The Australian bee bulletin. Vol. 16, no. 10 January 31, 1908

West Maitland, N.S.W.: E. Tipper, January 31, 1908

Registered at the General Post Office Sydney for transmission by post as a Newspaper

THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.
Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

VOL. 16. No 10 JANUARY 31, 1908. PER COPY, 6d.
Per Annum 5s, booked 6s 6d, in Australasia, outside N.S.W., add 6d. postage

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E. TIPPER. EDITOR & PUBLISHER, WEST MAITLAND & WILLOW TREE.

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A MONTHLY JOURNAL — Devoted to Beekeeping — Circulated throughout the Commonwealth of Australia — New Zealand & Cape of Good Hope

MAITLAND, N.S.W.—JAN. 31, 1908.

OUR APIARIES.

After a fair extracting of yellow box and ironbark before Christmas we were not able to visit our bees till the third week in January. The yellow box flow was just finishing, and the apple trees were all in full bloom. We have heard before that there were times when the apple trees gave only light honey. There was not honey enough to go in for a regular extracting, and we saw no signs of dark apple tree honey. Either there was no honey from the apple tree, or else it was only light honey it was yielding. The getting of honey had ceased, and the bees were devoting their whole attention to raising drones, every suitable space being filled with drone brood. To cut all that out was our occupation, putting it in the wax bag for melting. A few of the hives had swarming in view, some beautiful queen cells being either ready to liberate the princesses, or else well on. We therefore made a few *artificial swarms*, reversed the hive, placing the entrance to the back. Then a fresh hive, with empty combs, and a young queen or queen cell, and one frame with larvæ. The entrance of the original hive being reversed, all the field bees when leaving would go to the new entrance on the old place. We have thus secured some really beautiful queens and some strong new hives.

The weather was very hot, over 100 in the shade.

THE PLURAL QUEEN SYSTEM.

This has been advocated by some, but evidently has not become popular. The following respecting it is by a Russian, Abram Titoff in "Gleanings":—

No matter how strong a colony you prepare for winter, it naturally comes out somewhat weaker in the spring, and it is often observed that there are not enough bees to attend and warm the eggs and larvæ that are produced by one queen. The colony is not in want of eggs, but the attendants for them. We are aware of the fact that a queen is able to lay, say 3000 eggs in a day, on an average, but in the spring they lay much less than that because there are not enough bees in the colony to clean the cells, to nurse the brood, and to go to the field. Put the colony in the most favourable conditions in this respect and you will see that a good queen will be able to supply a colony with the needed amount of eggs. Remember that it was the good queens which forced one of the most practical beekeepers of this country, Mr. Charles Dadant, to enlarge the frame and to adopt a larger hive, and it was done for the purpose of giving room enough for the action of a good queen. From my own experience I also know that a good queen is able to produce bees enough to gather 480 lbs. of honey in one season (in California), and therefore I think the only thing we need to do in order to get a strong colony is to have one good well-developed queen of good stroin, instead of bothering ourselves about assistant queens, especially as, after all, the benefits of the practice are at present very doubtful.

I will not speak at length about the difficulties of introducing another queen into the colony, and the difficulties of saving reserved queens during the winter; but in conclusion I wish to point out one more thing: When we intend to help the bees by our own labour, we must do it according to the laws of nature, and we ought not to interfere with their life as far as this interference will break these laws, and the two-queen system does break them. We know that such a thing as the presence of two queens in one colony, when the latter is under ordinary conditions, does not exist. When a colony prepares to swarm, the old queen goes out from the old hive long before the young one is hatched; and if a colony is not inclined to issue the second swarm, the first young queen, immediately after hatching, destroys all the other queen cells that are in the hive, and remains alone to govern it. If a colony did need two queens it would seem that it needs them after swarming more than at any other time to develop the strength of the colony and to maintain the former dignity of the commune. Yet in nature we never meet with such a state of affairs therefore we may conclude that the second queen would be of no advantage whatever.

CYPRIANS.

ABRAM V. REID.

Now, Father, I saw yours on page 270 "A.B.B." I was awfully glad to note I had not hurt you. Can't guess how I trembled when I started to answer yours of previous month. You state you have alluded to my bees for the benefit of the industry; further you write, "The severe trials of the Cyprians make them objectionable to almost every beekeeper, if these trials do not show that they are not true." Judging from your letters in the various bee papers, you are the father beekeeper of Australia. Should you succeed in your efforts you would ruin my bee trade. Now you say you are writing against my Cyprians for the benefit of the industry. Now show us where these objections come in; give us their description. Tell us all about those Cyprians, and why you warn beekeepers. Don't copy from books, give us your own experience, otherwise "say you know no-

thing about the Cyprians, only you read so and so." Copying from books written fourteen years ago is not worth the paper on which same has been written, and many of those books copied one from another. Now you are plaintiff on behalf of your fellow beekeepers. Now show why you plead on their behalf. You cannot blame me for defending my living, seeing I have five years before I can claim my old age pension regarding the disproving your doubts. I do not wish to convince you. You are interfering with my living and I expect you to show some grounds. Of course you know the children of Israel are poor, stupid creatures, and require the warning, from father Abram.

Re my faith in my bees as pure Cyprians. If I bought a queen from you and paid your highest price, you would expect that I would raise queens from your choice queen straight away. What would this be but faith? Soft solder, father.

