

# A NEW ISOPOD

FROM

## THE COAST OF SWEDEN

DESCRIBED BY

CARL BOVALLIUS.

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WITH TWO PLATES.

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COMMUNICATED TO THE ROY. SWEDISH ACADEMY OF SCIENCE  
1884, NOVEMBER 12.

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GABRIEL ROYALTY

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FORWARDED TO THE ROYAL SWEDISH ACADEMY OF SCIENCES  
THAT MARCH 10

STOCKHOLM, 1881  
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ALFRED BERNHARDT



When some time ago I communicated to Professor W. Lilljeborg my last carcinological novelty, *Aegiochus Nordenskiöldii*, he told me that something like it existed in the collections of the zoological museum of the University of Upsala. And, indeed, by revising the undetermined Crustacea of the museum, I found the specimen described below. It had been presented to the museum by Colonel F. Bohm, of Upsala, who caught it on the gills of a whiting at Marstrand, on the west coast of Sweden, in the summer 1880.

A close inspection of the animal shows it to be a member of the family Aegidæ, and nearly allied to the genus *Rocinela*. It differs from all known species of that genus by the total want of eyes, the very multiarticulate flagellum of the second pair of antennæ, the less complicated form of the mandibles, the inequality of the epimerals, and the uncommonly long walking legs.

Seen from above its general habitus resembles the drawing of *Harponyx pranizoides*, given by G. O. Sars in his: »Oversigt av Norges Crustaceer med förelöbige Bemærkninger om de nye eller mindre bekjendte Arter»<sup>1)</sup>, and but for the facts mentioned by Sars about the epimerals and the number of the legs I should feel very much inclined to place it in the genus *Harponyx*. After his description it is impossible to do so, as *Harponyx*, if not a young form<sup>2)</sup>, is widely separated from all the other Aegidæ by the want of the seventh pair of legs, the number of the epimerals, and perhaps also

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<sup>1)</sup> Christiania Videnskabselskabs Forhandlinger 1882 N:o 18, pag. 6, pl. 2, fig. 1.

<sup>2)</sup> *Aegacylla*, Dana, is perhaps the nearest relative to *Harponyx*, and both well developed larvæ of some large *Rocinela*.



by the form of the mouth organ. The general habitus however, the want of eyes, and the length of the walking legs point to the new form I am going to describe.

Such being the case it would perhaps be most rational to establish a new genus for the animal in question; but, as in many of its essential characters it agrees with *Rocinela*, I prefer to unite it with that genus, until we shall have got further notices about *Harponyx*.

***Rocinela Lilljeborgii*. n. sp.**

- Diagn. *Corpus* leniter convexum, pereion dilatatum, pleon angustum.  
*Frons* prosiliens, rostrum deplanatum formans, dimidium articuli basilaris antennarum primi paris obtegens.  
*Oculi* desunt.  
*Antennæ primi paris* breves, scapo triarticulato, flagello sex-articulato, segmentum primum pereii vix attingentes.  
*Antennæ secundi paris* longæ, flagello XXI-articulato, dimidium segmenti tertii superantes.  
*Segmentum primum pereii* sequentibus longius.  
*Epimera* segmenti secundi, tertii, sexti atque septimi magna, epimera segmenti quarti et quinti parva.  
*Pedes prensorii* fortissimi, breviusculi.  
*Pedes gressorii* longissimi, setis spinisque instructi.  
*Pleon* angustum, lineare, pedibus magnis ciliatis, segmentum ultimum præcedentibus longius.  
*Urus* quam pleon longior, lingulatus, marginibus, setibus instructis, non serratis.  
*Uropoda* laminis longis lanceolatis, setosis, non serratis.

