

to provokes an incredulous smile. No doubt the old proverb "a fool and his money are soon parted" still holds good, and it is quite possible some may be found gullible enough to believe the fabulous stories."

At the annual exhibition of the British Bee Keepers Association held in conjunction with that of the Royal Agricultural Society, of England, at Dorchester, Mr. John Hewitt, who writes as the "Hallamshire Bee-Keeper," had a small glass case containing what he called "*Punic Bees*." A single frame of old dirty comb, without either brood or honey, was partly covered with dark bees, but there was no queen.

It would have been impossible for them to have been shown, to a greater disadvantage, hundreds were dead, and the remainder in a half starved, half suffocated condition, for they had no means of flight, and nothing to eat. Mr. Hewitt staged them himself, I could not form any opinion of their appearance when at liberty, from the slovenly way in which they were shown, and the lamentable condition they were in. They may be all that is said of them, but they can hardly be expected to live without food and air.

I would strongly endorse the opinion of your European friend and advise intending purchasers to pause and "to go very slowly" and keep their money in their pockets. Another old proverb says "a word to the wise is sufficient for them." *Punic bees* are not advertised in any English bee paper, and I am unable, among my bee-keeping friends, to hear of any one, who has ever seen a colony at work.

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8 Beaufort Gardens, Lewisham, England,
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Artificial Heat to Promote Brood-Rearing.

SAMUEL CUSHMAN.

THIS is a continuation of the Report of Apiculture at the New Jersey Experimental Station, contained in Bulletin No. 7:

An experiment was begun May 14th, 1890, with two colonies (Nos. 4 and 14) which had been wintered in the cellar of the station farmhouse, and were in about the same condition. Thermometers were so placed that "each hive had one in the cluster and another in the most remote part of the hive body, outside of the cluster, and both of these could be read without disturbing or exciting the bees."

When the experiment was begun, four thick stone bottles, each holding a half pint, were filled with boiling water and placed back of the

division-board in hive No. 4. This was renewed each morning and evening until June 20, while a record was kept of the thermometer readings for the remainder of the month. The next morning before the water was renewed the common thermometer outside the brood-nest in No. 4. stood at 68°, while in No. 14 it was at 66°. The artificial heat had apparently increased the temperature of the empty corner of the brood-chamber, leaving it at the end of 12 hours 2 or 3 degrees higher than the same space in the other hive.

The thermometer among the bees of No. 4 showed a temperature of 86°, both in the morning and at night, while in No 14 it stood at 84° and 97°. The records for the rest of the month showed that where the heat was used the average temperature of the cluster at night and in the morning was no higher, and that when there was any difference between the two the temperature of the cluster where the heat had been given was the lower. * * *

The records also show that the temperature of the hive outside of the cluster, 12 hours after the hot water was renewed, was many degrees higher than where none had been given. * *

The weather much of the time was very cold and changeable. The artificial heat was of the greatest value during the night and on chilly or sunless days, and better enabled the bees to cover the additional number of eggs and larvae that they had started to rear during warm, sunny days. * * *

On May 31, at eleven o'clock, and just before the thermometers were removed for the season, the one in the cluster in No. 4 indicated 94°, and out of the cluster 78½°. The bees then covered seven combs, one of which contained honey while six were full of brood. Those in No. 14 registered, in the cluster, 94°; out of the cluster, 71°. Of the seven combs one was empty, another was full of honey, and five were quite well filled with brood, and six of these were covered with bees.

No. 4 steadily gained in bees and brood up to June 20, when the artificial heat was discontinued. No. 4 overflowed the brood-nest long before No. 14 had used all the combs, and by July 1 occupied two brood-chambers and was about twice as strong.

Both were run for extracted-honey, and on July 18th the honey was extracted from the upper story of each. The amount obtained from No. 4 was 35 pounds, and from No. 14, 15 pounds. There remained in the lower story of the latter 3 or 4 pounds more than in No. 4. As the building of queen-cells in No. 4 soon caused us to remove the queen for a time and changed