To conclude, give us a clear description through the "A.B.B." of your trials, good and bad, of the various breeds of bees you have tried, and thoroughly tested in every respect. This would be of more value to our industry than merely saying my Cyprian bees are not pure, without a particle of proof. Where 200 hives of Cyprian bees are kept, if for honey, they must be at least equal to the best, or who would keep them. If for sale of queens, if they did not give satisfaction, who would buy those queens. True it may be different localities, different breeds of bees to succeed.

Paupong. W. REID. SEN.
via Dalgetty, N.S.W.

JAPAN.

According to "l' Apiculture Nouvelle," beekeeping in Japan is carried on after American fashion, for the reason that the Americans have been their nearest teachers. The representation of a Japan apiary in the Schwz. Bztg has all the appearances of an American yard.—"American Bee Journal."

NEW APIARIES ACT FOR NEW ZEALAND.

1907, No. 11.

An Act to encourage and protect the Bee Industry in New Zealand.—

14th September, 1907.

BE IT ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of same as follows :—

1. This Act may be cited as the Apiaries Act, 1907.

2. In this Act, if not inconsistent with the context,—"Apiary" means any place where bees are kept:

"Bee keeper" means any person who keeps bees or allows same to be kept upon any land occupied by him :

"Disease" means foul-brood (*Bacillus alvei* and *Bacillus larvae*), bee-moths (*Galleria mellonella* and *Achroea grizella*), and any other diseases or pests from time to time declared by the Governor in Council to be diseases within the meaning of this Act:

"Frame-hive" means a hive containing movable frames in which the combs are built, and which may be readily removed from the hive for examination:

"Inspector" means any person appointed by the Governor as an Inspector under this Act.

3. Every beekeeper in whose apiary any disease appears shall, within seven days after first becoming aware of its presence, send written notice thereof to the Secretary for Agriculture, at Wellington, or to any Inspector of Stock.

4. The Governor may from time to time appoint Inspectors and other officers to carry out the provisions of this Act.

5. Any Inspector may enter upon any premises or buildings for the purpose of examining any bees, hives, or bee appliances, and if the same are found to be infected with disease he shall direct the

bee-keeper to forthwith take such measures as may be necessary to cure the disease; or, if in the opinion of the Inspector the disease is too fully developed to be cured, he may direct the beekeeper within a specified time to destroy by fire, the bees, hives, and appliances so infected, or such portions thereof as the Inspector deems necessary.

6. In any case in which it is found by an Inspector that the bee-combs in any hive cannot, without cutting, be separately and readily removed from the hive for examination, he may direct the beekeeper to transfer the bees to a new frame hive within a specified time.

7. (1) Every direction by an Inspector shall be in writing under his hand, and shall be either delivered to the beekeeper personally or sent to him by registered letter addressed to him at his last known place of abode.

(2) Every such direction shall be faithfully complied with by the beekeeper to whom it is addressed, and, in default of compliance within the time specified, the Inspector may within one month destroy or cause to be destroyed by fire, at the expense of the beekeeper, any bees, hives and appliances found to be infected with disease.

8. No beekeeper shall—

(*a*) Keep or allow to be kept upon any land occupied by him any bees, bee-combs, hives, or appliances known by him to be infected by disease, without immediately taking the proper steps to cure the disease; or

(*b*) Sell, barter, or give away any bees or appliances from an apiary known by him to be infected by disease.

9. No beekeeper shall, after the expiry of six months from the passing of this Act, keep or knowingly allow to be kept on any land occupied by him any bees except in a properly constructed frame hive.

10. Every person is liable to a fine not exceeding five pounds who—

(*a*) Obstructs an Inspector in the exercise of his duties under this Act, or refuses to destroy or to permit the destruction of infected bees and appliances:

(*b*) Fails to comply with any direction given under the provisions of this Act by any Inspector:

(*c*) Commits any other breach of this Act.

11. No person shall be entitled to compensation for anything lawfully done under this Act.

12. The Governor may from time to time, by Order in Council gazetted, declare any disease or pest affecting bees or apiaries (other than those mentioned in section two hereof) to be a disease within the meaning of this Act.

13. The Apiaries Act, 1906, is hereby repealed, and all appointments made under that Act shall be deemed to have been made under this Act.

BREAD AND HONEY.

Of all the meals you can buy for money,
Give me a meal of bread and honey!
A table of grass in the open air,
A green bank for an easy chair.
The table-cloth inwrought with flowers,
And a grasshopper clock to tick the hours.
Between the courses birds to sing
To many a hidden shining string.
And neither man nor maid be seen,
But a great company of green.
Upon a hundred thousand stalks,
Talk to us its great green talks.
And when the merry meal is done,
To loiter westward with the sun,
Dipping fingers ere we go
In the stream that runs below,
Of all the meals you can buy for money,
Give me a meal of bread and honey.

K. LE GALLIENNE in "*A. B. Journal.*"

CORRESPONDENCE.

A FEW QUESTIONS.

