

BATHONELLA AND VIVIPARUS

SIR,—Mr. Yen's paper is so suggestive and so nearly convincing that I would like to ask some elucidatory questions :—

(1) Why is he at pains to establish what was already well known, that *Bathonella* in Oxfordshire and the Indre is associated with marine gastropods ? A casual reader of his paper might think this an important point, but it proves nothing, for when *Bathonella* was thought to be a *Viviparus* it was only supposed that it was brought into the sea by a river in the same way as the mammals and land plants in the (purely marine) Stonesfield Slates.

(2) Why does he not mention that both in Oxfordshire and in the Indre *Bathonella* is associated with another genus of gastropods hitherto accepted as of freshwater origin and found at no other horizon, namely, *Valvata comes* Hudleston and *Valvata benoisti* Cossmann ?

(3) How does he dispose of *Valvata comes* and *V. benoisti*, and of the other *Valvatas* recorded in the marine formations on the Continent from the Kimeridgian upwards and supposed to have been brought in by rivers ? Are these now to be considered generically different from the abundant *Valvatas* of the Purbeck Beds, or are all the Jurassic *Valvatas* marine ?

(4) If *Bathonella* and the Bathonian *Valvatas* are marine genera, how does he explain their occurrence at one horizon only in each place in hundreds of feet of marine strata full of gastropods, most of which have a long range ? The old idea that some temporary trick of currents floated them out into the basin from the mouth of a river provided a satisfactory explanation.

(5) Will he tell us shortly the characters that he considers distinguish *Bathonella* from *Viviparus* ? It is not enough to be given a description of the shell and to be told that in combination its characters "produce an entirely different aspect" from *Viviparus*, for if this is true how was it that all palaeontologists and conchologists up till now have been deceived, including M. Cossmann and W. H. Hudleston, both of whom studied, described, and figured *Bathonellas*, and why do his own photographs still make *Bathonella* look so deceptively like *Viviparus* ?

I hope Mr. Yen will believe that I have an open mind on the subject ; but his interesting suggestion naturally raises such questions as these.

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