

the genera *Patella*, *Nerita*, *Rimula*, and *Cylindrites* are common (see figs. 369 to 372); while cephalopods are rare, and, instead of ammonites and belemnites, numerous genera of carnivorous trachelipods appear. Out of one hundred and forty-two species of univalves obtained from the Minchinhampton beds, Mr. Lycett found no less than forty-one to be carnivorous. They belong principally to the genera *Buccinum*, *Pleurotoma*, *Rostellaria*, *Murex*, *Purpuroidea* (fig. 368), and *Fusus*, and exhibit a proportion of zoophagous species not very different from that which obtains in warm seas of the recent period. These chronological results are curious and unexpected, since it was imagined that we might look in vain for the carnivorous trachelipods in rocks of such high antiquity as the Great Oolite, and it was a received doctrine that they did not begin to appear in considerable numbers till the Eocene period, when those two great families of cephalopoda, the ammonites and belemnites, had become extinct.

Stonesfield slate.—The slate of Stonesfield has been shown by Mr. Lonsdale to lie at the base of the Great Oolite.* It is a slightly oolitic shelly limestone, forming large spheroidal masses imbedded in sand, only 6 feet thick, but very rich in organic remains. It contains some pebbles of a rock very similar to itself, and which may be portions of the deposit, broken up on a shore at low water or during storms, and redeposited. The remains of belemnites, trigonæ, and other marine shells, with fragments of wood, are common, and impressions of ferns, cycadæ, and other plants. Several insects, also, and, among the rest,

Fig. 373.

Elytron of
Buprestis?
Stonesfield.

the wing-covers of beetles are perfectly preserved (see fig. 373), some of them approaching nearly to the genus *Buprestis*.† The remains, also, of many genera of reptiles, such as *Pleiosaur*, *Crocodile*, and *Pterodactyl*, have been discovered in the same limestone.

But the remarkable fossils for which the Stonesfield slate is most celebrated, are those referred to the mammiferous class. The student should be reminded that in all the rocks described in the preceding chapters as older than the Eocene, no bones of any land quadruped, or of any cetacean, have been discovered until the *Spalacotherium* of the Purbeck beds came to light in 1854 (see above, p. 295). Yet we have seen that terrestrial plants were not rare in the lower cretaceous formation, and that in the Wealden there was evidence of freshwater sediment on a large scale, containing various plants, and even ancient vegetable soils. We had also in the same Wealden many land reptiles and winged insects, which render the absence of terrestrial quadrupeds the more striking. The want, however, of any bones of whales, seals, dolphins, and other aquatic mammalia, whether in the chalk or in the upper or middle oolite, is certainly still more remarkable. Formerly, indeed, a bone

* Proceedings Geol. Soc. vol. i. p. 414.

† See Buckland's *Bridgewater Treatise*; and Brodie's *Fossil Insects*, where it is suggested that these elytra may belong to *Prionus*,