The following communication has been received from Benalla. We would like our readers to furnish some answers to same. For ourselves we never thought much of excluding zinc, beyond a supply dealer's fad to make business. About two queens in a hive, that is another unnecessary matter, which, we think, has been fully answered in last issue :—

To Mr. E. Tipper,

Dear Sir.—I am writing to ask you what you think of the idea of putting the queen-excluder on the side of the bee box instead of on top of the frames. What I mean is, say, to get a bee box, cut the centre of one side out leaving a strip of wood an inch wide on which to nail the excluder, then fasten another three-sided box against the excluder, to act as a super. I have tried it myself, and so far it works very well. One point about it is that you can look at the brood chamber without taking off the top box.

While I am about it it I might as well ask a few more: If a brood bee-frame is made of a piece of wood a quarter of an inch wide, do you know if it will stop the bees from filling, to a certain extent, the cells near the framework with honey. I have tried one and find that it does, but I would not go by one alone. What would be the advantage of having two queens in a hive? Don't you think that a good queen would lay all the eggs that any number of bees can look after and therefore leave the other one idle? If you got two agreeable queens and put them in a box with a number of frames (no old bees), having enough young bees just hatching to make a small hive when out, would the young bees take kindly to them and remain so? Wouldn't it be better, when making foundation, instead of dipping the boards, to have a long trough the width of the foundation, fill it with water (hot), then pour the hot wax into it, by doing that it would be possible to have it any length or thickness, save time when roling it out, and have the foundation a uniform thickness.

"Asagaer Benalla."

"MY LITTLE BOOK."

(BY THE LATE J. CARROLL.)

To the Editor,

One thing, the controversy in your "Bulletin" as to who was first to start modern bee farming in Australasia has done, it has afforded me the great pleasure of looking over the late Mr. Carroll's book on bee culture, published in Queensland in 1875. A copy of this little work was kindly sent me for perusal by Mr. H. L. Jones, of Goodna, Queensland, to whom I tender my thanks.

It is of small size, and contains but 21 pages of reading matter; but small as it is, it shows clearly that Mr. Carroll was in the forefront as a bee-master when he wrote his book, and as up-to-date in his methods as anyone could be at that time. Of course many of the improved appliances we have in use now were not available at that time. Comb foundation had not been perfected in 1875, and the style of smokers was very primative, but Mr. Carroll advocated the best appliances then known, and also the best methods of management. It is very interesting to me to note that he and I should have been using the Woodbury hive at the same time.

"My Little Book" must have done a deal of good in drawing attention to a more humane and profitable method of keeping bees than the sulphur-pit system, and I am very pleased to have had the opportunity of paying tribute to so worthy a bee-master as the late Mr. J. Carroll.

I am, etc.,

I. HOPKINS,

Auckland, N.Z.

The Editor "A.B.B."

Dear Sir,—I am pleased to see in your December issue two articles from widely separated parts of the globe on a subject in which I am deeply interested, namely, that of select breeding of bees for improvement of strain. Mr. Jeffrey's address, page 191, dealing with inbreeding shows by his own experience that there is no risk of deterioration through inbreeding if done by a competent man.

Mr. Crowe's article, page 200, points out the directions in which bees might be improved: working qualities, power to resist diseases, eliminations of swarming, and of visciousness.

For some time I have advocated breeding on almost identical lines, and have came in for some adverse criticism from improgressive people.

The system I advocate and practise, as far as the circumstances of apiaries worked on business lines will permit, is practically a combination of the methods Jeffrey and Crowe that is inbreeding but *with* an infusion of fresh blood. The inbreeding done at one apiary, the introduction of fresh blood after having proved itself imitable in all respects including wintering successfully, transferred to the breeding apiary to be incorporated in the strain.

Thus new blood may be imfused without upsetting the results already obtained.

R. BEUHNE,
Tooboorac, Vic.

H. H., Waitahuna Gully, N.Z.—Bees have done well up to the present here. Weather dry and warm. Mine commenced to swarm in the first week in December. Rather late for here, they usually start in November. I sold last year 500 lbs. of honey at 4d. per lb., and think that's enough to pay for them who want it.

W.S., Spring Creek, Q.—We have had a good year with the bees and farm work generally. At the present it is raining very heavy, the wet weather having set in a few days ago and it is very welcome as the crops were getting quite stunted from the long dry spell. Wishing you a prosperous New Year.

G.S., Waiohika, Gisbourne, N.Z.—Would you do me the favor of sending me a small bottle of your yellow box honey. I have never seen Australian honey. I am sorry to say we are threatened with a drought here, hardly any rain has fallen for ten weeks, and the clover is drying up. The weather is also very hot, making bee work very trying.

We acknowledge receipt of a very nice photo of Mr. W. J. Benson's Tyndale apiary. It evidently is in good bee country, and from the look at the forest around we should imagine he gets good honey returns. It is a bit of true Australian bush. All success to him. In writing he says:—This is a post card view of my apiary at Tyndale. On account of size all the hives are not included in the photo. The present season, so far, is about the poorest I have had for some time. The continued dry weather caused the clover flow to be a failure. The apple trees and stringy bark are in bloom at present, but there is very little honey coming in from these.

