped process. Both pairs are only a little shorter than the third pair. The fourth pair are a little longer than the third, subequal to the fifth. The sixth pair are a little shorter, equal to the seventh. The peduncles of the first and third pairs of uropoda are very broad, those of the second pair narrow, all the rami subequal, distant from one another.

*Hab.* The Pacific.

### 5. **Paraphronima Edwardsii**, n. sp.

The head is deeper than long, longer than the three following segments. The first pereional segment is longer than the second; the fourth is longer than the first and second together, the seventh is longer than the fourth. The pleon is as long as the three preceding pereional segments. The first pair of pereiopoda are much shorter than the second, the carpus longer than broad, the infero-anterior corner truncated, the metacarpus stout, longer than the carpus. The metacarpus of the second pair of pereiopoda ends in a short imperfectly spoon-shaped process. The third and fourth pairs are nearly twice as long as the second, a little shorter than the fifth and sixth. The seventh pair are a little longer than half the sixth. The first pleonal segment is longer than the seventh pereional segment. The peduncles of the pleopoda are shorter than the rami. The peduncles of the first pair of pleopoda are nearly twice as long as those of the third pair. The first pair of uropoda are as long as the second.

*Hab.* The Atlantic.

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### **Tyro.** H. MILNE-EDWARDS.

In his excellent Natural history of the Crustacea <sup>1)</sup> MILNE-EDWARDS proposes the generic name *Tyro* for a small Hyperid, already mentioned by him ten years earlier <sup>2)</sup>, though without

<sup>1)</sup> l. c. pag. 80.

<sup>2)</sup> »Extr. des. rech. pour servir à l'Hist. nat. des Crust. amphip.» Pag. 387.



description. He then regarded it as belonging to the genus *Hyperia*, *H. cornigera*. The only characters mentioned by him on this first occasion were: »the upper antennæ about as long as the body, and the fifth or sixth pair of legs the longest». When in 1840 he institutes a new genus for the animal in question, he gives a very good diagnosis, generic as well as specific, but none of the later authors has been able to recognise it, and Tyro has had the same fate as *Lanceola*, being thrown from one place to another in the system. DANA<sup>1)</sup> placed it next to *Lestrignonus*, MILNE-EDWARDS, totally overlooking the statement of MILNE-EDWARDS as to its difference from the true *Hyperia* »tête tronquée antérieurement». But that was not his only fault, for in the same volume<sup>2)</sup> he gives an accurate description of some animals, certainly belonging to the genus Tyro, under the new generic name *Clydonia*<sup>3)</sup>. This new genus he placed in the family Corophidæ as the type of a subfamily of its own, *Clydoninæ*, and established two species, *C. longipes* from the Pacific and *C. gracilis* from the Atlantic. C. SPENCE BATE followed him and classified Tyro among the Hyperidæ and *Clydonia* among the Corophidæ<sup>4)</sup>.

To make the identity of the two genera more apparent, I here relate the principal points of the original descriptions arranged side by side:

| <i>Tyro</i> . H. MILNE-EDWARDS.   | <i>Clydonia</i> . DANA.  |
|---|--|
| The head truncated anteriorly.  | The head is short about half as long as wide.  |
| Body <i>Hyperia</i> -like.  | Body elongate, somewhat depressed.   |
| The upper antennæ are straight, long, longer than the body, two-jointed, the basal joint short, the terminal long, stout, tapering. | The antennæ are straight, rigid, long, about as long as the body, two-jointed, basal joint short, the terminal long, rigid, subulate (extremity obsolete multiarticulate). |
| None of the legs prehensile; they are unequal in length, . . . . . the fifth pair are much longer than the others.                  | Feet slender, the four anterior shortest, and have no proper hands; the six posterior are long, filiform; the fifth pair are the longest.                                  |

<sup>1)</sup> »United States Expl. Exp., Crustacea». Vol. 2. 1853. Pag. 980 and 1482.

<sup>2)</sup> l. c. pag. 834.

