

specimens found in this district, referred to *T. Eudesii*, Oppel, may belong to *Terebratula conglobata*, Desl.

I have thought it necessary, in drawing up the preceding table, to give the species found in the Fuller's Earth as well as those found in the Inferior Oolite, as these beds are closely connected, and the division may have been drawn differently in France and in England.

Remarks.—The specimens which occur at Dundry are identical with those in the Sherborne district; but the small shells *Thecidea*, *Zellania*, etc., have not yet been found in the latter locality, but will be sought for the next time Prof. Buckman's quarry is worked for road-metal. Several *Thecidea*, etc., and more *Rhynchonellæ* may occur in France, but as these have not yet been described in the *Paléontologie Française*, the list may be incomplete. *Terebratula maxillata* and *Rhynchonella concinna* have been stated to occur in the Fuller's Earth of Sapperton Tunnel near Cirencester, but a blue band of the Great Oolite was cut through in making the tunnel, and the fossils from it were mixed with those from the Fuller's Earth, being nearly the same colour. It will be observed that the species peculiar to the Oolitic Marl of Cheltenham district, as *Rhyn. Lycetti*, Dav., *Rhyn. subobsoleta*, Dav., *Waldheimia Leckenbyi*, Walker, *Terebratula fimbria*, Sow., *Terebratula submaxillata*, Dav., etc., are wanting both in the Dorset district and in France; and that several species, as *Rh. ringens*, Herault, *Rh. parvula*, E. Desl., *Rh. plicatella*, Sow., *Rh. senticosa*, v. Buch, *Waldheimia subbucculenta*, Chap. et Dew., *W. Waltoni*, Dav., *W. emarginata*, Sow., *Terebratula decipiens*, E. Desl., *T. Ferryi*, E. Desl., *T. Morièri*, Desl. and Dav., *T. Stephani*, Dav., *T. sphaeroidalis*, Sow., occur in France and Dorset and Somerset, and not at Cheltenham. Probably some Palæozoic barrier separated these two areas during the deposit of these zones, and the exact equivalents may not be able to be found on comparing the different horizons of the Inferior Oolite of these districts. The Oolite marl being absent in France and Dorset; the bed containing *Rh. ringens* has not been found at Cheltenham. It is also worthy of remark that the Brachiopoda of the other Oolitic strata, and the Lias of Somerset and Dorset contain several species which do not occur in other parts of England, but are common in France.

VI.—ON *MEYERIA WILLETTII*, A NEW MACROUROUS CRUSTACEAN FROM THE CHALK OF SUSSEX.¹

By HENRY WOODWARD, LL.D., F.R.S., F.G.S.,
of the British Museum.

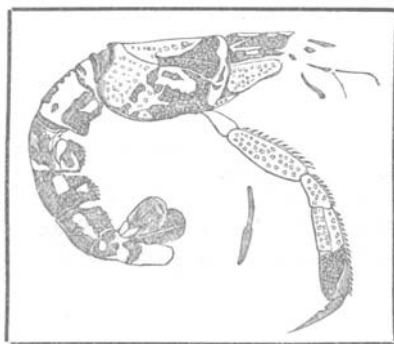
THE genus *Meyeria* was established by Prof. McCoy, in 1849, for the reception of certain Crustaceans from the Gault and Greensand, found at Speeton, Yorkshire, and at Atherfield, in the Isle of Wight. A new form has been most obligingly sent to me for examination by Henry Willett, Esq., F.G.S.; and this being in a more perfect state of preservation than any heretofore obtained,

¹ Originally published in Dixon and Jones' *Geology of Sussex*, 1878, p. 379.

enables me to refer to the same species about eight other remains from the Chalk preserved in the British Museum and including the carapace figured on pl. xxxviii. fig. 8 of Dixon's *Geology of Sussex*.

M'Coy considered *Meyeria* to belong to the family *Thalassinadæ*: but to this Prof. Bell demurs, considering it ought to be associated with the *Astacidæ*, the division across the exterior plate of the tail being an absolutely distinctive character of the latter family.