W. R., Monaro.—Bloom fairly good. Want of rain lowers returns. Mercury often runs up to 100 degrees in the shade.

Dear Mr. Tipper,—Some Government experts, instead of enlightening us with their superior knowledge, want us to investigate for them, to point out whether the scheme is workable or not, and who takes the trouble to point out flaws in their castings, such a one is called names. So long as matters are in the experimental stage it would be well to carry them to definition first, one way or the other, and then propound results, and if

no praise and thanks are forthcoming, at least you should be able to disprove all carping and other critics. Some further remarks of Mr. Hopkins have been anticipated by my remarks months ago, excepting that I omitted to mention that I judged "Apis" long ago to be better versed in wisdom from books, etc, than in practical beekeeping, wherefore we differed in 1885 already. After a short domicile of four years in the country, of which I had to learn every word of the language after my arrival, I cannot withstand to wonder at the well written correspondence. If Mr. Hopkins thinks he could do better, let him try. As regards the hive, I have never attempted to influence anyone to adopt my hive; but time has shown that many who used Mr. Hopkins' modern hive have gone out of the business, Mr. H. himself included, whereas I have used my hive all the time, and still keep it, with as good results as others with other hives. If it did not pay me to keep bees I would seem a hypocrite to teach others how to keep them. It was never my aim to establish a bee goods factory—my aim was to establish a bee farm on modern principles, and to make it a self-supporting concern, and whilst Mr. H. dabbled with this hive and that I knew what to do, and do it yet. Thus the enormous difference.

Mr. Beuhne's letter, pages 207 and 208 and referring to me, speaks for itself, and deserves no further notice from me, excepting that, as probably bee experts come in contact with many beekeepers, and as I do business in all the states and New Zealand, perhaps I shall submit some of the correspondence to the proper authorities to enable them to judge What applies to me now may ere long apply to other beekeepers.

Experts are paid for their time, thus we expect them to properly teach the art of bee culture in all its ramifications. Let them do that.

Beecroft. W. Abram.

PLURALITY OF QUEENS IN A COLONY.

This is another American inovation, and finding support here. The logic is: What can be done with four or five queens should be accomplished with a hundred, or thousand. But I pity the beekeeper who requires more than one queen in a hive, it shows a state of affairs not to be envied.

Another American is said to have tied some virgin queens by their legs to a long thin string on a high pole, and got three queens fertilised thus. Comment is unnecessary, as we are not all as smart as some.

TRANSFERRING EGGS.

by bees from cell to cell was recently again attributed to them. Some years ago Mr. Doolittle and others expressed the same belief. I contradicted such assumption then, as I do now, and not one has yet proved that I am wrong. Do it who can.

Beecroft. W. Abram.

The Bee.

Dr. Watts was right. The bee is really a most industrious insect. A plodding satisfaction has found out that each pound of honey secreted involves the necessity of the bee visiting 218,750 flowers. This in itself is no mean labour. That the bee is not gluttonous and does not consume more than it earns is conclusively proved by the fact that 164,000,000 pounds of honey are annually sold throughout the world for the delectation and comfort of the human race. The United States stands at the head of the list of honey-producers, with sixty-one million pounds, and Germany comes next with forty million. England's production is so small that the satisfaction has not taken any notice of it; but, somehow or other, the best from all other countries finds i s way to the London market.—British Newspaper.

Beekeeping in Moravia.

Abbe F. Adamec states in L'Apiculture Nouvelle that in Moravia (Austria) the number of beekeepers has doubled from what it was at the end of last century, and increases daily. In 1906 there were in Moravia 95,329 colonies of bees, of which 66,317 were in hives with fixed combs, 4,226 combined hives (hives with movable supers and brood-chamber with fived combs), and 24,785 movable-frame hives, mostly of the Berlepsch type, a form that was adopted in 1866. During the last four years the American type of hive has been introduced, as well as the Dadant-Alberti. The former is used out of doors, and the latter in bee-houses or pavilions. In order to use the American type of hive in bee-houses, a professor M. Edouard Hirube, turns the entrance to one side, making the hives like ours, with frames running parallel to entrance, and he considers them more handy for the bee-keeper to manipulate. Moravia comprises three-fourths of the Slay nation. There is a monthly journal devoted to bee-keeping, Pcelar Moravska, which advocates modern methods of management.—"British Bee Journal."

HONEY THIEVES PUNISHED.

A number of youths made their way over the fence into the garden of Miss Susan E. Dixon, of Podge H le, near Hamsterley, and while the bees were busy elsewh re, removed the top of a bee hive and abstracted two sections of honey. For having damaged the bee-hive, turnips, etc., five lads were each fined 10s 6d at Bishop Auckland.—"British Bee Journal."

PRICES OF HONEY.

Melbourne Australasian.—Honey.—Prime clear extracted, a fair demand, 2½d. to 2¾d.; congealed and inferior dull of sale, lower. Beeswax slow of sale, at 1/- to 1/1.

Leader.—Honey.—In this department, actual business is trifling. Prime clear garden lots are on offer at from 2½d. to 2¾d., and for medium, more or less congealed, sellers are obtaining from 2d. to 2¼d. Beeswax.—There is a restricted demand, and the market is inactive, quotations being unchanged. Prime clear wax is quoted at up to 1/2., medium samples selling at from 1/- upwards.

S. M. Herald.—Honey.—60lb. tins extra choice extracted 3d., prime 2½d. to 2¾d., good 2¼d., inferior and candied 2d. Beeswax.—Bright, 1/3½ to 1/5, dark 1/2 to 1/3 lb.

