

series. It will be seen that *Cypris fasciculata* (fig. 337, *b*) has tubercles at the end only of each valve, a character by which it can be immediately recognized. In fact, these minute crustaceans, almost as frequent in some of the shales as plates of mica in a micaceous sandstone, enable geologists at once to identify the Middle Purbeck in places far from the Dorsetshire cliffs, as, for example, in the Vale of Wardour, in Wiltshire. Thick siliceous beds of chert occur in the Middle Purbeck filled with mollusca and cyprides of the genera already enumerated, in a beautiful state of preservation, often converted into chalcedony. Among these Professor Forbes met with gyrogonites (the spore-vessels of *Charæ*), plants never until 1851 discovered in rocks older than Eocene. In a bed of this series, about 20 feet below the "Cinder," Mr. W. R. Brodie has lately found (1854), in Durdlestone Bay, portions of several small jaws with teeth, which Professor Owen, after clearing away the matrix, recognized as belonging to a small mammifer of the insectivorous class. The teeth with pointed cusps resemble in some degree those of the Cape Mole (*Chrysochlora aurea*); but the number of the molar teeth (at least ten in each ramus of the lower jaw) accords with that in the extinct *Thylacotherium* of the Stonesfield Oolite (see below, Chap. XX.). This newly-found quadruped, therefore, seems to have been more closely allied in its dentition to the *Thylacotherium* than to any existing insectivorous type. As in *Thylacotherium*, the angular process of the jaw is not bent inwards, an osteological peculiarity confined to the marsupial tribes (see Chap. XX.), and Professor Owen therefore refers the *Spalacotherium* to the placental or ordinary class of monodelphous mammalia.

In a former edition of this work (1852), after alluding to the discovery of numerous insects and air-breathing mollusca in the "Purbeck," I remarked that, although no mammalia had then been found, "it was too soon to infer their non-existence on mere negative evidence." The scarcity of the remains of warm-blooded quadrupeds in Oolitic rocks, and the fact of none having yet been met with in deposits of the Cretaceous era, may imply that there were few mammalia then living, and their limited numbers may possibly have some connection with the enormous development of reptile life in all Secondary periods, as compared to Tertiary or Recent times. If so, the phenomenon has at least no relation to an incipient or immature condition of the planet, as some have imagined, for, so far from being characteristic of primary or even older secondary times, it belongs to the Maestricht chalk, the newest subdivision of the cretaceous series, and that too in a manner even more marked than in the older oolitic rocks. Nevertheless in the present imperfect state of our information respecting the land-animals of the Cretaceous and Jurassic periods, exclusively derived from marine and fluviatile strata, and our total ignorance of the deposits formed in lakes and caverns at the same date, it would be premature to attempt to generalize on the nature of so ancient a terrestrial fauna.

Fig. 338.



*Physa Bristolii.*  
E. Forbes. Middle  
Purbeck.