

the statement to mean that this is the measure, or estimate, of the average height of the greater waves of which some were encountered and a number seen during the storm, and I see no reason to quarrel with such a mode of statement. It admits, however, of an apparent discrepancy of probably 100 per cent. between the values assigned to the height of ocean waves according to whether we adopt the concrete or the abstract notion of a wave.

### GIANT OSTRACODA: OLD AND NEW.

By the Rev. THOMAS R. R. STEBBING, M.A., F.R.S., F.L.S., etc.

As students are aware the species of Entomostraca are for the most part very inconspicuously conspicuous, and among those of them which are thus notable not for being very large but for being very little the Ostracoda, if not absolutely foremost, are certainly well to the front. Recent researches, however, have shown that in this group as in others an astonishing disparity of size may separate exceptional members of it not only from the minutest forms but from the average dimensions.

In 1880, Dr. G. S. Brady in the first volume of the "Challenger" Zoological Reports described a new genus and species from the South Pacific under the name *Crossophorus imperator*. After giving the length as " $\frac{1}{3}$  of an inch (8.4 mm.)," he refers to it with a kind of enthusiasm as "this noble species, certainly the largest of the known Cypridinidæ." The family in question was already itself distinguished among the Ostracoda by having representatives which could boast of some such exorbitant length as the sixth of an inch. By abruptly doubling this the *Crossophorus* would probably attain a bulk about eight times that of its largest known competitor. In 1896 Drs. Brady and Norman described another specimen, assigned to the same species, with a length of 7 mm. Though both specimens were reported from very great depths of nearly equal temperature, it is remarkable that the first, a male, was taken a little to the east of New Zealand, the second, a female, "was procured by the 'Porcupine' Expedition of 1869, in the Atlantic, west of Donegal Bay, Ireland." The same length of 7 mm. is reached by *Cyclasterope hendersoni*, Brady, 1897, which Mr. Henderson, of the Christian College, Madras, brought to light by dredging in Madras Harbour.

At the close of last year a new species, *Asterope arthuri*, 8 mm. long, was described among the crustacea brought by Dr. Arthur Willey from the South Seas. In regard to this interesting form it may be mentioned that before the specific name had been given, some of its appendages were figured in the volume of KNOWLEDGE for 1899, in the course of an essay dealing with the general structure of the Ostracoda (Vol. XXII., p. 31).

In 1898 Professor Sars described a new genus and species under the title "*Megalocypris princeps*, a gigantic fresh-water Ostracod from South Africa." This species, from a pond near Cape Town, attains a length of 7.30 mm., while apparently not full grown, and, as it belongs to the family Cypridinidæ, in which the forms are usually very small, its "truly gigantic size" is even more surprising than that noted in the preceding instances. In 1900 M. Jules Richard reports a "*Gigantocypris*," about 10 mm. in diameter, as having been dredged by the Prince of Monaco from a great depth off the Azores.

These examples, however, do not exhaust the possi-

bilities of the Ostracode group, for Dr. Gilchrist in December, 1899, while conducting marine investigations on board the South African Government vessel the "Peter Faure," and dredging in 90-100 fathoms off Cape St. Blaize, obtained specimens of Ostracoda which much surpass the dimensions above quoted. The specimens were speedily forwarded to me by Dr. Gilchrist, and were examined at once. That they have not been sooner recorded is due in part to the well-founded and growing dislike of preliminary notices, and in part to my apprehension that there had been made elsewhere an earlier discovery of a magnificent Ostracode, which might prove to be the same species. After talking the matter over with a scientific friend, I am now induced to think with him that the case is one of exceptional interest, in regard to which publication should no longer be delayed. The fact is that the specimens have a length of 15.5 mm. by a height of 12.5 mm., so that the noble *Crossophorus imperator* and the truly gigantic *Megalocypris princeps* are positively dwarfed by the comparison.

The new species, for which I propose the name *Crossophorus africanus*, has its generic position pretty well assured, since, among other points, to quote Brady and Norman, "the peculiar arrangement of the armature of the caudal laminae is unlike that of any other known genus." But the new species, though agreeing in the general plan of arrangement, differs in detail, having only five principal spines instead of the seven which the smaller species displays. The mandibles have the bifid masticatory appendage, found in one or two other genera, but not there densely setulose as it is here. The maxillipeds have the large sub-triangular lamina, fringed with plumose setæ, and ending with a small lobe also fringed. This lobe is peculiar to *Crossophorus*, but it is much less clearly developed in the Irish specimen of *C. imperator* than in the New Zealand specimen. From the Irish *C. imperator* the new African species is strikingly distinguished by the apical part of the vermiform limb.\* Here it forms a regular mouth, one jaw ending in a tooth, which confronts in the other a neat circlet of denticles. In the Irish specimen the tooth confronts "several (six?) finger-like curved processes which are ciliated on the edges." In the New Zealand specimen the limb is described as being "almost exactly like that of *Cypridina*." The result of these comparisons is to make me believe that we have to do with three specimens of the genus, first, the original *Crossophorus imperator*, Brady, from the Pacific; secondly, the species described by Brady and Norman, of nearly the same size, from the North Atlantic, which may be distinguished as *Crossophorus imperialis*; and thirdly, the new African species, *Crossophorus africanus*. For the latter detailed drawings have been already prepared, and these with accompanying description will, I hope, in due time more fully explain, and adequately justify this preliminary decision.

That an isopod which I find parasitic within the new species is itself likewise new may be affirmed without hesitation. The name I propose for this is *Cyproniscus crossophori*. It bears a strong resemblance to the much smaller *Cyproniscus cypridinæ*, Sars. Its distinctness will be apparent in the account and figures which are reserved for their appropriate place in the "Marine Investigations of South Africa," published by the Cape Government.

\* For the general appearance of this strange appendage, see the figures in KNOWLEDGE, Vol. XXII., pp. 30, 31.