<sup>3)</sup> Previously published in the year 1850 in »Proceedings of the American Academy of Arts and Sciences». Vol. 2. Pag. 219.

<sup>4)</sup> »Catal. of the spec. of Amph. Crust. in the Coll. of the Brit. Museum». Pag. 284 and 308.



The femur of the fifth pair is denticulated at the posterior margin, its lower anterior corner projects into a strong tooth.

Caudal stylets slender not, presenting two rami at the ends.

The femur of the fifth pair is long, spinulous at the posterior margin, its lower anterior corner produced into a spine.

From the fifth to the seventh pair they decrease in length very rapidly; the seventh being short.

Caudal stylets slender, only the last pair with a narrow short ramus, articulating at its middle.

From the above it is clear, that the name *Clydonia*, DANA, must be rejected, and the elder name *Tyro*, MILNE-EDWARDS, restored. Preliminary descriptions of some new species follow here.

### 1. *Tyro Clausii*, n. sp.

The head is thrice as deep as long. The upper antennæ, feebly curved downwards, reach to the anterior margin of the seventh pereional segment. The epimerals distinct. The fifth pair of pereopoda are *shorter* than the sixth, the femur is as long as the three following joints. The seventh pair are longer than half the fifth. The first pair of uropoda are short, not reaching to the end of the second, far from reaching to the end of the third, strongly denticulated at the interior margin. The exterior ramus of the last pair of uropoda is longer than half of the coalesced interior one. The hinder corners of the pleonal segments are feebly rounded.

*Hab.* The Atlantic.

### 2. *Tyro atlantica*, n. sp.

The head twice as deep as long. The upper antennæ, feebly bent upwards, reach to the anterior margin of the second pleonal segment. The epimerals are distinct. The fifth pair of pereopoda are longer than the sixth, the femur shorter than the three following joints. The seventh pair are only a little longer than a third of the fifth pair. The first pair of uropoda are long, reaching beyond the end of the second, very nearly to the end of the third, feebly serrated at the interior margin. The exterior ramus of the last pair of uropoda is shorter than a third of the coalesced interior one. The hinder corners of the pleonal segments are angularly rounded.

*Hab.* The Atlantic.



3. **Tyro marginata**, n. sp.

The head is nearly as long as deep. The upper antennæ are straight and reach to the anterior margin of the third pleonal segment. The epimerals distinct, the upper line forming a prominent margo; the fifth pair of pereopoda are longer than the sixth, the femur longer than the three following joints; the seventh pair are much shorter than half the fifth. The first pair of uropoda are long, reaching beyond the end of the second to the end of the third, finely serrated at the interior margin. The exterior ramus of the last pair of uropoda is longer than half of the coalesced interior one. The hinder corners of the two first pleonal segments are rounded, those of the last truncated.

*Hab.* The Atlantic.

4. **Tyro Sarsii**, n. sp.