Hawkes Bay (N.Z.) Beekeepers' Association.

The first meeting of the above Association after its formation was held at Hastings in November.

There was a large attendance, and the president, Rev. Dr. Kennedy, presided. Mr. I. Hopkins, Government Apiarist, was present, and after the business was finished gave an address.

The rules which had been drawn up by the committee ware submitted and adopted, with but little alteration.

Among the correspondence read was a letter from the Canterbury Beekeepers' Association congratulating the beekeepers of Hawkes Bay on the formation of their Association, and asking the members to assist in trying to get some alteration in the charges for carriage of bee material, honey, &c.; and also concessions with regard to the carriage of empties. It was decided to forward the following letter to the Minister for Railways:—

"Sir,—I am instructed by the H. B. Beekeepers' Association to ask you to allow beekeepers several concessions in the freights on the railways. The concessions asked for are:—First, a reduction in the freight on honey—that is, to put honey on the same footing as other fresh produce, such as fruit, butter, etc, and secondly, the carrying of empty honey packages free. In the case of honey packages, they have first to be procured from the wholesale merchant and shipped to the producer. Then when filled they naturally have to be shipped back to the towns for sale. This means the honey producer has to pay freight both ways. I understand that the fruit grower has his empty returning fruit cases carried free, also the new cases in the flat. What we ask for is to have empty honey packages treated as "returned empties." These concessions would allow the beekeeper to go further into the country, and not be handicapped greatly by the enormous cost of marketing his products.—Arch. Lowe, Sec. H.B. Beekeepers' Association.

This concluded the business, and the president then introduced Mr. Hopkins, who thanked the association for inviting him to the meeting to say a few words on what was proving a very important industry in New Zealand. He was extremely pleased that an association had been formed, and he considered they were fortunate in securing the assistance of two enthusiasts in the industry, the Rev. D. Kennedy and Mr. Lowe, their secretary. Both gentlemen would undoubtedly take a keen interest in the welfare of the association. The main thing for those engaged in the industry was to work collectively, as much better results would thus be obtained than by working independently. In fact, without organisation very little headway could be made. When in the Waikato district he found that some beekeepers were realising 11/- to 12/- per dozen for 2lb. tins of honey; others, again, were selling theirs at 9/-, although in the latter case the honey was equally as good. This he mentioned simply to point out the advantages of an association. He did not suggest that an association should raise the price of honey above a fair value, but to keep it at a price that would return a fair profit to those engaged in the industry. It was a very moderate estimate to make when he said that 100 tons should be gathered in Hawke's Bay. Of course, as the industry advanced, very much larger returns could be expected. Without meeting periodically, it was impossible for beekeepers to keep in touch with the advanced methods of the industry. For instance, some might take a keen interest in the raising of queens, others in the eradication of foul brood, etc., and it was only by meeting together and exchanging notes that beekeepers could expect to be up-to-date in

their methods. (Applause.) In the South Island an association there held what was termed "field days." On such occasions they held practical demonstrations of the method in dealing with the cleansing of the hives from foul brood, raising queen bees, taking honey, and other matters of interest. That was one thing which he would like to see the Hastings Association take up. (Applause.) They might also start a library, where they could have access to the leading periodicals and works published in connection with the industry. It was an excellent way of gaining information, why by the expenditure of £1 it might possibly lead to gaining knowledge worth £100. As soon as the association could see its way clear, he hoped they would consider the idea. Regarding the industry in New Zealand, they were quite as advanced in their methods as any part of the world. Even America was not ahead. The question was often asked: Which is the best kind of hive. Well he, the speaker, had no hesitation in saying that the Langstroth is the best in the world. The largest and most successful beekeepers use it and no other kinds. Speaking of the raising of queen bees, Mr. Hopkins said that too much care could not be exercised in this most important feature of the industry—in fact, it was the base of the whole thing. Without good queens it was impossible to have strong colonies, or good yields of honey. Next season he hoped to be in a position to distribute some of the very best queens available. Whatever he sent out he would be prepared to guarantee.

The speaker then made a few remarks on the best way to deal with foul brood, in the course of which he said that it would probably take about four years to rid the country of the disease. He was quite certain that the N.Z. Act was the best yet introduced to successfully cope with the disease, by giving power to do away with the common box hives. Several Beekeepers' Associations had sent letters of thanks, after the Act had been passed, as they recognised its value.

In conclusion, the speaker said that he was confident that the industry was never in a better position to be carried on successfully than it was at the present time. It was no use people thinking of going into the matter half heartily. It meant care, enthusiasm and energy, then success would follow. (Applause.)

After answering a number questions, Mr. Hopkins was accorded a very hearty vote of thanks.—"N. Z. Farmer."

The Reason Why Queens in Cages Become Small.