The body is not very convex, somewhat depressed. The pereion is broader than the pleon, ovate; the pleon is narrow and linear. The head wants any traces whatever of eyes; its surface is exactly as smooth and of the same colour as the first segment of the pereion. The front margin projects into a short flattened rostrum, concealing the basal part of the first joint of the upper antennæ. The upper antennæ are short, with three-jointed peduncle and six-jointed flagellum, reaching backwards to the hinder margin of the head. The second pair of antennæ are much longer, reaching to the middle of the third segment of the pereion; the flagellum is uncommonly multiarticulate, the articles being twenty-one. The first segment of the pereion is the longest, the two last ones are longer than the preceding ones. The epimerals of the



second and third segments are large, subequal, those of the fourth and fifth segments are smaller, not so deep, thus breaking the even row of the epimerals. The last two epimerals are larger and deeper, pointed backwards. The three first pairs of pereopoda are very robust, with strongly curved claws. The following pairs increase in length even to the sixth, the seventh pair is only a little shorter than the sixth. They are provided with hairs and strong spines. The pleon is much narrower than the pereion, linear, with large well developed pleopoda. The last segment of the pleon is a little longer than the preceding, which are subequal. The urus is longer than the pleon, being of the same length as the pleon and the last segment of the pereion together. It forms a long sharp tongue, with smooth margins, provided with long plumose hairs. The uropoda are long, the outer lamina is shorter than the inner; both are lanceolate with even hairy margins.

*The head* is nearly triangular, of about the same length as the first segment; the surface is very smooth, not granular, of the same colour as the surface of the pereion, without such bands of dark colour, as exist on the head of *Harponyx*<sup>1)</sup>. No trace of eyes is to be seen. The rostrum is small, concealing only a small part of the basal joint of the upper antennæ. Its point is not sharp, but feebly rounded.

*The first pair of antennæ*. [Pl. I. fig. 3.] The peduncle is three-jointed, the first joint being the longest. The flagellum consists of six joints, the first one a little shorter than the second. There are no hairs or bristles on the flagellum nor on the peduncle. The basal joints of the peduncles are separated from each other, [which is a difference between the present species and *Harponyx*].

*The second pair of antennæ* [Pl. I. fig. 3] have five-jointed peduncles, the last joint being the longest, the second the shortest. The fourth and fifth joints carry long hairs on the back side, the three first ones are smooth. The flagellum contains twenty one joints, whereas no other known *Rocinela* possesses more than 16 joints in the flagellum. The joints are nearly subequal in length, the last one being the shortest. They

<sup>1)</sup> l. c. pag. 60.



carry bundles of long hairs in the hinder inner corners, and single small ones in the outer corners. The tip of the flagellum reaches very nearly to the fourth segment of the pereion.

*The mouth* is transformed into a short sucking tube, with the mandibles and maxillæ acting as rasping organs, as is the case in all Aegidæ. In the present species the mouth is a little simpler than in *Aega*, *Rocinela*, *Alitropus*, and *Aegiochus*, the mandibles being simpler, and the palp of the maxillipeds only one-jointed.

*The mandibles* (Pl. I fig. 4) are not spirally bent and end in a simple point without teeth. They carry each a three-jointed palp; the first joint is the broadest and longest, without hairs; the second is a little shorter, linear, with a comb of short fine bristles at the outer corner. The last joint is the shortest, and narrower than the preceding one. It carries some few short stiff hairs at the hinder margin and some longer ones at the tip.

*The first pair of maxillæ* (Pl. I fig. 5) are very nearly of the same form as in *Aega* and the other *Rocinela*, but with only two teeth at the tip.

*The second pair of maxillæ* (Pl. I fig. 6) form a tube, with three strong hooks at the tip. The tube is a little more closed than in *Aega psora* and *Rocinela danmoniensis*.

*The maximillipeds* (Pl. I fig. 7) are strong and robust, and consist of a two-jointed peduncle and a two-jointed palp, thus offering a more simple structure than in the two above-mentioned species. The last joint of the palp carries only some small straight teeth, but no hooks as in other species.

*The pereion* is slightly convex; seen from above it is broadly ovate, sharply distinct from the much narrower pleon. The first segment is the longest; when the body is bent, the other seem subequal in length. The second and third segments are the broadest; the seventh is the narrowest, but much broader than the following first pleonal segment. The epimeral of the first segment is not distinct; all the other six segments carry distinct epimerals of unequal size. The surface of the segments is smooth and hard, as if polished. On the under side (Pl. II fig. 12) of each segment



there is a deep excavation for the reception of the femur of the corresponding leg.

