2. *E. bipunctatus*, Linn., Gyll., Steph., Schönh.

There are two foreign specimens in the collection of Kirby sent by Gyllenhal.

Plentiful on the gray sallow (*Salix cinerea*), Bishop's Wood, Hampstead, in June.

XXXIII.—*On a new genus and several new species of British Crustacea.* By C. Spence Bate.

[With a Plate.]

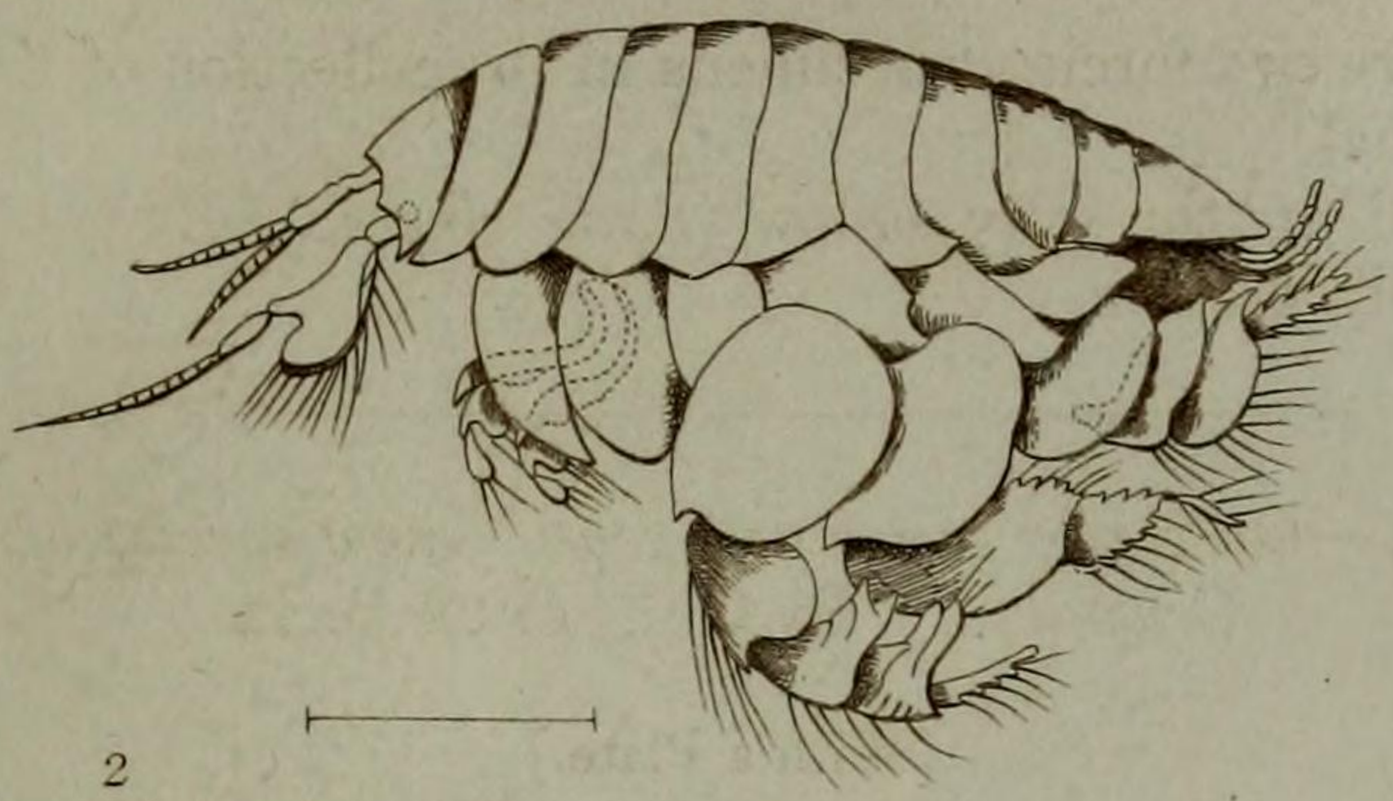
Bellia arenaria.