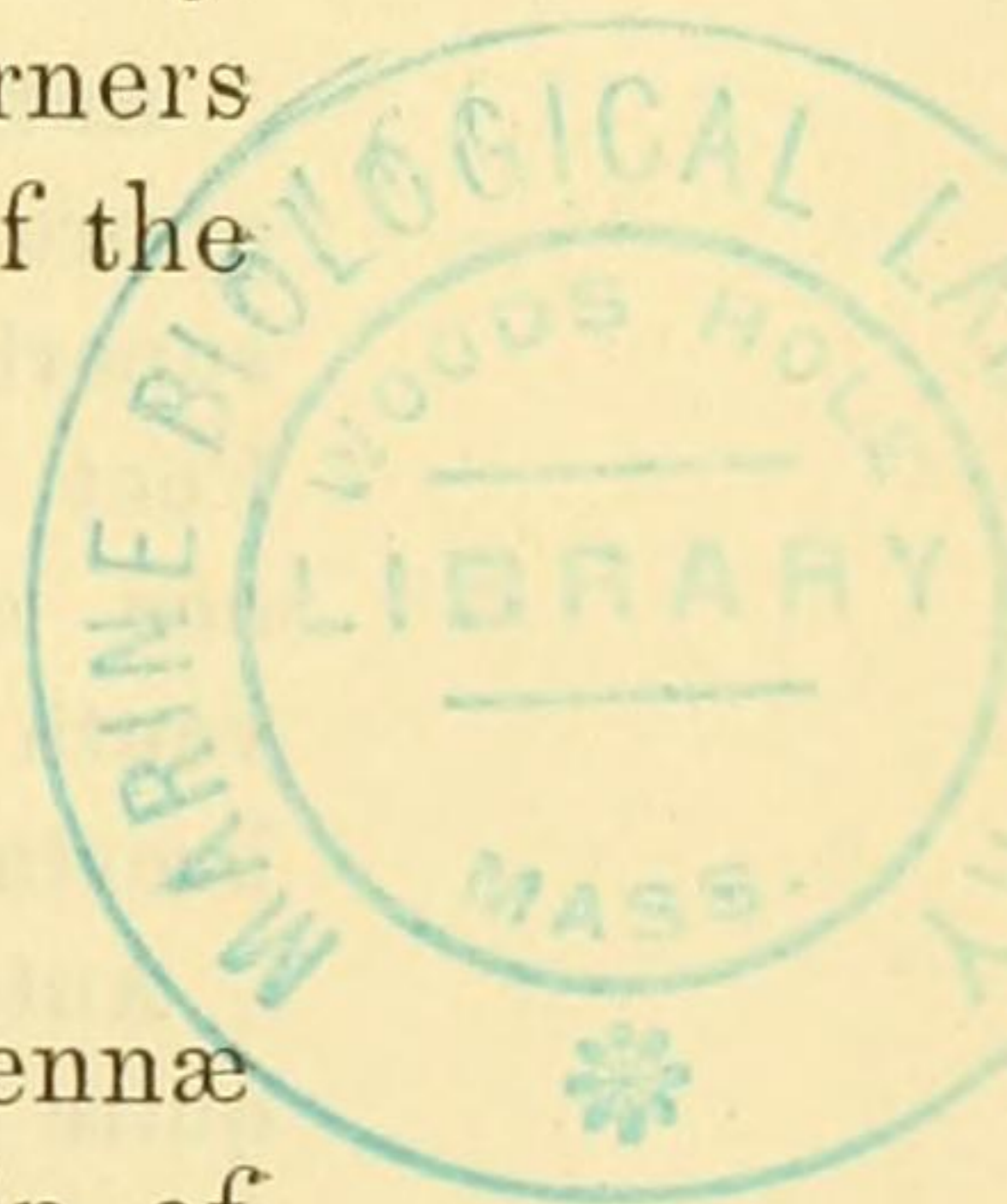
(Fig. 3 and 3 a).

The head is not fully twice as deep as long. The upper antennæ straight, reaching beyond the anterior margin of the second pleonal segment. The epimerals are distinct. The fifth pair of pereopoda are longer than the sixth, the femur as long as the three following joints. The seventh pair are nearly as long as half the fifth. The first pair of uropoda are long, reaching beyond the end of the second, but not to the end of the third, feebly serrated at the interior margin. The exterior ramus of the last pair of uropoda is scarcely half as long as the coalesced interior one. The hinder corners of the two first pleonal segments are rectangular, those of the last truncated.

*Hab.* The Atlantic.

5. **Tyro Tullbergii**, n. sp.

The head is twice as deep as long. The upper antennæ straight, robust, short, not reaching to the hinder margin of the third *pereional* segment. The epimerals are distinct. The fifth pair of pereopoda are longer than the sixth, the femur is shorter than the three following joints. The seventh pair are shorter than the femur of the fifth. The first pair of uropoda reach beyond the second and nearly to the end of the





third; the exterior ramus equals nearly a third of the coalesced interior one. The exterior ramus of the last pair of uropoda longer than half of the coalesced interior one. The first and third pairs are smooth, the second serrated at the inner margin. The hinder corners of the pleonal segments are feebly rounded.