*The first pair of pereiopoda* (Pl. I. fig. 8). The epimeral of the first segment is not distinct, but the border of this segment goes down as deep as the epimeral of the second (Pl. I. fig. 11). The *femur* is broad, thick, and convex, a little narrower at the upper end. At the outer margin it carries two very long hairs, at the inner lower corner a short stout spine. The *genu* is long, more than two thirds of the femur, smooth. The *tibia* is not half the length of the preceding joint, and carries at the outer lower corner a bundle of long linear bristles, bent at the tip and serrated (Pl. I. fig. 9). The *carpus* is short, of about the same length as the preceding joint, without hairs or bristles. The *metacarpus* is long and stout, longer than the two preceding joints together. At its lower end it is extended into a semicircular process for the articulation with the dactylus. This process has the same structure as that described in *Aegiochus*;<sup>1)</sup> and is a peculiar apparatus existing in all the *Aegidæ* I have examined. The dactylus is strong and powerful, bent as a hook.

*The second pair of pereiopoda*. The epimeral is distinct from the segment, large, straight as to its anterior, upper, and posterior margins, feebly curved as to the under margin. The *femur* is longer than in the preceding pair, broad, linear, smooth. The *genu* is about half the length of the femur, smooth. The *tibia* is nearly half the length of the genu and carries some straight bristles at the outer margin. The *carpus* is a little shorter than the preceding joint, smooth. The *metacarpus* is much longer than the two preceding joints together, and of exactly the same structure as in the first pair. The dactylus is less strongly curved than the dactylus of the first pair.

*The third pair of pereiopoda* (Pl. I. fig. 10) resemble very nearly the second pair but are a little longer and more slender.

*The fourth pair of pereiopoda* (Pl. II. fig. 13) are the first and shortest pair of walking legs. The epimeral is small and does not occupy more than the anterior half of the

<sup>1)</sup> Bihang till Kongl. Vetenskaps-Akademiens Handlingar. Band 10. N:o 9 pag. 8.



under border of the segment, it is not more than half as deep as the epimeral of the preceding segment (Pl. I. fig. 11). The *femur* is short and ovate. The *genu* is as long as the femur and funnel-shaped, with some strong short spines around the lower margin. The *tibia* is shorter and more linear. The *carpus* is as long as the tibia, with some short spines at the inner margin. The *metacarpus*, of the same length, is narrower and more linear. The *dactylus* is strong, longer than the metacarpus.

The *fifth pair of pereiopoda* (Pl. II. fig. 14). The epimeral is of the same form as in the preceding segment, not deeper, but a little longer. The *femur* is broad, with an excavation at the outer lower corner for the reception of the uppermost part of the genu. The *genu* is long, nearly as long as the femur, with strong spines at the lower margin. The *tibia* is shorter, scarcely more than half the length of the preceding joint, but broader, with strong tooth-like spines around the lower margin (Pl. II. fig. 15). The *carpus* is a little longer than the tibia, with a long strong bristle at the lower inner corner. The *metacarpus* is as long as the preceding joint, but narrower; the angulated under margin projects into a process of articulation; at its inner corner is a thick obtuse spine containing a glandule with a ductus opening at the tip of the spine (Pl. II. fig. 16).

The *sixth pair of pereiopoda* (Pl. II. fig. 17) are the longest of all and, when extended backwards, reach nearly to the end of the urus. The epimeral is distinct, much larger and deeper than the preceding one, but does not occupy the whole under border of the segment; it is slightly pointed at the posterior corner. The femur is broad and stout, with a little plumose hair at its outer margin, and some short bristles at its lower, inner corner. The *genu* is longer than the femur, with some peculiar bristles and spines at its lower margin. The spines are stout, obtuse, with a small hair fixed near the tip; the interior of the spines is filled with a glandular mass. The bristles are sharp-pointed, plumose at the tips. (Pl. II. fig. 18). The *tibia* is shorter than the genu, with short spines at the lower margin, concavated at the inner margin. The *carpus* is longer and narrower than the tibia, concavated at the inner margin, and armed at the lower inner corner with a long strong spine, and around the



lower margin with a row of shorter ones. The *metacarpus* is of about the same length as the carpus, with some few very short bristles at the inner margin. The *dactylus* is shorter than the metacarpus.