It will be observed that Mr. Willett's specimen, figured in the annexed woodcut, agrees more nearly in size with *Meyeria ornata*,



Meyeria Willettii, H. Woodw. White Chalk, Lewes. Natural size.

from Speeton, than with the much larger species, *Meyeria vectensis*, from Atherfield. The abdominal somites of our specimen, however, are not ornamented, as in *M. ornata*, with four or five transverse elevated rows of rounded granulations, but are nearly plain, as in *M. vectensis*, save that each segment is marked by two lateral grooves enclosing a somewhat raised area, and their epimera are granulated and furnished with small spines along their border, which is truncated. The median lobe of the tail is wanting, but two lateral lobes are present, the outer of which is transversely divided along the distal border. The carapace is evenly and finely granulated; the cervical furrow is nearly straight, dividing the carapace at about one third of its length from the front; the cardiac furrow is clearly marked, enclosing a broadly triangular area, the sides of which slope upwards on either hand from the cervical furrow, and meet upon the dorsal line near the posterior margin of the carapace.

Three nearly parallel ridges, with slightly more prominent granules, mark the gastric region of the carapace. A furrow, uniting with the cervical and cardiac furrows, curves around the hepatic region, and separates it from the other regions of the carapace. This part is very indistinct in Mr. Willett's specimen, but is well shown in the carapace figured by Dixon.

From Mr. Willett's specimen, and still more clearly marked in one of Dr. Mantell's, we learn that the forearms were long, slender,

and bordered by small spines, the surface granulated, and the extremities monodactylous.

The four pairs of feet were long and slender, their surfaces smooth (not granulated like the forearms), and their edges bordered by small spines. Of the antennæ we cannot speak, as they have not been preserved.

The specimen figured in the accompanying woodcut¹ is from the White Chalk of Lewes, and probably Dr. Mantell's and Mr. Dixon's specimens are from the same locality. There is also a closely allied, if not identical, species preserved in the British Museum, from the Upper Greensand of Wiltshire (part of Mr. W. Cunningham's Collection), and another from near Ventnor (Chalk-rock?), presented by Prof. T. Rupert Jones, F.R.S.

I dedicate this species to H. Willett, Esq., F.G.S., whose exertions on behalf of the Sub-Wealden Boring, the completion of the palæontology of the Chalk, and the success of the Brighton Museum, are well known to all geologists.

VII.—ON THE OCCURRENCE OF A FOSSIL TREE (GLYPTODENDRON) IN THE CLINTON LIMESTONE (BASE OF UPPER SILURIAN), OF OHIO, U.S.

By Professor E. W. CLAYPOLE, B.A., B.Sc. (London);
of Antioch College, Yellow Springs, Ohio.

DURING the summer of 1877 I made a geological excursion, in company with one of my students, to the western part of our State, to examine the junction of the Upper Silurian ("Clinton" of the Ohio Survey) and the Cincinnati group of the Lower Silurian. Whilst thus engaged near Eaton, in Preble Co., my companion, Mr. Leven Siler, of that town, picked up and handed to me a slab bearing what appeared to be a mould of the well-known bark of the *Lepidodendron*, somewhat weathered. More careful examination confirmed the first impression, and convinced me that I had indisputable proof of the existence of arborescent vegetation of an earlier date than had hitherto been announced upon equally conclusive evidence.

The fossil, of which a woodcut accompanies this paper, is on the surface of a slab of marine limestone. It measures about two inches and a half, by two inches, and contains nearly fifty more or less distinct scars, such as mark the bark of a *Lepidodendron*. Its surface is cylindrically concave, and has just such an impression as a round stem would produce—that is, it represents a segment of a cylindrical surface, of the dimensions given above, and depressed about half an inch in the middle. The squeeze accurately shows both the marks and the curvature of the surface.

The slab containing it was not taken out of the solid rock, but picked up loose on the surface of a bank close to the junction of the

¹ For permission to use this illustration from Dixon's *Geology of Sussex* (New Edition, 1878) we are indebted to the kindness of the publisher, Mr. W. J. Smith of Brighton.