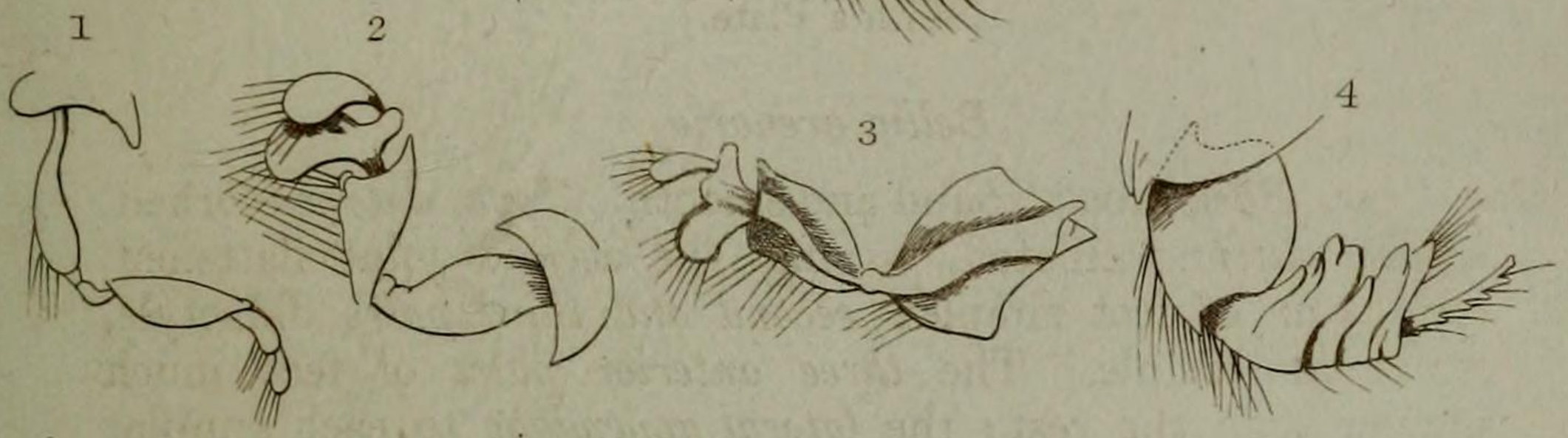
Gen. Char. *Back* broad, round and smooth. *Upper antenna* forked. *Lower antenna* ciliated, having the second joint flattened. *First pair* of feet simple: *second and third pairs* didactyle, remainder simple. The *three anterior pairs* of feet much smaller than the rest; the *lateral appendage* to each annular segment, together with the joints of the three last pairs of feet, largely developed, so as to appear like scales. *Natatory feet* arranged in double parallel pairs.

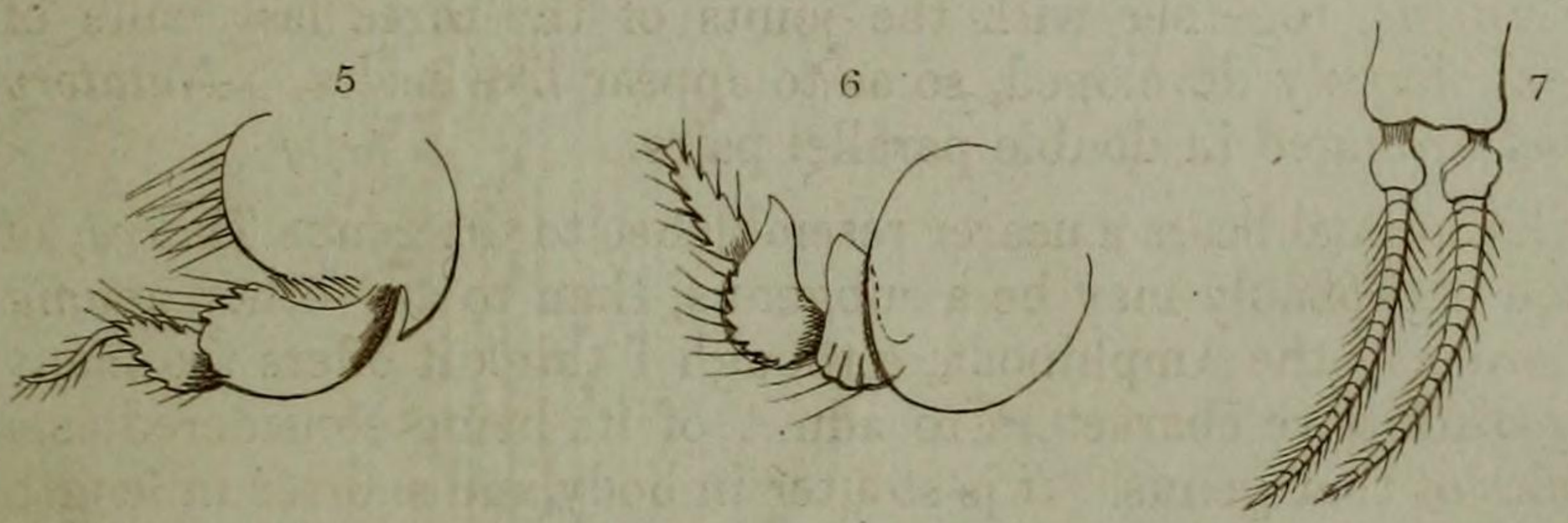
This animal bears a nearer resemblance to the genus *Talitra*, of which it probably may be a subgenus, than to any other among the order of the Amphipoda, although I think it offers too many very distinctive characters to admit of its being considered as a species of that genus. It is stouter in body and shorter in length than *Talitra*. The upper antenna is shorter than the lower and has two filaments; the second joint of the lower antenna is large, flat and thin, a peculiarity which is extended to the first joint of the fourth and fifth pairs of legs, as well as the first, second and third joints of the sixth pair, whilst the third, fourth and fifth joints increase in diameter at their lower extremity. The first pair is small and folded in as if attendant on the mouth; the second and third pairs are shorter and more slight than those posterior to them, and terminate in a didactyle claw of peculiar form; its shape carrying out a character peculiar to this genus, and differing from that most general, wherein the finger of the forceps is sharp and pointed. We find that in this animal the joint from a narrow point increases in diameter towards the terminal extremity, upon being reflected back against the penultimate, where instead of impinging against a *sharp* process, as is usually the case, even where most rudimentary, it is here met by an obtuse but thin, flattened and ciliated edge.