*The seventh pair of pereiopoda* (Pl. II. fig. 19). The epimeral is of the same shape as the preceding one, but placed a little deeper down; the posterior corner is sharper than in the epimeral of the sixth segment. The *femur* is broader at the upper end; at the lower outer corner is a large excavation for the reception of a part of the genu. The margins of the excavation are bordered with short stiff hairs. The *genu* is hardly longer than the femur; broader at the lower end, with thick obtuse spines around the lower margin. The *tibia* is a little longer than half of the genu; the inner margin is concavated, with two short spines; the lower margin carries some strong spines, especially at the outer corner. The *carpus* is longer than the tibia, concavated at the inner margin, carrying some spines there and at the lower corners. The *metacarpus* is only a little shorter than the carpus and of the same structure as in the preceding pair. The *dactylus* is shorter than the metacarpus.

*The pleon* is of nearly the same length as the three last segments of the pereion, linear, and narrower than the last segment of the pereion. The first segment of the pleon is only partly concealed by the preceding pereional segment. The four first segments are subequal in length, reaching pretty far down; the hinder corners are sharply angulated. The last segment is longer and a little broader than the preceding ones; its hinder corners are more sharp-pointed. The surface of the pleon is smooth, without granulation.

*The first pair of pleopoda* (Pl. II. fig. 20). The peduncle is long and stout, the outer lamina is larger and carries longer hairs than the inner. At its upper end it shows traces of partition.

*The second pair of pleopoda* (Pl. II. fig. 21) are a little larger than the first. The inner lamina carries a styliiform process, articulated against its inner corner. No line of partition on the outer lamina.

*The third pair of pleopoda* (Pl. II. fig. 22) resemble the first, but the outer lamina is larger. The hairs which border its margins are plumose (Pl. II. fig. 23).



*The fourth pair* are quite like the preceding one.

*The fifth pair* (Pl. II. fig. 24) are a little larger, but of the same form.

*The urus* (Pl. I. fig. 1.) has the form of a long tongue or a sharp spade; it is longer than broad; its upper side is feebly convex, smooth, without granulations or tubercles. The margins are perfectly even, not serrated, but fringed with a row of long plumose hairs (Pl. I. fig. 2). The urus is longer than the pleon. It equals in length the pleon and the last segment of the pereion together.

*The uropoda* (Pl. II. fig. 25). The peduncle is long, broader at the hinder margin; the inner, hinder corner is sharply angulated, but does not project into a long process as in the other *Rocinelæ*. The laminae are long, lanceolate, fully reaching to the end of the urus. The outer lamina is shorter than the inner; both have even margins, fringed with long plumose hairs.

*Length.* 22 m. m.

*Colour.* Yellowish.

*Habitat.* Only one specimen, a small one, is known; this was loosened with a knife from the outer side of the head of a whiting, where it had fixed itself most tenaciously over the opening of the gill cavity. It was caught in the summer 1880 at Marstrand, on the West coast of Sweden.



