

flesh-forming material to enable it to carry on the whole of the operations during the active portions of its life. Insects of the crustaceous life differed from other animals in having their shell on the outside instead of on the inside. In addition to that we find that the material that these insects live on during the earlier period very frequently differs in character from that which the adult insect lives on. You all know that in the case of all animals food-stuffs are of two classes—the flesh-former (proteid albumen) and other substances for the active working tissues. Then a large number of our foods consist of substances which do not go to build up the working tissues, which may be contrasted to firewood to a steam engine. That is the way with all animals. They should have two classes of food, one for the working tissues and the other simply to act as material which furnishes the energy for those active working tissues, so that we divide the food into two classes—“flesh-formers” and “heat-producers.” We find that the struggle for life is the struggle for nitrogen; it is the most difficult to obtain. Animals have to get, directly or indirectly, their proteid from the elements or the earth. The food of the grub must contain proteid and nitrogen. An insect soon uses up all his available material if there is no provision made for the supply of new material, and his life is a short one. Dr. Cherry gave several instances of the other smaller insects' life in connection with the struggle for nitrogen in food.

Last season there were six samples of pollen from different trees sent for analysis, and in this case we carefully tested all the pollen. From these analyses we find out that the smallest amount of nitrogen is 2.9 per cent, and the smallest amount of albumen and proteid you have to multiply by 6¼, in order to turn them into “flesh-formers”—you simply multiply them by 6¼. One

contains 2.90 per cent of nitrogen, while another contains 4 per cent, so that there is nearly a difference of 40 per cent in the two lots of pollen. Yellow box contained 3.70 per cent, one lot of bastard box 3.80 per cent, 1 per cent more than the first. The next is bastard box (April, 1905); it contained 3.49 per cent. The next is messmate; that contained 3.55 per cent.

The following are the results of the analysis:

#### Analysis of Pollen.

Sample Number	Nitrogen in water free pollen.
14423 Yellow box collected from Taradale, Jan., 1905.....	3.70%
14424 Bastard box collected from Heathcote, March, 1905..	3.80%
14425 Bastard box collected from Tooborac, April, 1905.....	3.49%
14326 (1) Messmate or swamp gum	3.55%
14427 (2) Yellow box .....	2.90%
14475 Unnamed.....	4.00%

Taking the eucalyptus, we have a variation from 2.90 per cent to 3.80 per cent, one yellow box and the other bastard gum. There is a difference of 30 per cent in the amount of nitrogen which the forest eucalyptus contains, from the largest to the smallest. Some of this food is very rich and some is very poor. A difference of 18 per cent and 25 per cent would have a marked difference in the results as far as building up the tissues is concerned. The two samples of bastard gum coming from slightly different localities, one obtained in March (3.80 per cent) and the other in April (3.50 per cent), are fairly close together. I would like the Association to give us some more samples—some of the eucalyptus and wattles and other plants—to see the difference from pollen obtained. A man going in for bees had, to some extent, a difficulty in rearing his bees. A substitute of 5 per cent of the white of an egg added to the sugar and other food was said to be beneficial in helping to supply the necessary amount of pro-