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Quod si cui mortalium cordi et curæ sit non tantum inventis hære, atque iis uti, sed ad ulteriora
petrare; atque non disputando adversarium, sed opere naturam vincere; denique non belle et probabiliter
nari, sed certo et ostensive scire; tales, tanquam veri scientiarum filii, nobis (si videbitur) se adjungant
Novum Organum, Præfatio.

VOLUME THE TWENTY-SECOND.

1866.



PART THE FIRST.

PROCEEDINGS OF THE GEOLOGICAL SOCIETY.

LONDON:

LONGMAN, GREEN, READER, AND DYER.

PARIS:—FRIED. KLINCKSIECK, 11 RUE DE LILLE; J. ROTHSCHILD, 14 RUE DE BUCÉ.
LEIPZIG, T. O. WEIGEL.

SOLD ALSO AT THE APARTMENTS OF THE SOCIETY.

MDCCCLXVI.

of the country at the present day, frost and rain appear to play the most important part in the higher mountains of the granitic district; but the chemical action of the atmosphere seems to affect to a greater degree the sandstone, by destroying the ferruginous cement which binds together its particles, and thus decomposing it. Yet the changes that are taking place are apparently so gradual and slow, that I feel convinced that the peninsula of Sinai is to this day but little altered in its nature from what it was when the children of Israel wandered in its wilderness more than 3500 years ago.

2. *On the oldest known BRITISH CRAB (Palæinachus longipes) from the FOREST MARBLE, MALMESBURY, WILTS.* By HENRY WOODWARD, Esq., F.G.S., F.Z.S. (of the British Museum).

[PLATE XXIV. fig. 1.]

I AM indebted to my friend Professor Thomas Bell, F.R.S., of the Wakes, Selborne, Hants, for the opportunity of describing this new and beautiful crustacean.

The specimen is from the Forest Marble of Malmesbury, and was discovered several years ago by the well-known collector of Oxford-Clay and Oolitic fossils, Mr. Wm. Buy. It will be seen to have nearly all its limbs *in situ*; and it shows the carapace with four segments of the abdomen united to it, resting upon a slab of Forest Marble covered with the remains of *Pentacrini*, *Acrosalenia hemiciदारoides*, shells of *Avicula*, *Rhynchonella*, and traces of the drift-wood to which the Oolitic Pentacrinites (like the barnacles of our modern seas) were attached.

The limbs of this crustacean are extremely long and slender; and in this respect, and also in their form and in that of the carapace, with its remarkable prominent tubercles in front, it closely resembles the common "Spider Crabs" (the *Maiadæ* and *Leptopodidæ*) living on our own coasts at the present day, and the Great Japanese Crab, the *Inachus Kæmpferi*, of De Haan. The Upper White Jura of Germany has yielded carapaces of several minute crustacea, which are either Brachyurous or Anomurous; but as no limbs or abdominal segments have been met with, it is more doubtful where to place them in a classification of the fossil forms.

Professor Reuss* and H. von Meyer† have described three genera and twenty-five species of these forms (some of which have been reproduced in Mr. Lowry's 'Chart of Fossil Crustacea'‡); but none of them are comparable with the carapace of *Palæinachus*.

* Sitzungsber. K. Akad. d. Wiss. in Wien, xxxi., 1858.

† Palæontogr. Cassel, 1859-61, Bd. vii. p. 183, t. 23 (Monograph on the *Prosoptonidæ*).

‡ *Palæinachus longipes* is there figured with the generic name *Protocarcinus* which had been given to it (in MS.) by Prof. Bell; but it is not adopted here, first, because the fossil has no affinity to *Carcinus*, and secondly, because the prefix "*Proto*" is objectionable in Palæontology.

In the swollen form of the branchial regions, and the well-marked nuchal furrow, it resembles the genus *Inachus*, with which it also agrees in the form and proportion of its limbs; but the bifid and diverging rostral tubercles more nearly agree with the *Maiadae*, thus offering a connecting link for these divisions of Milne-Edwards's *Triangulares*. The Triangular Crabs are certainly one of the earliest families of Brachyura; and notwithstanding their dull habits, they make up by their exceeding fecundity* for want of strength and cunning, and have thus been enabled to maintain their ground even to the present day.

PALÆINACHUS LONGIPES, H. W. Pl. XXIV. fig. 1.

Carapace suborbicular, broadest behind; branchial regions large and rounded, their surfaces covered with extremely minute rounded tubercles; the gastric region well defined by a somewhat deep furrow; the frontal and hepatic regions more than half the length of the entire carapace, tumid and ornamented with two subcentral tubercles and a semicircle of five other tubercles; margin irregularly swollen and depressed, and contracting towards the rostrum, which is represented by two prominent widely diverging and rounded horns, at the exterior bases of which, in the recent *Leptopodidae*, the eyes are placed; these, however, cannot be detected in the fossil.

The abdomen is imperfect, but indicates a female; the lateral margins of the most perfect segment are somewhat angular, deeply grooved across, and also between the central portion and the epimera.

The arm, wrist, and hand have respectively five, three, and two tubercles on their upper angle; the hand is didactyle, and resembles the recent *Stenorhynchus* in form.

The walking legs are of about three times the length of the carapace, very slender, and have a row of minute tubercles upon their upper surface.

Breadth of carapace across the branchial region 8 lines, length from attachment of abdomen to base of rostral spines 9 lines; rostral spines $2\frac{1}{2}$ lines in length; arm about 5 lines; wrist $2\frac{1}{2}$ lines; hand $5\frac{1}{2}$ lines; longest limb 28 lines.