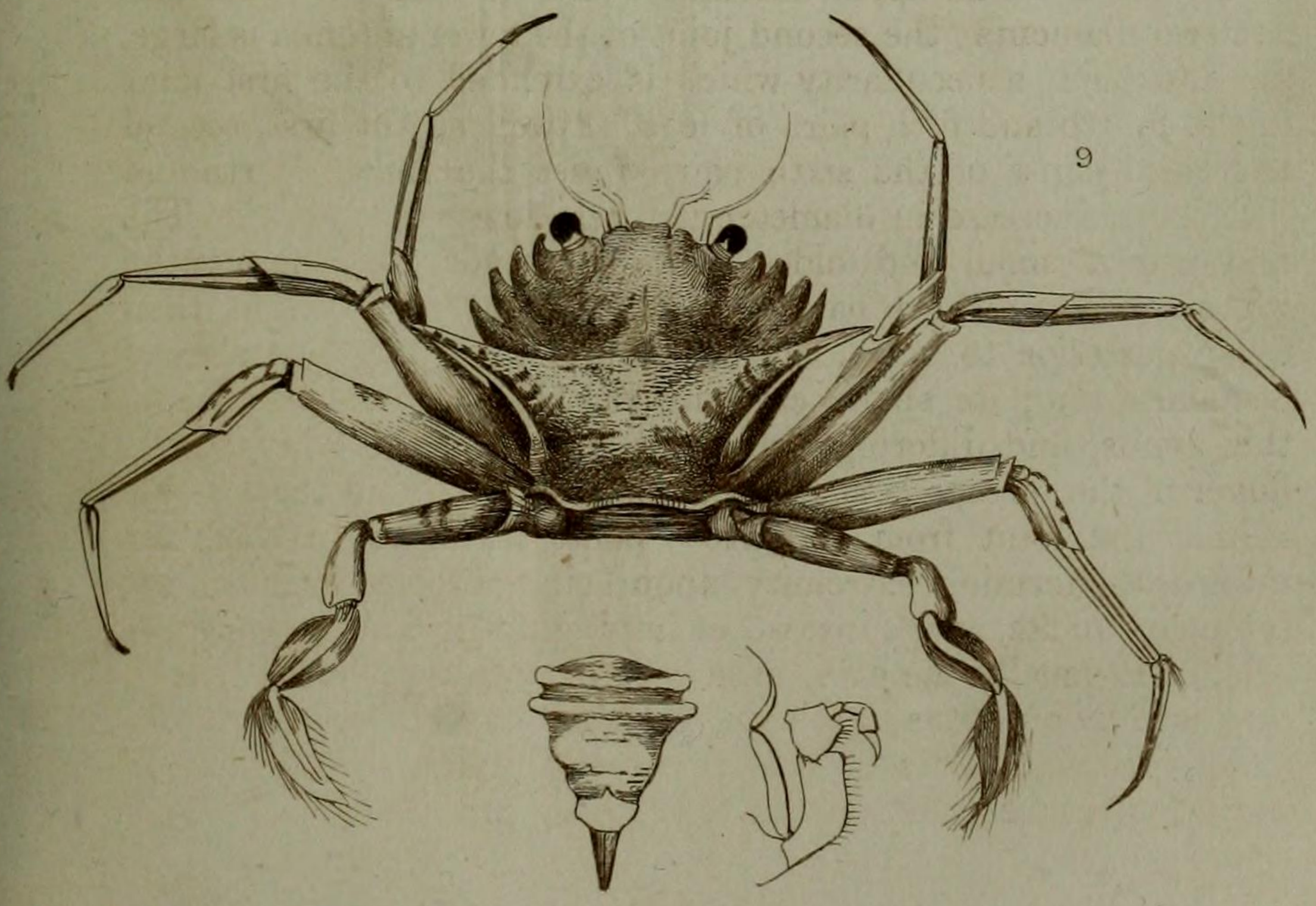
The peculiar habits of this genus exhibit the modification of its several parts to be adapted to required conditions.

Bellia arenaria.









Portunus Dalyellii.

