

from *Biddulphia*; while, like *Zygoceros*, *Porpeia* differs from it merely by living in an isolated condition. In *Amphitetras* the valves are subquadrate, and provided with four pseudo-openings at the angles, while in *Biddulphia* there are only two. Yet the structure of both of the latter types is the same, while the number of pseudo-openings depends on the form of the valve—there being one at each angle; thus some triangular forms, or forms with four or more angles, each provided with a pseudo-opening, occur, and have hitherto been named *Triceratium*, but these must in future be enrolled among the *Biddulphiæ*. *Amphitetras* agrees with *Biddulphia* in its zigzag appearance, the union between its frustules being effected by means of an isthmus or small angular cushion; and, in its structure, it agrees with the latter so far as to possess a pseudo-opening at each extremity. Moreover, *Amphitetras antediluviana*, Ehrenb.,<sup>1</sup> is frequently found associated with the *Biddulphia pulchella* of Gray, which is but another proof of the affinity of the two types.

*Biddulphia pulchella*, Gray, var. *major*, nov. (Plate XXIII. fig. 6.)

We have here represented a very large valve divided by six transverse lines or septa, the characters of which exactly agree with the definition of the *Biddulphia pulchella* of Gray, except that the strong thorns, which are constantly found in groups of two or three in the latter, are absent in the former. For this reason, the present form has been referred to as a variety, a view which is, in part, substantiated by its unusually large size. It was collected in the Caroline Archipelago.

*Biddulphia reticulata*, Roper, var. *inermis*, nov. (Plate XXVI. fig. 9.)

Another beautiful form of this genus is here shown. It possesses reticulated parietes, and two opposite capital processes, towards the extremities of which the network disappears. Between the two latero-terminal processes the end of the frustule is slightly inflated or convex. In these respects it resembles *Biddulphia reticulata*, Roper,<sup>2</sup> but it may be distinguished from the latter by the absence of superficial puncta.

It may be observed that in the present figure the two frustules are united together by means of two hoops or belts, which embrace each other, and each of which shows a different internal structure from that of the valve. This appearance enables us to understand the transitory nature of the belt in some forms, as has been already pointed out by Dr Wallich, who observed that it did not form an integral part of the frustule, but was joined to it by means of several distinct oblong cellules.

This elegant organism was collected at the Philippine Islands.

<sup>1</sup> Pritchard, *op. cit.*, pl. xi. figs. 21 and 22.

<sup>2</sup> *Trans. Micr. Soc. Lond.*, vol. vii. p. 14, pl. ii. figs. 13–15.