M. A. Wathelet says in Le Rucher Belge that if a queen is removed from a colony where she was laying, and with abdomen expanded with eggs is placed in a cage, the abdomen will by degrees diminish in size as the eggs are dropped. After a few hours, as she no longer receives the digested and stimulating food produced by the workers, she becomes very small, and after twenty-four hours is no larger than a virgin queen, and is incapable of recommencing egg-laying until she has passed some days in a colony. If in the spring a laying queen is replaced by a queen that has been confined in a cage, the bees easily notice the change, and her introduction will be difficult. It is quite different if the queen to be introduced is taken out of the colony where she was laying. In such a case the change is hardly noticed, and with the precaution of guarding against robbers, a little smoke, and powdering the bees with flour, the introduction is easy. Queens reared in nuclei in the same apiary are always accepted, whereas those coming from another apiary are not always, notwithstanding all the precautions taken. From this it will be seen that the best time for introducing a queen that has come in a cage is when queens have ceased egg-laying, say, after September 15, because the size of the stranger will be about the same as that of the queen which is to be replaced, and the bees will not be surprised at her not laying eggs.—'British Bee Journal."

Simple Talks on Bees

The Wings.

Th wings of the bee are four in number, one pair on either side of the bod. These are so fashioned that they enaile her to travel long distances at great speed, to fly backwards as well as forwards, to stop with surpising suddenness, and to carry heavy loads.

In flight, the four wings. This is accomplished by contrivances belonging to each wing of a pair, by which, when the wing is raised for flight it passes over the hind one and, by a "flap" is caught and held by a number of minute hooks on other wing. When the bee alights, the wings are released, and they lie one upon the other, so that the insect is able to move freely in quarter in. spaces and even to enter worker cells of one-fifth inch in diameter.

The rate at which a bee flies depends to no small extent upon her mission. Leaving the hive on a foraging expedition, her progress is astonishing in its swiftness, but as she returns heavily laden, after a journey of three or four miles, her movements are much slower. Everyone who have worked among them has had experience of the rapidity with which bees, when exasperated, can dart from alighting board to nose tip; but not everyone has tested for himself the rate at which the bees of his colonies will travel when, unladen and frightened, they hurry home to "breathe the crowd," and to find safety in a multitude. Yet, by simple experiments this may be discovered with some degree of accuracy; and, perhaps, during the investigation it may be found that, under similar conditions, the speed will vary with different colonies; in which case the question may arise whether, especially in our fickle climate, the skilful beekeeper who makes a point of always breeding from his best queens, and he who breeds for colour for tongue reach, for vigour, or for gentleness, may not find it useful to test his bees in flight, and to breed for speed.

The following experiment, carried out at Lough Rynn in 1904, has a certain amount of interest :—Three bees that had delivered up their burdens were taken, one each from the hives A, B, and C; they were marked white, red and green respectively, and were placed in a match box. The operation was twice repeated, the nine bees being confined in three matchboxes. Then the owner, having set his watch with the watches of two friends left at the hives, cycled a mile on a straight road, opened the first match box and threw out the bees. This he did at intervals of ten minutes, with the two with the two remaining trios The time was marked as carefully as possible. The average time for hives A, B, and C were, respecively 4 minutes, 8 seconds; 5 minutes, 11 seconds, and 3 minutes, and 2 seconds; from which it was calculated that the bees of hive C travelled 20 miles an hour, of hive A 15 miles, and of hive B 12 miles an hour. The results cannot be said to be absolutely accurate, but the unfortunate queen of hive C was kept breeding like fury in the following season and her progeny gave the best results right through to closing down time in October.

A subsequent series of experiments showed that the bees of stock C occupied an average of 7 minutes in collecting the nectar, and 5 minutes in disgorging it and fussing around the hive. Assuming the distance of the supplies to be 1 mile, the load one-fifth of a drop, the portion of water 50 per cent, and the rate of flight as stated above, and making a and making a liberal allowance of 6½ hours per working day, the result of one bee's daily labour proved to be two drops of honey. The honey dealt with was from clover, and when extracted, ripened and bottled, it weighed ¾ grain per drop. It, therefore, required 4,667 bees working 6½ hours on clover 1 mile distant, to produce 1lb. of honey. The honey was sold in bulk at 5d. per lb., net return, and the produce of one bee's active lab-

ours for one day came out at less than 1,000th part of 1d. Such rough and ready experiments cannot be put forward as in any sense conclusive. If they teach any useful lesson it is that, for profitable beekeeping we require (1) a vigorous race of bees, (2) multitudes of field bees during the honey flow, and (3) the strictest economy in every direction all through the year.—J. G. D. in "Irish Bee Journal."

Honey and Fresh Butter.

In *L' Apiculture Nouvelle* M. J. Crepieux-Jamin gives his method of preserving fresh putter so that it will keep through the winter months. He says:—When the butter arrives it is at once washed in several changes of water (which latter has been slightly salted and boiled for five minutes). The hands of the operator should have been thoroughly washed in ordinary water and soap; then well rinsed in water previously boiled. The butter is then well worked up with the hands, and, after being well kneaded, there is no longer any buttermilk left to cloud the water, and the butter is ready to put into jars. The best for the purpose are those of glass holding about 2 lb. The jars must be well washed in boiling water, and made very clean, then thoroughly dried, When ready for the butter, turn over the jar and burn it in a piece of sulphur-match, then put in the butter and press it well down. This done, pour on the top, to a depth of about one-third of an inch, thoroughly ripened honey just about to granulate, and screw on the lid. If the operation is performed exactly as directed above, the butter will keep easily right through the winter.

Beekeeping is much more difficult in Europe than in America, and requires different treatment and greater skill in obtaining good results.—"B.B.J."

