THE

GEOLOGY AND FOSSILS

OF THE

TERTIARY AND CRETACEOUS FORMATIONS

OF

SUSSEX.

BY

FREDERICK DIXON, ESQ., F.G.S.

"In the present state of Geological knowledge, Facts are more wanted than Speculations."—BAKEWELL.

LONDON:

LONGMAN, BROWN, GREEN, AND LONGMANS.

1850.

TO

HIS GRACE THE DUKE OF NORFOLK,

HEREDITARY EARL-MARSHAL OF ENGLAND, K.G., ETC.,

THIS WORK,

CONTRIBUTARY TO THE SCIENTIFIC HISTORY

OF THE COUNTY WHICH OWES SO MUCH TO ITS RELATIONS WITH THE

HOUSE OF HOWARD,

IS,

WITH HIS GRACE'S PERMISSION,

AND AGREEABLY WITH THE EXPRESSED WISHES OF THE AUTHOR,

MOST RESPECTFULLY DEDICATED.

Notes on the Crustacea of the Chalk Formation. By Professor Thomas Bell, Sec. R.S.

CRUSTACEA.

MACROURA.

Palæastacus Dixoni, Bell. (Tab. XXXVIII*. figs. 1, 2, 3, 4, 5.)

The unique and beautiful fossil, represented of the natural size in figs. 1 & 2, appertains to a species of a Macrourous genus nearly allied to *Astacus* and *Homarus*, to which I have applied the name of *Palæastacus Dixoni*. It is characterized by the extremely tuberculous surface of the whole of the crust, passing into spines on the sides of the abdominal segments. The transverse division of the exterior caudal lamina was so slightly indicated in this specimen as scarcely to be recognizable; but the whole character of the animal points out clearly its close affinity to the typical *Astacidæ*. The division in the caudal lamina above adverted to is perhaps to be traced in fig. 5.

The carapace in this species exhibits the nearly cylindrical form of the lobster and the crayfish, but is a little more contracted anteriorly; the rostrum is triangular and slightly spinous at the sides, as seen in figs. 1 & 3. The different kinds of tubercles are very remarkably distinguished on different portions of the carapace, and are separated by a distinct line of demarcation. Thus the lateral and latero-posterior portion, comprising the whole of the branchial region, is covered only with small, close, and low tubercles; whilst the anterior and median portion, covering the hepatic, gastric, genital and cardiac regions, has in addition to the slightly tuberculated surface, a considerable number of large and distinct tubercles. The claws, which are very large in proportion to the size of the animal, are covered with still larger and more elevated tubercles than those of the carapace. The hand is robust, rounded, and almost ventricose; and the fingers meet only at the points, the immoveable one being straight and the other considerably curved. Judging from the fragments of the smaller legs which remain, these were doubtless, as in the other species of the family, slender and filiform. The segments of the abdomen are studded, particularly at the sides, with strong, almost spinous tubercles; the terminal segment, or middle lamina of the tail, is rounded at the extremity and tuberculated over the surface.

Fig. 3. A fragment of the same species, consisting of the anterior part of the carapace and part of the left claw.

Fig. 4. A fragment too imperfect to afford any satisfactory determination of its true characters. The thick, short hand has the appearance of a monstrosity or of a restored limb.

Fig. 5. This is probably a younger, and perhaps a female specimen of the same species as figs. 1 & 2.

Palæastacus macrodactylus, Bell. (Tab. XXXVIII*. fig. 6.)

Two claws of a very different form from those of the other species, in which the hand is comparatively much shorter, and the fingers much longer and more slender, both being curved equally and in the same direction, so that they are in contact through their whole length. This specimen may be referred provisionally to a species called *Palæastacus macrodactylus*.

Fig. 7. Inner view of the claw of probably another species of the same or a nearly allied genus.