J. Basire sc.

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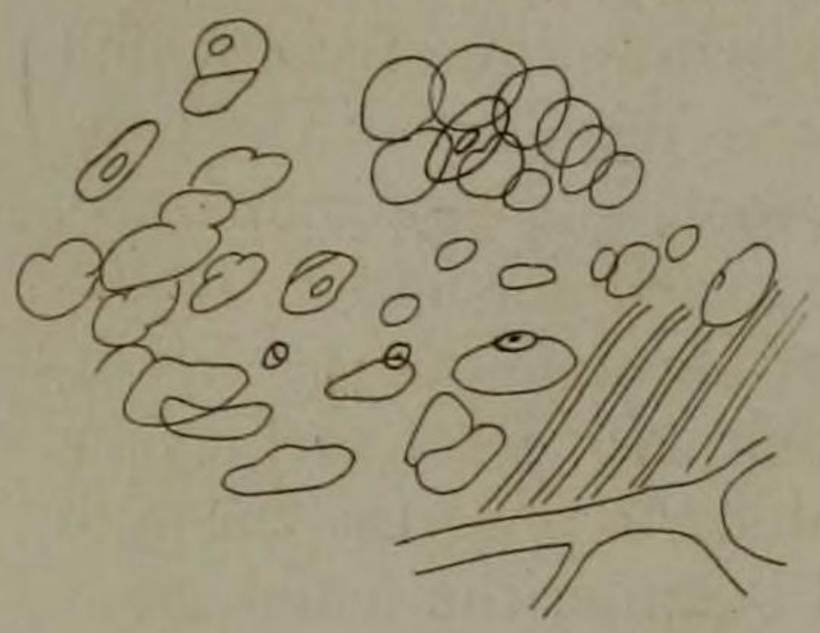

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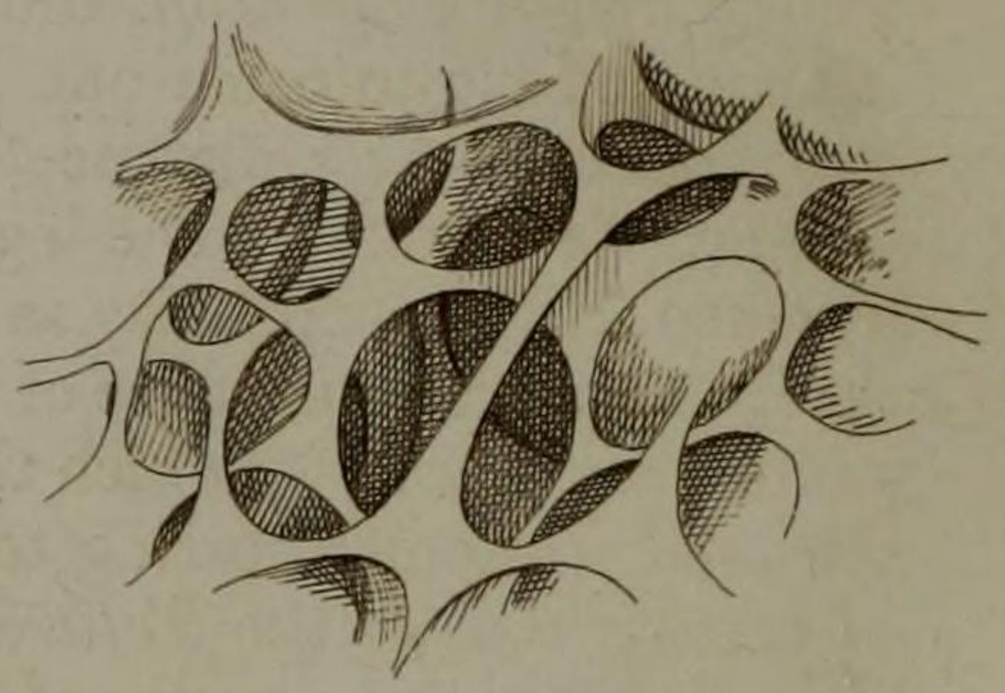

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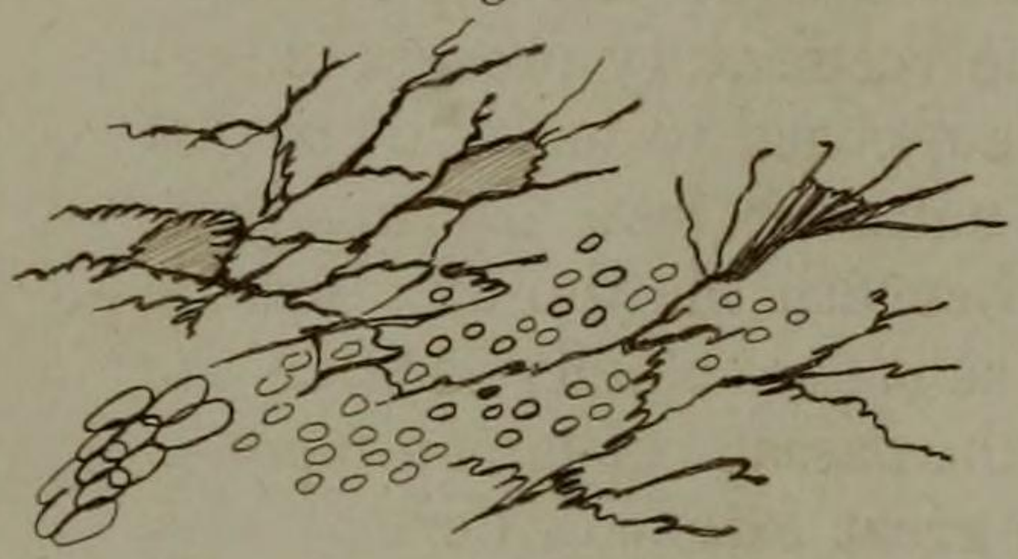