## Explanation of the plates:

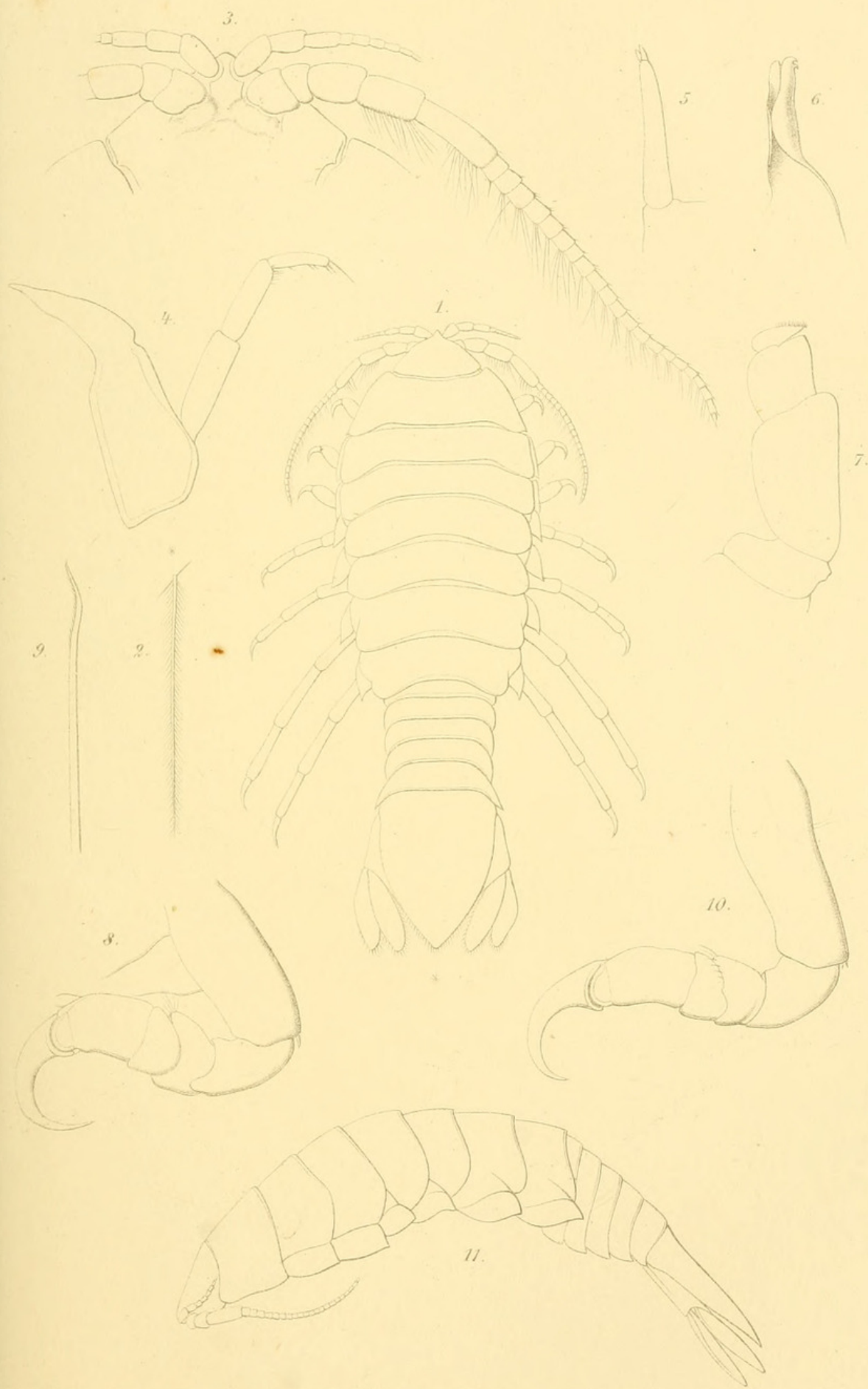
### Plate I.

- Fig. 1. The animal seen from above.  
» 2. A plumose hair from the margin of urus.  
» 3. The first and second pair of antennæ.  
» 4. The mandible.  
» 5. The first maxilla.  
» 6. The second maxilla.  
» 7. The maxilliped.  
» 8. The first pair of pereopoda.  
» 9. A bristle from the tibia of the same leg.  
» 10. The third pair of pereopoda.  
» 11. The animal seen from the side.