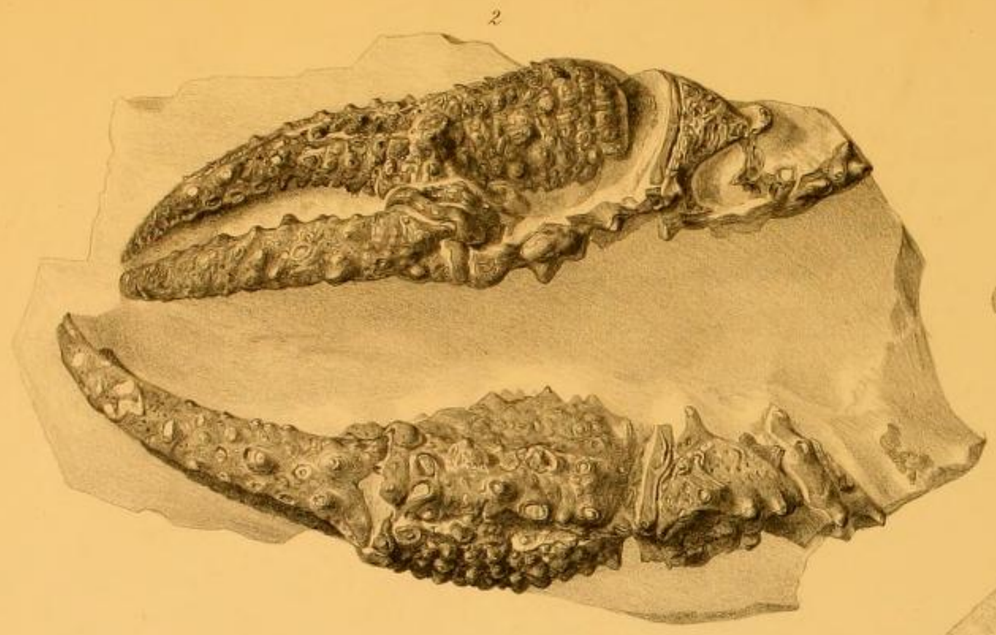
BRACHYURA.

Platypodia Oweni, Bell. (Tab. XXXVIII*. fig. 9.)

The carapace, fig. 9, obviously belongs to a species of *Platypodia*, to which I beg to give the name of *Pl. Oweni*, as one which my lamented friend Mr. Dixon would have been particularly pleased to recognize and sanction.

Grapsiform Brachyure. (Tab. XXXVIII*. fig. 12.)

