INSECTS IN SECONDARY AND TERTIARY STRATA. 411

restrial vegetables which have produced the beds of Coal.

The existence of the wing-covers of Insects in the Secondary Series, in the Oolitic slate of Stonesfield, has been long known; these are all Coleopterous, and in the opinion of Mr. Curtis many of them approach most nearly to the Buprestis, a genus now most abundant in warm latitudes. (See Pl. 46". Figs. 4. 5. 6. 7. 8. 9. 10.)* Count Munster has in his collection twentyfive species of fossil Insects, found in the Jurassic Limestone of Solenhofen; among these are five species of the existing Family of Libellula, (See

• M. Aug. Odier has ascertained, that the Elytra and other parts of the horny covering of insects, contain the peculiar substance *Chitine*, or *Elytrine*, which approaches nearly to the vegetable principle *Lignine*; these parts of Insects burn without fusion, or swelling, like horn, and without the smell of animal matter; they also leave a Coal which retains their form.

M. Odier found that even the hairs of a Scarabæus nasicornis retained their form after burning, and therefore concludes that they are different from the hairs of vertebral animals. This circumstance explains the preservation of the hairs on the horny cover of the Bohemian Scorpion.

He ascertained also that the Sinews (Nervures) of Scarabæi, are composed of Chitine, and that the soft flexible laminæ of the shell of a crab, which remain after the separation of the Lime, also contain Chitine.

Cuvier observes, that the Integuments of Entomostracans, are rather horny than calcareous, and that in this respect they approximate to the nature of Insects and Arachnidans. See Zoological Journal. London, 1825, vol. i. p. 101.