"Poisoned" Cotton and Bes,

Several enquiries have come to me from time to time, asking if beekepers need fear any danger to their bees where poison is used on the growing cotton to destroy the leaf-worm and other injuious insects. According to several items in some of our leading newspapers there would be no danger; but the facts are that dangerous results might follow. Several serious cases have come under my observation. One of these happened on our own home farm where one of the tenants had applied London purple to about ten acres of cotton to poison the leaf-worm. This cotton was on low land where the leaf-worm was doing the most damage. It being of more luxurient growth, this cotton yielded nectar more abundantly, and the bees worked more on it than in any parts of the fields. The result was, the destruction of the whole apiary in a few days' time. Dead bees could be found everywhere, inside and outside of the hives, as the adult bees suffered as well as the brood and young bees in the hives. This was in 1890. Another instance occurred about eight years later. A beekeeper wrote me that he was rejoicing over his apiary of fine Italians which were storing surplus honey from cotton, and that a big flow was on. A week later he wrote again, but in quite a different tone. Paris green had been applied to cotton by a neighbour to destroy the leaf-worm, and it resulted in killing all the bees in the beekeepers apiary. Some of the colonies had stored as much as 100 lbs. of honey, and had all been in fine condition. Another case was that of a bee-keeper in Louisiana who had lost his entire apiary of nearly 150 colonies from the effects of Paris-green spraying on cotton. In the first and second cases mentioned, the poison was applied in a dry state, or "dusted" on the cotton-plants, while in the latter it was in the form of a spray.—Louis Schol in *Gleanings*.

FEEDING.

As to the question of feeding: In extracting we never extract from brood combs. We consider the honey left in such not only keeps the brood in good condition, but is a great reserve for the winter. In our own case there may be a white box winter flow, but we will not rely on it. One year we had to buy honey in Sydney for winter feeding. We don't want to do it again.

EXPERIENCE WITH THE AMERICAN GOLD BEE.

Address by Mr. Muck, Vienna, at Frankfort-on-the-Main. Translated by W. Abram, Beecroft.

In the bee industry the American gold bee finds at present the same interest as formerly the Italian bee. The question now is, is it advisable to import her or not. The Central Union in Austria, with the assistance of the Agricultural Department, ordered 8 of these queens, to be delivered in June, so as to breed from them; but they arrived in August. Breeding from them was then impossible. The queens were pronounced as very valuable, the price being several hundred crowns. Seven queens arrived alive. They were introduced to combs of hatching brood and quite young bees in small hives. One queen, sent to Loeben, got killed some time after introducing in consequence of a revision of the hive. Six queens went into winter. In spring one became total dronebroody, a second laid very few eggs, four were better. In April and May it became necessary to strengthen them with hatching brood, as the colonies were greatly reduced, and ever after they had to be strengthened with hatching brood, even in midsummer. That is a sign that the gold bee does not breed in our climate as we expected. Towards the end of May we started queen rearing after the American system. Very many queens hatched, but very few became fertile. Here is another sore point about the gold bee. 60 to 80 per cent got lost. The principal reason may be that the golden queens are attractive to birds more than the black. Numerous queens were found on the ground before the hives dead. Even the black bees attacked them in the air and killed them. Nevertheless we could give 20 fertile queens to others, but for the bee school at Vienna the best were kept and further propagated. It was found that very soon a retrogression took place, which shows in the colour. The queens, yet quite yellow, produce henceforth Italian bees as to colour. We come therefore ultimately to where the American breeders began; the Italian bee remains. One queen produced nice yellow bees, but the point of their abdomen was black. The young bees look nice, but they are no match for their problem. They fly earlier than the black, and never return home; many thousands can be found on the ground near the entrances. This one point seems already sufficient to prove that the gold bee does not suit. The gold bee is also a colossal calfactor. We have 200 hives in the training school, in all are gold bees from the six hives, everywhere are they found, in the hives next to their own in greater number. This also speaks against them. They are very gentle, not a sting all the time of working with them. Their energy is not bright, their honey gathering quality like nil. Great interest was given to the length of tongue; it was said the gold bee in consequence of their longer tongue can go into blossoms in which the other bees cannot go. It has been shown, however, that anatomic the longest tongue has the Crainer, the Italian, and last the gold bee. The egg-laying capacity is very small. But the transport has to be considered; two weeks were they on their journey. The drones are very nicely coloured. Altogether, the American gold bee has an attractive dress, but with the home bee she cannot concur.

Re the above, I, the translator, will remark, that his address of facts agree with my own observations. He wisely remarks that queens which are a long time in transit usually lose their original capacity and laying power; but if there is energy and stamina in the blood, then the progeny, at least many of them, should show the good qualities of the parents. Then the finding of queens with the fertilization sign in front of the hives dead This happens mostly where black bees are kept, who do not seem to care for the yellow queens, as I have found years ago. But the death of thousands of golden bees before the entrance—what is the cause? If bees reach home as far as that, there is no explanation why they should not reach the entrance too. Does it already come to pass what I predicted, that they have to contend with similar trouble we had here? In any case, what I contended all along, is that in breeding for certain points we cannot go beyond a certain extent; when that is reached there is a re-action, often detrimental and causing serious loss, therefore the wisest course is to strive for a good medium. Superiority will show here and there, but there are no means by which such can be made better still. By discarding the inferior we anticipate what eventually would result as a natural course. Study nature well and avoid extremes! that has been my aim always, and it is the wisest course in the long run.