The figure above-cited represents certain *legs* of one of the most remarkable forms hitherto observed amongst the fossil crustacea of the chalk. The general *primâ facie* character of the two larger feet gives the impression that they belong to a *Grapsus*, or to one of the land-crabs, or some allied form; but the small foot posterior to them leads almost to the conclusion that the species belonged to that aberrant type in which the posterior feet are diminutive and almost rudimentary. The claw, fig. 11 *a*, obviously belongs to the same species, and is very grapsoid in its character.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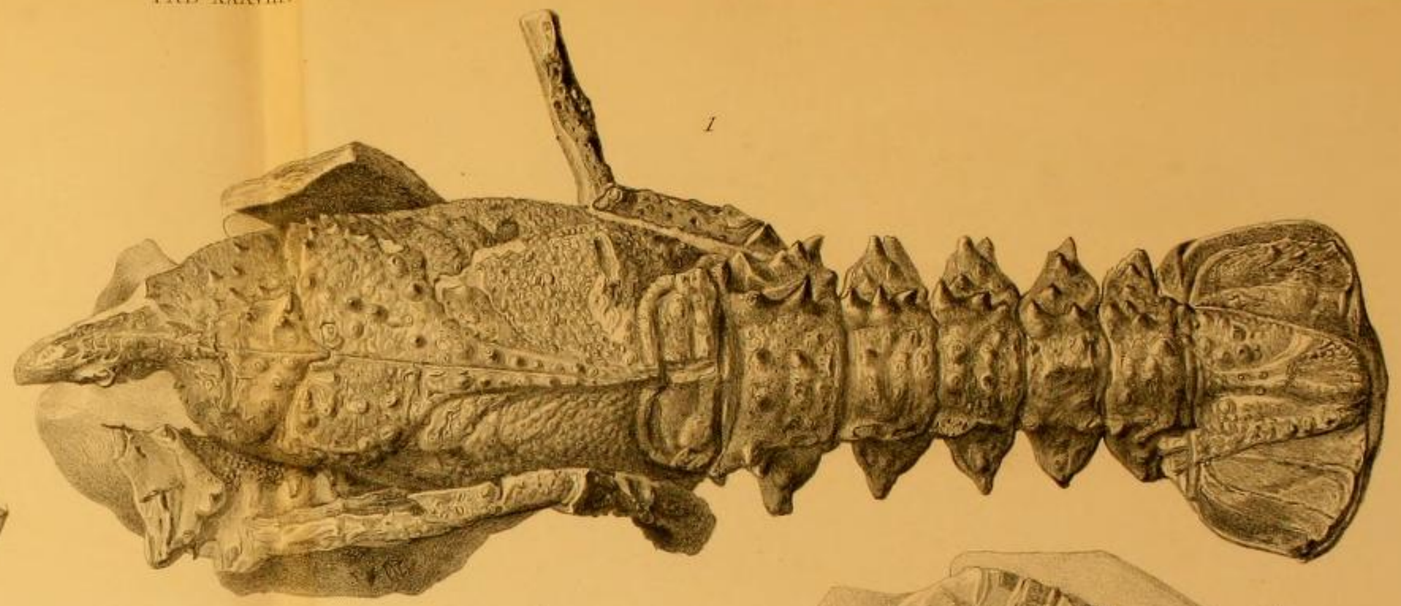
