

tomy of which has been minutely investigated by that distinguished entomologist. These muscles are represented in Fig. 144, which has been carefully reduced from his beautifully executed plates. The largest mass of muscular fibres is that marked *a*, constituting the muscles which depress the wings, and which are of enormous size and strength.

On examining the different structures which compose the solid frame-work of insects, we find them conforming in every instance to the general type of annulose animals, inasmuch as they consist of thickened portions of integument, encircling the body; but variously united and consolidated, for the manifest purpose of obtaining greater mechanical strength and elasticity than if they had remained detached pieces, joined only by membranous connexions. A long flexible body, such as that possessed by the Myriapoda, could not easily have been transported through the air; for every bend would have created a resistance, and have impeded its advance during flight. Hence the body of the insect, which is to be ultimately adapted to this mode of progression, has been shortened by a reduction in the number of its segments, and rendered more simple and compact. The segments destined to support the wings have been expanded for the purpose of lodging the powerful muscles which are to move them; and rendered dense and unyielding in order to support their action.

Nature has farther provided insects with instruments adapted to different kinds of external actions. They consist of articulated levers, variously combined together, and forming legs, claws, pincers, oars, palpi, and, lastly, wings, calculated for executing every variety of prehension, of progression, or whatever other action their wants and necessities require.

### § 3. *Development of Insects.*

It would appear as if the final accomplishment of objects so numerous, so widely different, and so liable to mutual interference, could be attained only by the animal being sub-