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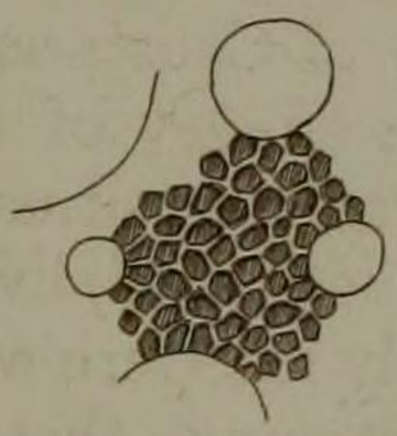

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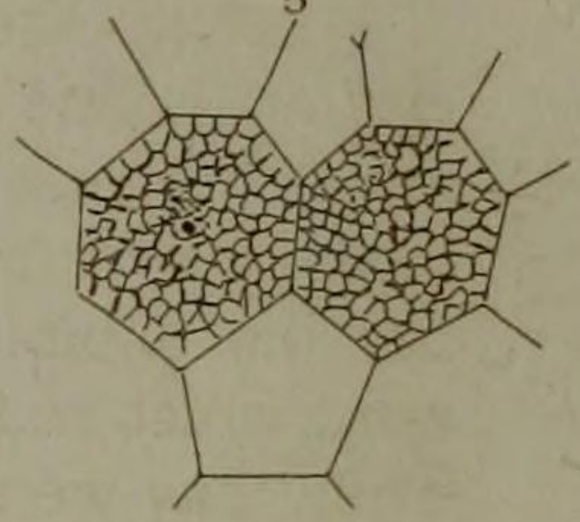

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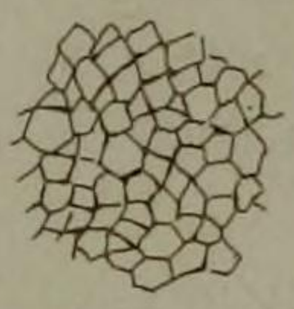

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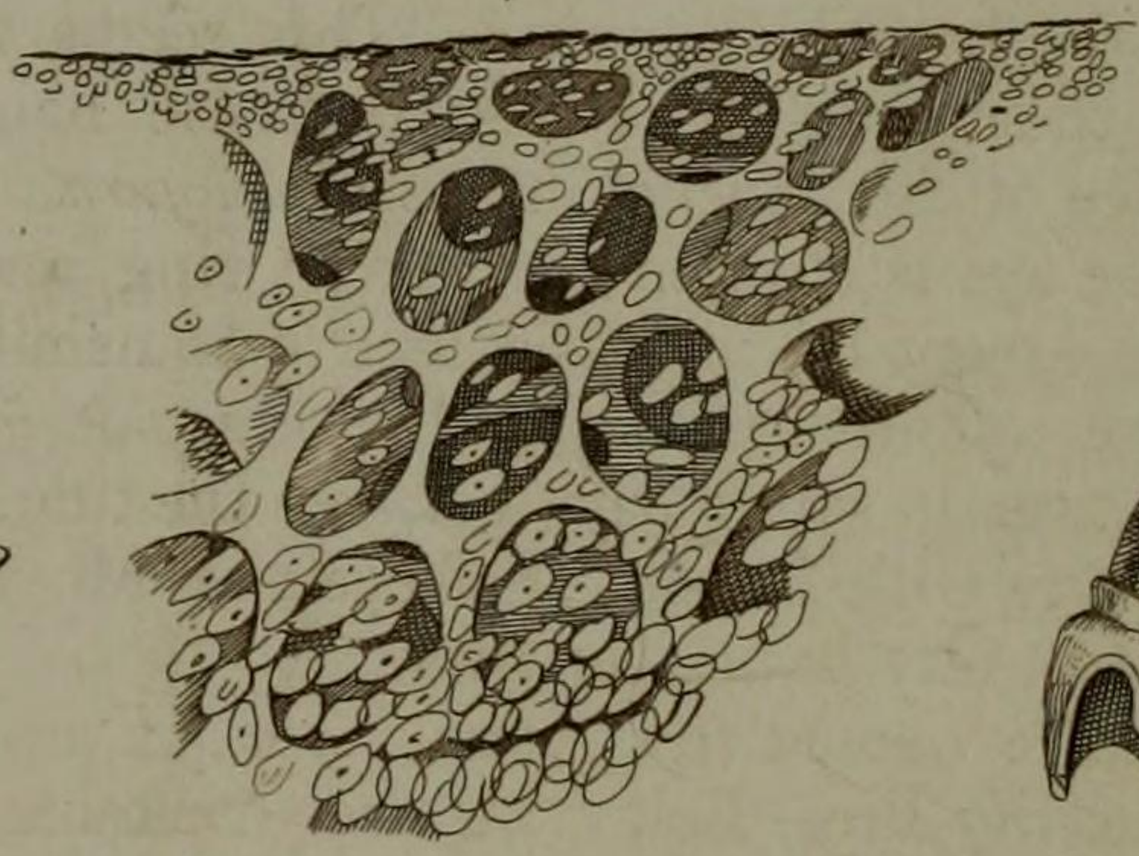