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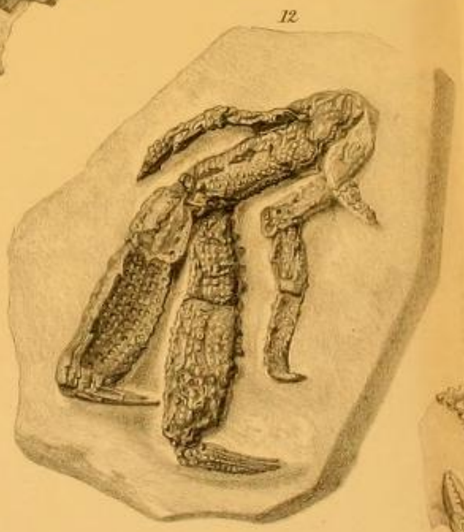
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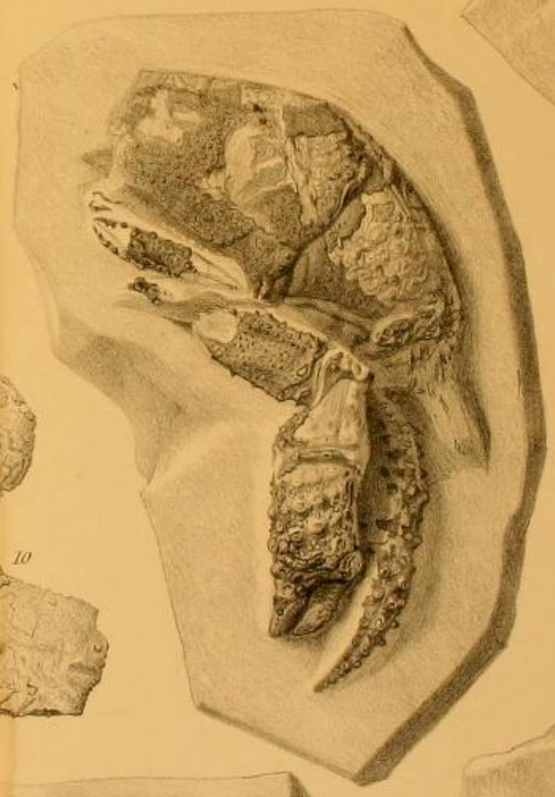
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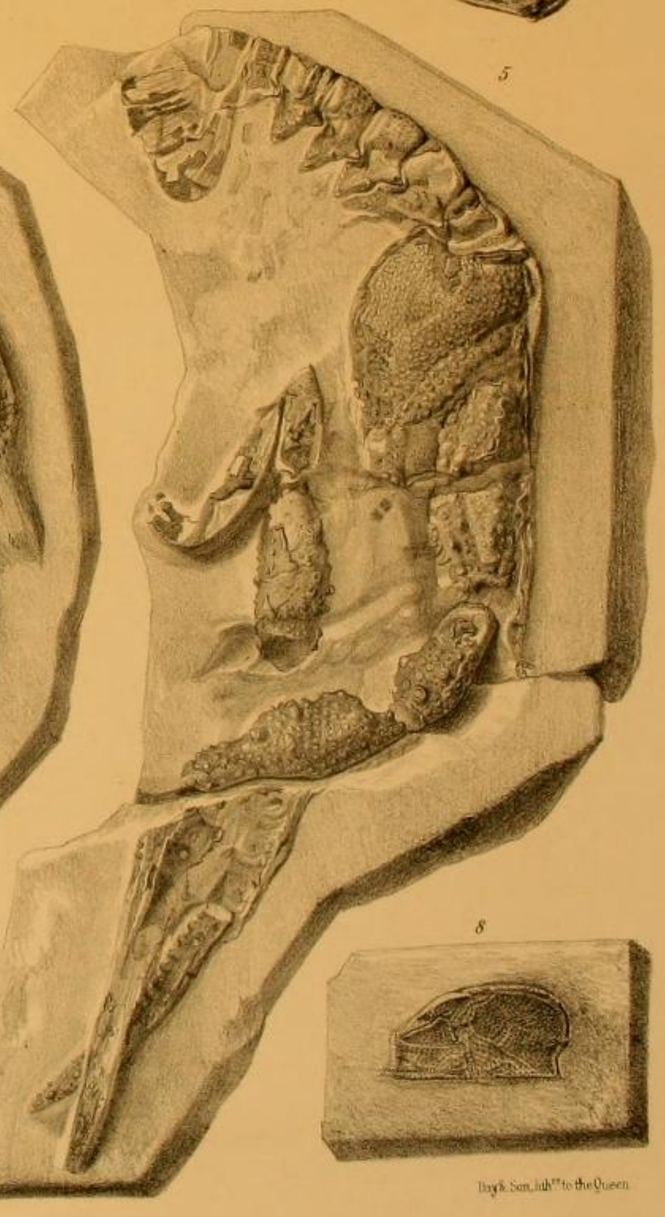
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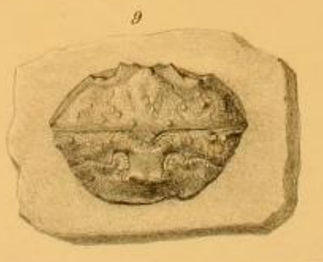
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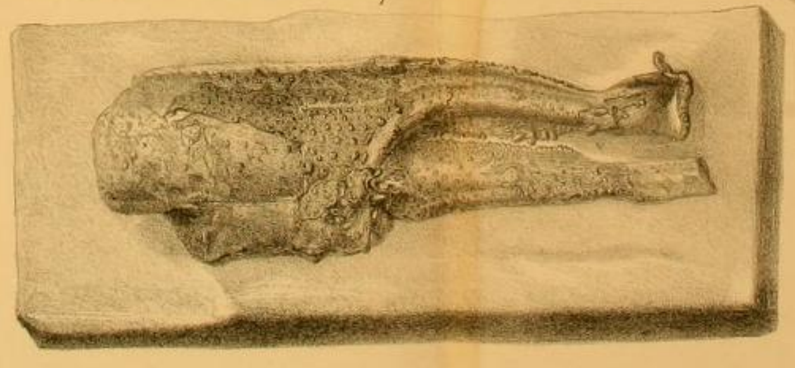
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Dinkel del. et lith.

Day & Son, lith^rs to the Queen.

Crustacea from the Chalk.