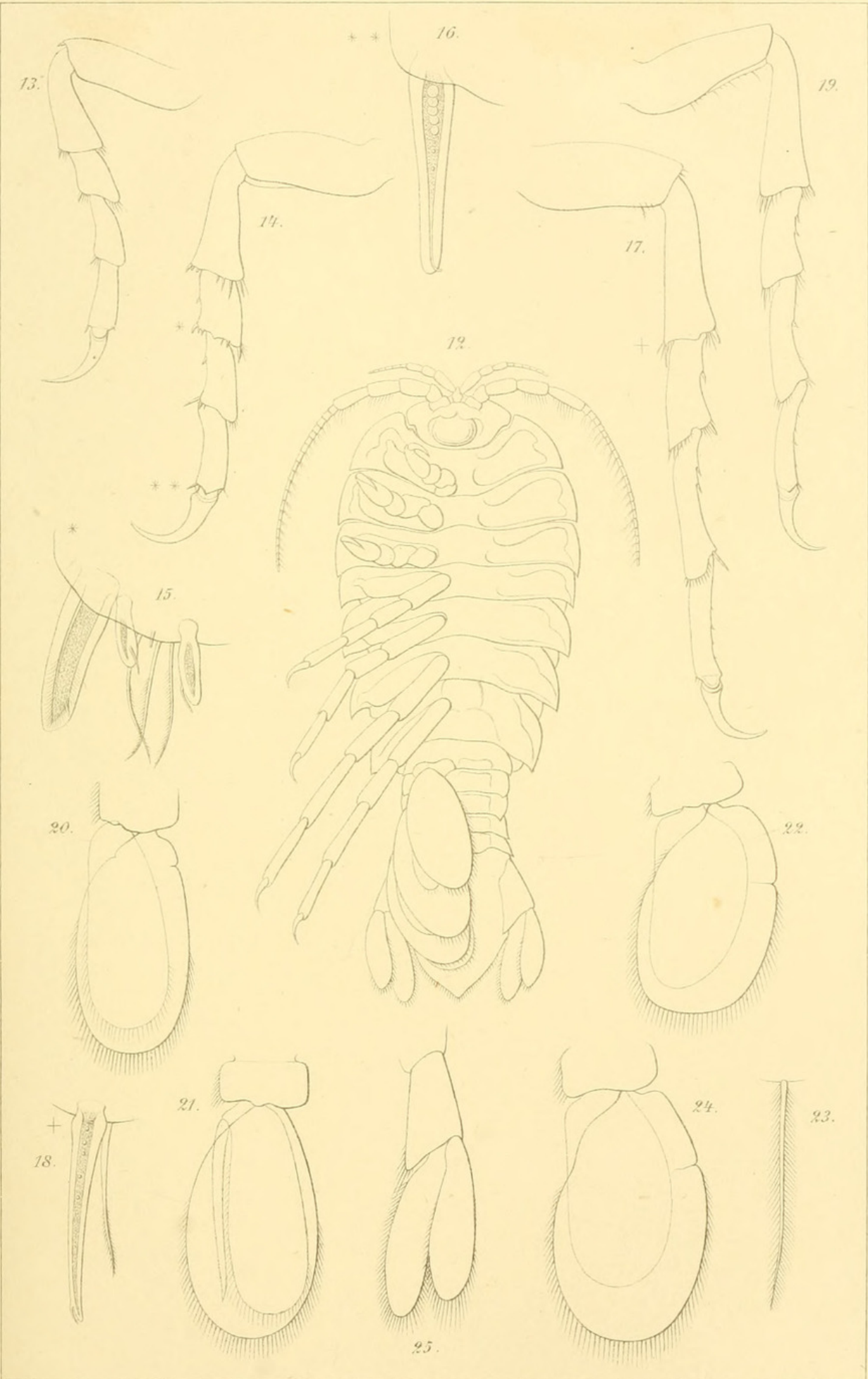
### Plate II.

- » 12. The animal from below.  
» 13. The fourth pair of pereopoda.  
» 14. The fifth       »       »       »  
» 15. Spines and bristles from the tibia of the fifth pair.  
» 16. Spine from the metacarpus of the same pair.  
» 17. The sixth pair of pereopoda.  
» 18. Spine and bristle from the genu of the sixth pair.  
» 19. The seventh pair of pereopoda.  
» 20. The first pair of pleopoda.  
» 21. The second pair of pleopoda.  
» 22. The third       »       »       »  
» 23. Hair from the same.  
» 24. The fifth pair of pleopoda.  
» 25. The uropoda.
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