EXPLANATION OF PLATE XXIV. fig. 1.

Fig. 1. *Palæinachus longipes*, H. Woodw. Forest Marble, Malmesbury, Wilts. Natural size.

3. Notes on the SPECIES of the GENUS ERYON, Desm., from the LIAS and OOLITE of ENGLAND and BAVARIA. By HENRY WOODWARD, Esq., F.G.S., F.Z.S. (of the British Museum).

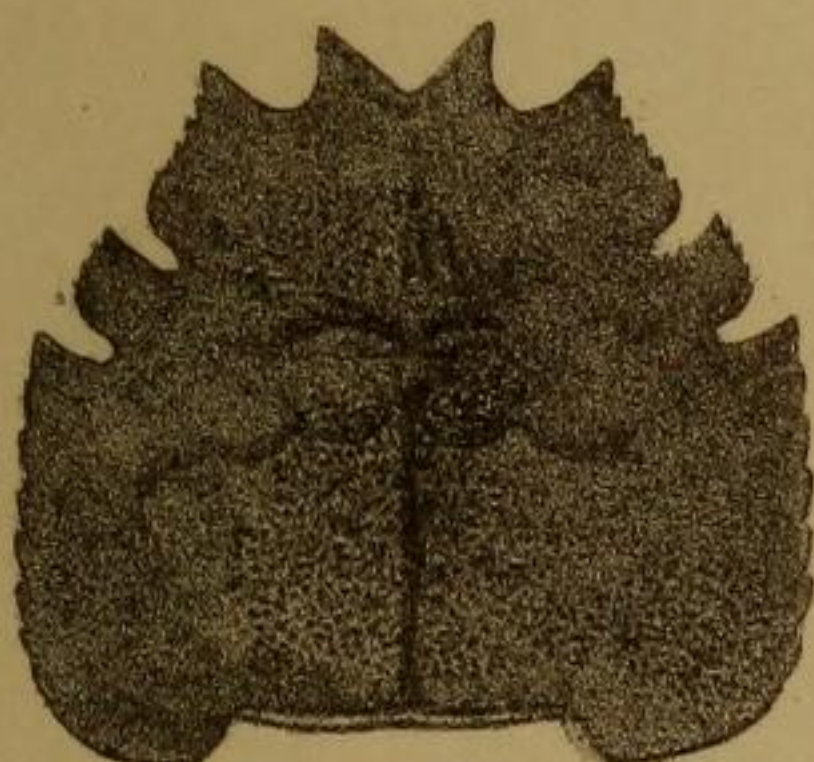
[PLATES XXIV. figs. 2-4, & XXV. figs. 1-3.]

THE genus *Eryon* was established by Desmarest (in Brongniart and Desmarest's 'Natural History of Fossil Crustacea:' Paris, 1822)

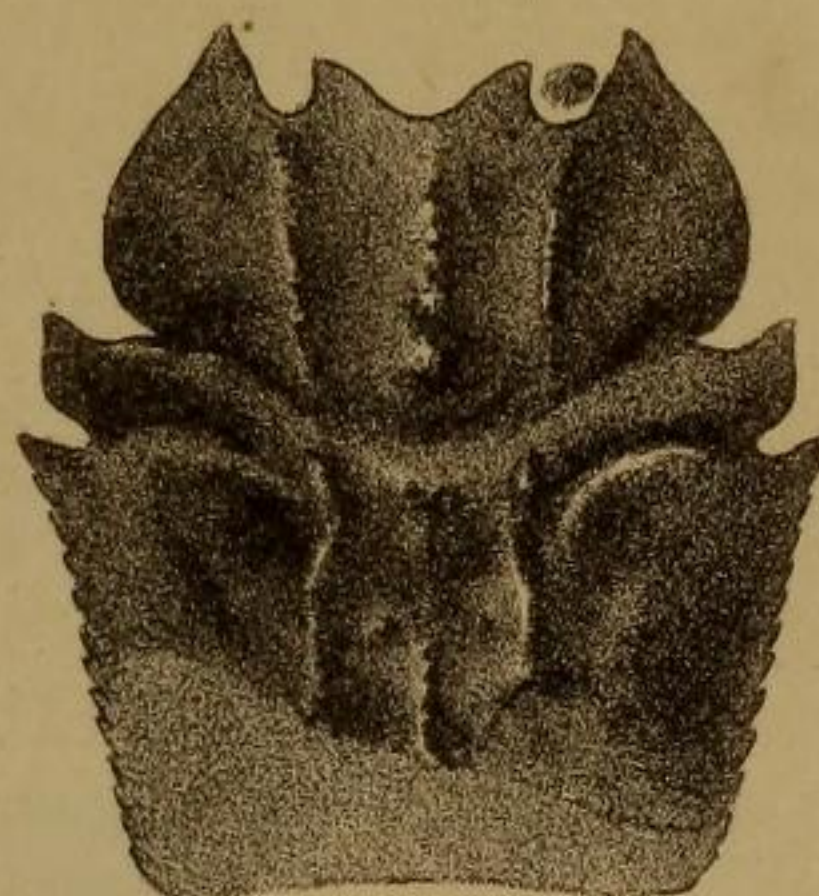
* The female *Maia squinado* bears at one time upwards of seventy-six thousand eggs (Couch).



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