has its formidable obstacles and serious drawbacks; but these, while sometimes troublesome to the scientific apiarist, are disastrous mostly to the unskillful or negligent, or the mere neophyte. And, even though the cargo of industry sink, not much treasure in money or labor is carried to the bottom, while a very little capital added to the valuable lesson of failure soon sets the redoubtable amateur on his legs again.

The honey-bee—which belongs to the general branch of the animal kingdom called *Articulates*, and to the class *Insecta*, and to the sub-class *Hexapoda*, and to the order *Hymenoptera*, and the family *Apidæ*, and genus *Apis*, and species *Apis mellifica*—is one of the most intensely interesting studies in the whole domain of natural history. When the immortal Darwin had the scientific zeal and patience to study the apparent insignificant *earth worm* for *forty* long years, leaving a field untouched for thirty years for the purpose of studying and observing the habits of these despised creatures, how comparatively easy and pleasant to study the honey bee, which is so much more useful and beautiful! The fact that the honey-bee is so much more serviceable to man than many others of the lower creatures whose nature and habits are equally wonderful, as the ant, for instance, invests it with a double interest to us. Insects which are pests, no matter how marvelous in structure and habit, we cannot study with that intense pleasure and interest we can those that yield so much to our physical as well as mental gratification.

Of the species, *Apis mellifica* there are many varieties—the principal of which are Ligurian or Italian bee; the German or black bee; the Syrian bee; the Cyprian bee; the yellow, Egyptian bee; the amiable, Carniolan bee, of Africa; the superbly beautiful Dalmatian bee; the Smyrnian bee, very popular in Austria; and the stingless bees of South America.

In this country (i. e,, Canada and the United States) we have principally the German and Italian bees; but within the past five years the Syrian and Cyprian varieties have been extensively imported into this country by that distinguished and enterprising apiarist. D. A. Jones, of Beeton, Ontario. As the genus *Apis* is not indigenous to this continent, all now existing here have been introduced from the Eastern Hemisphere—first the black and Ligurian races, and latterly the Eastern varieties.

Each of the varieties in this country (vying for "survival" as the "fittest") has its distinguishing characteristics. So far, however, the Italians seem to possess more good points and desirable qualities than any of the other races, and hence are the most numerous and popular among advanced apiarists. Their chief distinguishing qualities are superior amiability, industry, and what may be called patriotism, or indomitable energy in defending their homes against invaders, such as robber bees and the "bee-moth"—against both of which they are quite invincible. While different strains of this variety vary considerably in color, they are in general distinguished by three beautiful yellow bands across the abdomen. They also have longer tongues than the German bees, by which they are enabled to sip the nectar from places inaccessible to their less favored competitors. A. J. Cook, Entomological Professor in the Michigan Agricultural College, who has done very much to advance scientific bee-culture in the United States, says on this point, "The tongue of the black worker, I have found, by repeated dissections and comparisons, made both by myself and by my pupils, is shorter than that of the Italian worker, and generally less hairy." In confirmation of this fact. established by Professor Cook's dissections, I have frequently noticed my Italian bees, during a scarcity of honey from other sources, working upon the second bloom of the common red clover (not the *Trifolium pratense*, which the black bee can readily work upon), when the Germans were doing nothing on it, the flower tubes being too long for their tongues.

The black bees (or rather, German, for in point of fact they are not black in color, but a gray-black) have some desirable qualities, though they are now being rapidly superseded by the Italians. They produce nicer comb-honey than the Italians, or perhaps any other race. The proverbial whiteness and finish of their comb are due mostly to the extra *capping*.

For the Syrian races of bees, Mr. Jones and some other leading apiarists claim some superior qualities. I am inclined to think the Syrian queens (Palestine strain) crossed with the Italian drones, will presently prove to be our very best bees—combining more good points than any other variety. Doubtless, however, the bee of the future will be greatly superior to anything we have at present. For purposes of experimentation in developing such, we have now in America several of the best varieties in existence under domestication. By judicious crossing, in accordance with the well-known laws of *variation* and *heredity*, such a result is quite certain. The vast improvement made in this way among our domestic animals, within less than half a century, fully warrants the conclusion that, in the evolution of things so palpable everywhere, we may in the case of our bees subsidize and utilize the same ever-acting law of progress.

Following the Syrians, and genealogically closely allied to them, we have the Cyprians, though not yet widely diffused. They resemble the Italians, of which they are supposed to be the progenitors. The Cyprian bees have some good points, and one very bad *point*. They are famous for their fecundity, but equally *in*famous for their