*Hab.* The Atlantic.

### Tauria. DANA.

The genus *Tauria*, founded 1853<sup>1)</sup> by DANA for a Hyperid with the second pair of pereopoda slender and not at all cheliform, was united by SPENCE BATE<sup>2)</sup> with the genus *Hyperia*, LATREILLE. On account of the very obscure and somewhat erroneous description given by SPENCE BATE, the genus has been quite confounded, and not only later authors, but SPENCE BATE himself<sup>3)</sup> has been deceived into transferring Hyperids with totally opposite characters to DANA's genus. The generic name *Tauria* was taken up again by A. BOECK 1872 for Hyperids belonging to the genus *Metoecus* of KROEYER (1838), which generic name BOECK was obliged to reject, as in 1833 it had already been given to an insect. How far he was from comprehending the description of DANA will be clearly seen on comparing the description of DANA and the principal characters quoted by BOECK.

| <i>Tauria</i> . DANA.  | <i>Tauria</i> . DANA. SPENCE BATE.  | <i>Tauria</i> . DANA. A. BOECK.  |
|--|---|--|
| Antennæ four, short approximate at the base, superior rather stout. Feet <i>not subcheliform nor</i> subprehensile, seventh pair hardly abbreviated. | Hyperidæ . . . . . with the antero-inferior angle of the carpus of both pairs of gnathopoda so far anteriorly | The first and second pair of legs with a forciform hand, chelate, the infero-anterior cor- |
| Anterior feet shortest, quite pubescent; fourth joint broad, more than   |   |  |

<sup>1)</sup> »Un. States Expl. Exp. Crustacea». Vol. 2, pag. 988.

<sup>2)</sup> »Catal. of the spec. of Amph. Crust. in the coll. of Brit. Museum». London 1862, pag. 292.

<sup>3)</sup> *Hyperia tauriformis*: »History of the Brit. Sessile-eyed Crustacea» by C. SPENCE BATE and J. O. WESTWOOD. London 1868. Vol. 2, pag. 519.



twice as long as the third and much longer than the fifth; the claw minute . . . . . they have broad lamellar coxæ, the next joints are small, they have *not a projecting lower apex*, the last joint and the claw together are hardly as long as the fourth joint.

produced as to extend to the extremity of the propodos thus forming a tolerably perfect, but compound chelate organ.

ner of the carpus produced into a long process, longer than, or as long as, the metacarpus.

On account of the above I think it is only justice to restore the name *Tauria*, DANA, as a genus, which, in my opinion, is very well defined, with the typical species *Tauria macrocephala*. The *Tauria medusarum* O. FABR. [A. BOECK] is to be united with the genus *Hyperia*, because the development of the carpal process is gradual through the species and no generic character. But as the name *H. medusarum* has been already given by O. F. MÜLLER to another *Hyperia*, I propose for it the name *Hyperia Kroeyeri*, the diagnosis being the same as that given by BOECK l. c. pag. 83. *Tauria abyssorum*, A. BOECK, must be named *Hyperia abyssorum*, A. BOECK.