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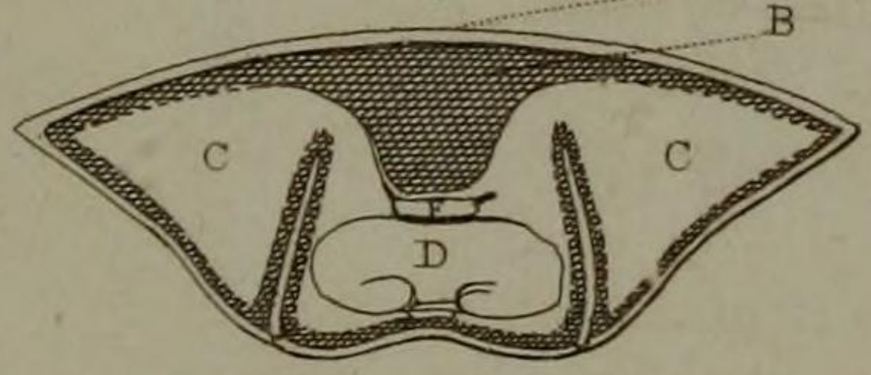

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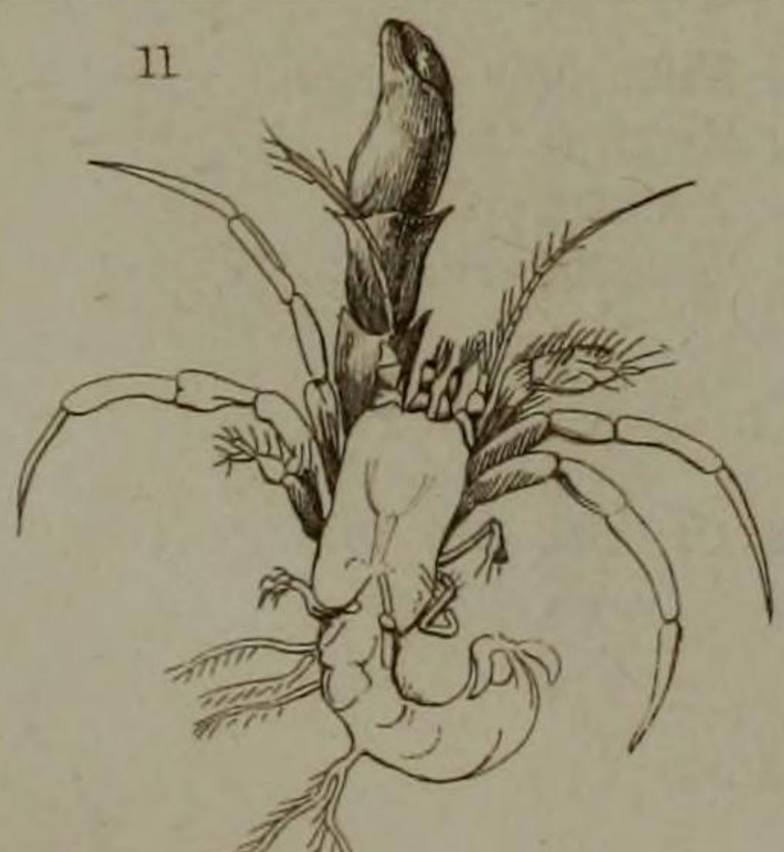

