

## What is Indicated by Color in Italian Bees?

—By J. P. H. BROWN.

Your most excellent secretary has requested me to furnish you a paper on "What is indicated by color in Italian bees?"

Before I can proceed to answer this question I beg leave to ask another, and to make a few observations thereon. Is the Italian bee a fixed type or race with a distinct individuality, or only a variety of *apis mellifica*? That it is only a variety and not a fixed type, is a fact well established, both by its physical characteristics in breeding and by a study of its geographical distribution in its "Sunny Italian clime."

But to constitute a variety or breed of any species there must be some distinguishing characteristics. Thus, the different breeds of cattle, horses, swine, poultry, etc., can readily be distinguished from each other by certain physical markings, and by peculiarities of temperament. This same law applies to the Italian bee.

We have been accustomed to find it in those Italian districts where it exists in its highest state of development, with the three abdominal segments next the thorax of a color varying from a bright yellow to a dark leather. These three yellow bands are claimed to be a test of purity; but there are physical conditions that prevail in this variety of bees that are really more reliable as a test of purity than the yellow bands. For instance, the pure blooded bee will maintain its position on the combs and will not run and scamper when smoke is applied and the hive opened, like bees of other varieties. The queens are less excitable and not so easily frightened. I wish here to be understood that these observations apply to Italian bees as received from Italy.

Every experienced breeder of Italian bees knows that, by a selection of his yellowest female and male stock, he can, in a few generations, produce bees with bands much yellower and brighter than the original imported stock; and if there is an introduction of Cyrian or Syrian blood, the yellow is further extended and increased. Queens from such stock may be bright yellow, drones brilliantly mottled with gold; and workers with four and five yellow bands. The dull markings of the Italian ancestors are obliterated by the brightness of the golden beauties. It is very questionable in my mind whether these Americanized four and five banded

bees can, with propriety, be called Italians. There is a change of physical characteristics from the original. They can not strictly come within the text of my paper. Color here is certainly no criterion of purity. It only indicates that there has been a selection of yellow stock for breeding.

My text confines me to the markings of Italian bees as we get them from Italy. These must be pure if the fact of their coming from that country can make them so. The color of imported Italian queens vary from quite dark to yellow; drones from nearly black to mottled with yellow; workers with three bands varying from dark leather to bright yellow. In some cases the third band can not be seen till the abdomen is distended with honey. The queen progeny of many imported queens may vary from nearly black to yellow. Now, we can not say that the imported queens that produce dark queens, drones or workers, are impure, or claim purity for only the bright ones. The dark color does not indicate impurity any more than the light color indicates purity. We have seen that the Italian bee is only a variety, and, as such in breeding, it is liable to sport or revert back toward the original—sometimes too dark, sometimes too yellow; but still maintaining the three bands as a sort of standard of excellence. Without some standard of excellence, or ideal bee, it is impossible to breed a variety up to a high attainment.

When the breeder of bright yellow bees embodies in his bee vigor of constitution and an increased capacity for gathering honey as the prime factors, and color as a secondary constitution—utility leading beauty—we shall have the bee of the future. Color, then, in the Americanized Italian will indicate excellence in the bee, and the insect itself will stand as a monument to the skill, patience, and perseverance of its developers.

Billings' Bridge, Nov. 25, 1895.

Goold, Shapley & Muir Co., Brantford.

Dear Sirs,—I received your sample of the Bee Journal. I like it very much. Please find enclosed \$1.75 for one year's subscription to the Canadian Bee Journal and the American Bee Journal. I have 78 hives of bees and they did very well this year. I extracted about 3 tons of honey and of comb honey I got about one ton. The honey around here this year was of very good quality.

Yours truly,

Mrs. J. TOMPKINS.