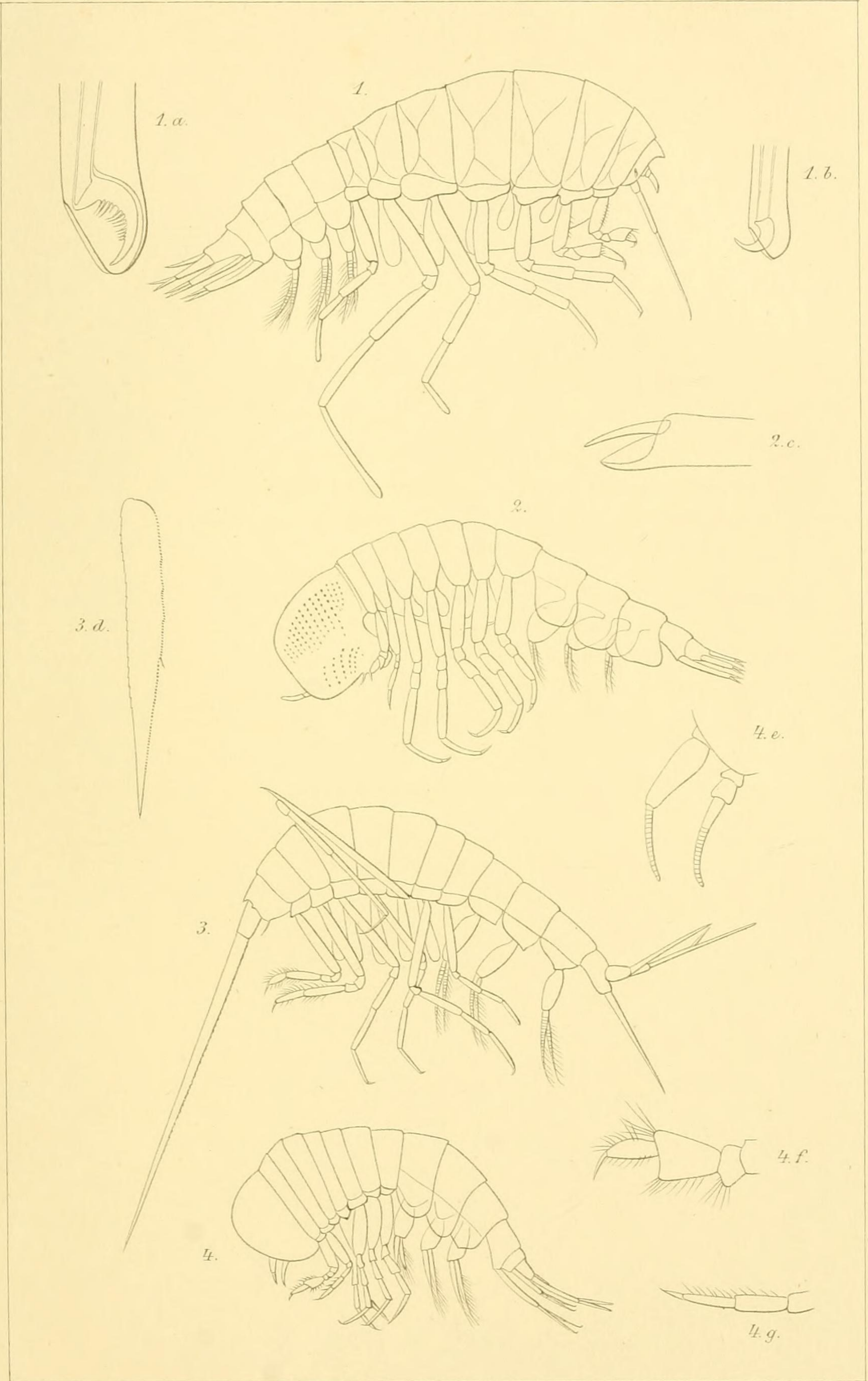
**Explanation of the plate:**

- Fig. 1. *Lanceola Sayana*. n. sp.
- » 1 *a*. The end of the sixth pair of pereopoda.
  - » 1 *b*. The end of the 7:th pair of pereopoda.
  - » 2. *Paraphronima clypeata*. n. sp.
  - » 2 *c*. The end of the second pair of pereopoda.
  - » 3. *Tyro Sarsii*. n. sp.
  - » 3 *d*. The first pair of uropoda.
  - » 4. *Tauria macrocephala*. DANA.
  - » 4 *e*. The antennæ.
  - » 4 *f*. The first pair of pereopoda.
  - » 4 *g*. The second » » »

(Fig. 4, 4 *c*, *d*, *e* are copies from Dana; the others are originals).







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Fig.1. *Lanceola Sayana*. n.sp. Fig. 2 *Paraphronima clypeata*. n.sp.

Fig.3. *Tyro Sarsii*. n.sp. Fig. 4. *Tauria macrocephala*. Dana.