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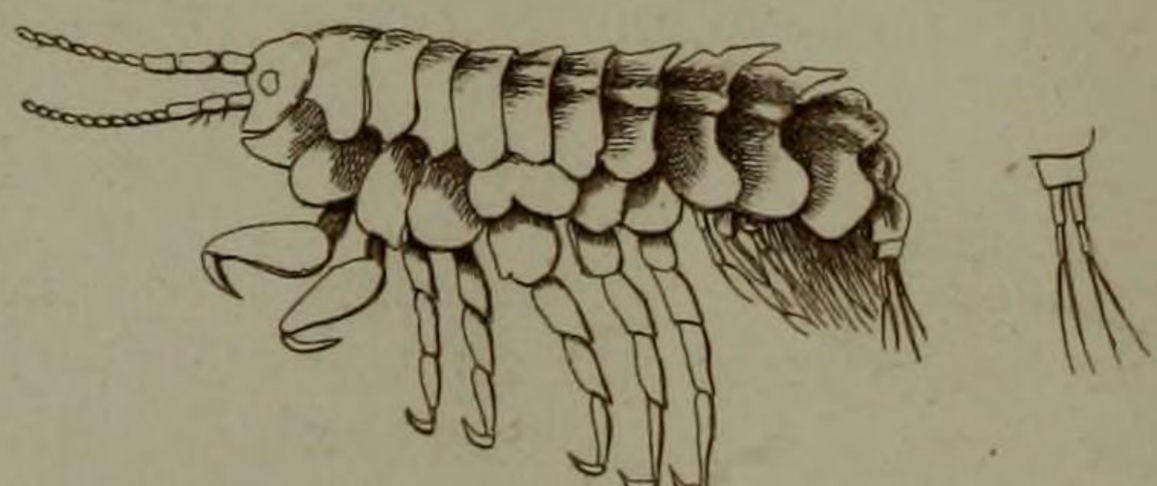

Pagurus Dillwynii.

Amphitoe Moggridgii.

J. Basire sc.

This crustacean, unlike the *Talitra*, *Gammarus*, and other allied genera, is remarkably sluggish in its habits, and lives almost wholly beneath the sand, into which it burrows, and from which it appears only to come out just after the receding of the tide, when it gropes to a distance of about a foot, and again burrows beneath its surface. The legs, which by their formation are all lessened in their capability as members of perambulation, obtain, through the great expanse of surface which each joint displays, a paddle-like power, by which they are enabled to progress through the sand without resorting to leaps and bounds, the usual mode of passage among the *Talitra*, or by crawling whilst lying upon the side after the manner of *Gammarus* and other Amphipoda.

I believe the manner in which the respiratory process is carried on in this order of Crustacea is supposed to be by a current excited through the agency of the natatory feet, passing continually over the branchiæ situated beneath the thorax; but the peculiar habits of this animal, living as it does chiefly beneath the sand, must materially interfere with the passage of such a current. Then may we not presume, that the great extent of dermal surface, which is prolonged by large hair-like processes, may offer a medium through which the blood may be aërated, and so lessen the dependence of vital action upon the waters circulating freely over the branchial organ? This seems to be supported by the fact, that blood-discs pass into the hair-like processes on the surface of the flabellæ in the *Brachyura*.

The eye is covered by the first ring, and is not distinguishable above except by the assistance of transmitted light.

The colour of the animal is of a pale muddy gray.

It lives in sandy bays between the tides. I have taken them in company with Messrs. Jeffreys and Moggridge, both in Oxwich and Rhosilly bays near Swansea.

I have named the genus *Bellia*, in order as much as possible to identify Prof. Bell with the Crustacea, a class of animals to which he has given particular attention.

EXPLANATION OF PLATE XI.

Fig. 1. First pair of legs.
— 2. Second ditto.
— 3. Third ditto.
— 4. Fourth ditto.
Fig. 5. Fifth pair of legs.
— 6. Sixth ditto.
— 7. Natatory feet.
— 8. *Bellia arenaria*.

Amphitoë Moggridgei. Pl. X. fig. 10.

Back carinated, the three last rings of the thorax gradually increasing in length at the centre of the posterior margin into the form of a sharp tooth, which arrives at the greatest development in the two first rings of the abdomen, upon the centre of

each of which exists a notch or depression which is increased in the fourth and fifth abdominal rings, which do not terminate in a tooth-like projection.

There also exists a lateral ridge on both sides, which, commencing at the fifth thoracic ring, terminates with the fourth abdominal ring where it becomes confluent with the carinated edge.

Lower and upper antennæ short, equal in length, the peduncle of each consisting of three articulations.

Taken in Langland Bay, Swansea, at low water mark.

To designate this species, I have adopted the name of M. Moggridge, Esq., of Swansea, whose industry as an observer of nature is indefatigable.

Pagurus Dillwynii. Pl. X. fig. 11.

Carapace smooth and polished. Colour bluish, marked with brown.

First pair of feet unequal, *the left* being much longer than the right; smooth to the naked eye, but under a lens perceived to be minutely granulated. The second and third joints are armed with teeth, which give to the limb an angular character. The *right* is very short and covered with hairs.

The external antenna is about two-thirds the length of the longest of the first pair of feet, and hairy; its base as long as the eye-stalks, which are slender and long. The basal tooth with which the antenna of this species is generally armed, is wanting.

The false feet in the female are *long* and feathery, and divide at the *base*.

The most striking difference between this and other British species of the *Paguridæ* is exhibited in the form of the first pair of feet and the length of the external antennæ.

