

the male in the organs of the queen, and that Dzierzon's theory, created to explain an ill-ascertained fact, becomes useless if this fact is disproved."

One is by no means struck with the evidence of any such conclusion, being in a position to adduce the intervention of the known laws of heredity. With an Italian queen of incontestably pure race the drones have exclusively the Italian characters, although she may have coupled with a male of a different race. The workers alone are hybrids. The author has evidently had before him a case of reversion. He had in his hive, as he tells us, true Italian workers, others French, and others, again, presenting a mixture in diverse proportions of the characters of the two races. This is in conformity with the usual results of crossing. The queen of this hive was no doubt an Italian of the same sort as the workers of his first category. The atavism of a black male which intervened in a preceding generation has manifested itself in different degrees. The same fact is often presented in German and French hives into which Italian queens have been introduced. I remember having myself made a similar observation in the hive of M. Bastian at Wissembourg, ascertaining the hybrid origin of the queen, the external characters, however, of which were purely Italian.

At any rate, it is not in conformity with the present condition of science to represent the parthenogenesis of bees as a hypothesis accepted solely because of its utility in explaining a fact which is incontestable; for its reality has long since been established by experiment.—*Comptes Rendus*, October 28, 1878, p. 659.

*The Development of Ligula.* By M. DUCHAMP.

On the 24th December last M. Duchamp presented a note to the Academy of Sciences, in which he showed, by experiments made on the common pigeon, that for the development of *Ligula monogramma*, Crepl., into a perfect Cestoid it is not necessary that the worm should be introduced into the body of any particular species of animal, but that it can be effected in the digestive canal of any warm-blooded vertebrate.

Continuing his investigations, M. Duchamp endeavoured to rear the *Ligulæ* in artificial media, such as meat-soup, &c., kept at a temperature of about 38° C. (100° F.), but without success. He then introduced a certain number of *Ligulæ*, derived from two tench, into the peritoneal cavity of a dog. No symptoms of peritonitis were produced; and the dog having been killed four days after the operation, the *Ligulæ* were found living with their reproductive organs developed and in full functional activity, the testes being inflated with spermatic cells, and the ova already formed. One of the *Ligulæ* thus transported from the tench to the dog had been divided into two parts; and each fragment was developed in the same way as the entire individuals.—*Ann. des Sci. Nat., Zool.* sér. 6, tome vii., August 1878.