

felt that of all men he would be the most desirable agent to employ in the effort to introduce *apis dorsata*, because of his familiarity with the subject and his acquaintance with the countries to be visited; but, in addition, I had some important incidental work that I wished him to do in that connection, namely, the introduction also of certain parasitic forms of injurious insects, and particularly the introduction of the caprifig insect, *blastophaga psenes*, to colonize in those parts of California where the *Smyrna* fig is cultivated. I had made all due arrangements, in consultation with Assistant Secretary Willits, fully expecting to be able to send Mr. Benton on this proposed trip, and had so economized the appropriation that there was means to do it. Mr. Benton, also, had been led to give up other plans in anticipation of this mission. The project was never carried out, however, for the simple reason that the secretary finally refused to endorse it. There seems to have been some promise made to the Senator who had charge of the appropriation bill that no one should be sent abroad, or at least this was the chief reason given for the refusal to carry out my recommendations and wishes. Professor Cook was made aware of these circumstances, and it is consequently somewhat surprising that, in a recent communication to the *American Bee Journal* (Oct. 13, 1892), he should insinuate that the Entomologist felt no hearty concern for the beekeepers' interests, and should urge that "all move in solid phalanx upon the head of the Department" in order to gain our desires and rights.

What may be hoped from the introduction of *apis dorsata* most of you are probably aware of, but I may say that the chief hope was that it might be domesticated in our hives like the common *mellifica*, while Mr. Benton believes that some advantage may be gained by crossing it with that species. On physiological and zoological grounds I have my serious doubts whether this can be done to any advantage, for, while hybridism is feasible with the races of *mellifica* (which, however much they may differ in popular names, are zoologically mere varieties of one and the same species), yet *apis dorsata* is a sufficiently distinct species; and even if crosses could be obtained between it and *mellifica*, it is questionable whether such crosses would be fertile. Mr. Benton, however, has fully set forth the possibilities in *Gleanings in Bee Culture* for June 15, 1892, as also in his remarks before the association, and while the introduction of this species would not be the sole object in sending him abroad, the question of the

possible value of this large bee of India is of sufficient importance to justify thorough experimentation and effort.

WHAT THE NATIONAL DEPARTMENT OF AGRICULTURE CAN DO FOR APICULTURE.

So far, I have indulged in retrospect, and indicated what the department has done, or attempted to do. Let me now come to the second part of the subject, viz.: what the National Department of Agriculture can do for apiculture; what it may accomplish. I sincerely hope this may be much,—will depend greatly upon what sums Congress may see fit to appropriate for such investigations, and this will depend in turn, to some degree, upon what representations as to the needs of the industry, and the possible benefits to the material interests of the country, are made to the head of the department, to the committees on Agriculture, and to other members of Congress by their constituents. Certain kinds of experimental work can be undertaken by individuals without serious interference with the main work of their apiaries. Indeed, it is desirable that each should experiment in a limited way, for localities differ in respect of climate, flora, etc.; in short, the conditions upon which methods of management depend are so variable that each progressive beekeeper must study to ascertain by experimentation what methods are best adapted to his own individual surroundings.

But there are certain larger fields of investigation, requiring more time and expenditure than individuals usually have at their command, and the results of which are pretty sure to benefit apiculture, if not directly, at least indirectly. For instance, if a species or race of bees could be bred or introduced which, in the early part of the season, when bumble bees are few in number, would fertilize the red clover, and later in the season do the same work more thoroughly than it is now done, there is no question that we should reap a reward in the larger yield of clover seed, and in this way our pasturage would be very generally improved. So that this would indirectly affect beneficially our stock and dairy interests, to say nothing of a more general employment of red clover as a green manure in the increase of most of our crops. In cases like this the benefit would be not to individuals, but would be general, and so great that the expense of accomplishing it would be insignificant in comparison. Even an experiment which fails, and which would be disastrous to individual participants in it, would not be felt by the general government, and might serve to point out the way to success in subsequent attempts; for failure often proves very useful in