Having met with only this solitary specimen, it is impossible to say but that the right foot of the first pair, which is usually the longer, may be in the process of being reproduced from loss; although I am inclined, from its well-developed character, to believe that the left is in this species the more important of the two. The false feet, which in the female are generally forked, are so in this specimen, but very much nearer to the base than in the common species.

It burrows very rapidly in the sand. Taken near the Worms Head, Swansea.

Mr. Couch has informed me, since this has been in the hands of the printer, that he has also found the species in Cornwall.

The name applied to this species is one long known to science, and honoured as the stimulator of natural history in this locality in the person of L. W. Dillwyn, Esq., Sketty Hall.

Portunus Dalyellii. Pl. XI. fig. 9.

The most remarkable points which distinguish this crab from any other species of the genus to which it belongs, are to be found in the large development of the posterior marginal teeth of the carapace, the base of each of which continues prominent, so that a line or ridge extends quite across the centre of the back of the crab, which gives to the anterior half the appearance of being depressed forwards. It is this ridge, together with the two prominent teeth, by which the species may be most quickly recognized.

The front of the carapace between the eyes is divided into three scarcely appreciable lobes, of which the centre one is depressed in the middle.

The terminal joints of the fifth pair or swimming feet are scarcely so flat and oar-shaped as in most of the *Portunidæ*, therefore this species approaches nearer the transition-type of the genus *Carcinus*, and its long and active-looking legs seem to corroborate the idea of its habits being mostly perambulatory.

The first pair of feet unfortunately are missing from this the only specimen which I possess; it was brought me a few days since by Mr. Matthew Moggridge, who took it in Oxwich Bay near Swansea.

The colour is a brilliant reddish brown with darker blotches of the same. I have taken upon myself to identify the species by the name of Sir James Dalyell, which has become distinguished in natural history by his valuable researches.

Upon forwarding a sketch of the species to Mr. Couch of Penzance, so well known as an observer in this department of science, he in reply informed me, that three years since he had mentioned to Prof. Bell that we had in Mount's Bay a species of *Portunus* not described by authorities, and that in the year following he had sent him an injured specimen taken there, but had not as yet received his opinion on the subject. Mr. Couch adds, "I recollect being convinced it was quite new; and it is the species figured by you. Dalyell's name is worthy of all honour."

Mount's Bay, like the coast upon which the specimen figured was taken, has a sandy bottom and beach.

BIBLIOGRAPHICAL NOTICES.

Observations in Natural History. By the Rev. Leonard Jenyns, M.A., F.L.S. &c. London, John Van Voorst.

The cultivators of a science have some points of analogy with the settlers in a new country; of the latter some wander into the inte-

rior, and each, isolated, and careless of the rest, clears his little spot in the wilderness; others remain at the port, gather from all sides the produce of their wandering brethren, and return to them the wares of other countries, or the value, in the current coin, of their own crude materials, which, isolated, had become but so much useless lumber. So it is in natural science: there are backwoodsmen in natural history,—men who furnish the raw material of science, as well as merchants, who convert that raw material into handy, available knowledge. And in the case of science as in that of ordinary life, it is of importance that the capitalists and the productive classes should understand that their interests are common, and that each derives his importance from the other.

We must have out-of-door naturalists before we have in-door naturalists, and any supercilious depreciation of one another cannot but remind a dispassionate observer of the old story of the belly and the members.

The author of the present work has furnished us with a book of the backwoodsman class. Some books are said to "smell of the lamp,"—this "babbles o' green fields." It is redolent of new hay and the hedge violet. Far away from the study of the anatomist, from the museum of the zoologist, it calls to mind nature in the concrete. We study analogies and affinities, beauties of adaptation and marvellous homologies, until we forget that after all, these creatures we dissect are not mere pieces of mechanism, but live and breathe, and have affections, and impulses, not absolutely dissimilar to our own. Such a book as this carries us from our skeletons and preparations, back to the recollection of the overflowing life of nature, to the trill of the skylark, and the caw of the rook busy overhead, what time we wandered not too scientifically thoughtful, nor yet without observation, along some green lane, while the hare now and then crossed the path, and the partridge rose whirring from the cornfield.

To those who take a scientific interest in nature without caring to penetrate into the hidden mysteries of organization, the Rev. Mr. Jenyns's work will be most acceptable. It will find a place on their shelves beside 'The Natural History of Selbourne.' It is full of curious information upon the habits of the denizens of our fields and woods, and some excellent remarks upon "Habits of observing" are prefixed.

We cannot too heartily applaud the observations upon the importance and dignity of *facts* as such, and apart from any obvious immediate bearing (p. 13). Let those who would take the high *à-priori* road in science bethink them whether it may not be of more importance to establish even such a simple fact as that the field cricket "drops its dung on a little platform at the mouth of its hole," than to prop up with quite remarkable ingenuity the hypothesis that the said field cricket is a "mucus animal of the third power—ovum^3!"