W. Abram.

Does the Field Bee deposit her own Load?

I had years ago settled to my own satisfaction this question of the disposition of the nectar, but did not till 2 and 3 years ago verify my conclusions by much observation. Like Mr. Doolittle, I have spent hours by the hive, and I can say with him that I have never yet seen a field bee deposit a load of nectar in a cell. But I beg of my readers to note that I say that I have never seen it, and that I do not state that it never occurs.

On the other hand, I have many times seen field bees give over their loads to younger bees. Many a time have I seen the incoming bee, unmistakable because of its pollen-dusty back, scurry about and draw the attention of younger bees. These younger bees gather about the head of the field bee while that bee causes the nectar to drop into its mouth and rest in the depression bounded by mouth and slightly relaxed tongue. In this case the tongue is not extended, but is folded back much as it naturally lies at rest. I have seen three young bees at once relieving a field bee of her load.

If one desires to see how a bee offers its load you can do so in a variety of ways. Let him drop a strange bee with load of honey amongst the bees of a colony. Except for the cringing and fear this bee will give over its load much after the fashion of a field bee. Again, take a loaded bee in the fingers and press the distended abdomen with thumb nail. After a slight pause the bee will cause the honey or nectar to accumulate above the folded-under tongue.

Mr. Miller, who takes a diametrically opposite view from that of Mr. Doolittle, would have us believe that the field-bee never passes over its load to other bees, but rather always puts it into the cell. This is not the first time that the Miller strain of bee has acted in a different manner from the Doolittle strain. I have never as yet had a colony headed by a "Providence Queen," but have had many a colony headed by a "Doolittle Queen." This fact may account for my agreeing with Doolittle in this matter.

I know for an absolute certainty that field bees give over their loads to the home bees. I do not know by my own observation that they sometimes place it in the cells themselves. I have watched for them to do this, again and again, and have never seen it done, hence I naturally conclude that the rule (though it may not be one without an exception) is for the field-bee to hand its load over to the home-bee.

It is manifestly true that in a time of heavy flow the field-bees would bring home more honey than could be retained by the home-bees, Whether at such times the field-bees are obliged to place the honey in the cells themselves is a matter which I hope to settle some time to my own satisfaction. That thin nectar very quickly reaches the cells, even when there are many home bees which are not loaded to repletion, has come under my observation. This points to an early unloading of the home-bee, or else to the placing of the nectar by the field-bee.

One thing is to be noted: In a time of heavy flow all the younger bees of the colony will be surcharged with honey which they are curing, while the field-bees will in most cases lie idle in nooks and corners of the hive.

Another thing is worthy of note: Before a honey-flow the colony will not seem to be so very populous, whereas after the flow opens the hive almost immediately becomes overflowing with bees. It is simply a case of not room for bees which are full of nectar, but ample room for lank bees. Two fat persons take up the room of three lean ones on the seat of the street-car. A colony with 5,000 fat bees will seem to the novice more populous than will one of 10,000 lean bees.

Whether the field-bee puts its load into the cell or hands it to a younger bee is not in itself of vital importance, though there is a certain satisfaction in knowing the truth of the matter. Personally, I am inclined to think that, except in times of heavy flow, practically all is handed over to the home bees; whilst under pressure the field-bee disposes of it in the quickest and easiest way she can find.—*American Bee Journal.*

SWARMING.

When a swarm comes out I place the clipped queen in a small cage and hang it on a pole or something that can be easily carried. Then when the swarm has clustered on it I allow it to hang there till night so the bees will cool off. Then just as it is getting dark I take the swarm to a colony that is not doing good super work and dump them in front of the entrance. The queen I give back to the hive from which the swarm emerged. This, however is always requeened later, as a queen that swarms I never keep. The old hive I move to a new locality, and the returning bees will cluster with the swarm which should be allowed to cluster near the old stand. The super from the old hive should be placed on the hive containing the swarm, and, as a rule, I have to add an extra super to give them room. The vigor with which the whole colony goes to work, and the way they get the honey, is certainly a a pleasant sight. I have never tested this by hiving a large with another large colony, but doubt if they would make as much or any more honey than both colonies would have made separately had there been no swarm, but they make much more than any other way that I have ever tested when treating new swarms.

But it is with the weaker ones that the best results are obtained. Take, for instance, two colonies not doing the best of work in the supers—supers half full; the center rows are partly capped, the outside ones only started. If they are left in this way a few light-weight sections will be the result, and perhaps those near the outside will be wrapped out of shape and fastened to the fence. But suppose that about the middle of the flow one of them swarms—what will be the result when treated in the manner described? As soon as they have been fixed, and the third super given (I usually put this empty one between the other two), work in all three supers will be carried on with a rush, and from three to four supers of extra fine comb honey will be the result, where, had they not swarmed, but two supers of poor honey would have been obtained.

If they are inclined to fight when united I smoke them a little. Now some will ask, "Will not this cause the united colonies to swarm!" I never had one do so, and I have practised this with several colonies a year for four years. They all seem to work with the vigor of any newly hived swarm. If they should do so I would hive them with a colony containing a young queen raised the same year. I have never lost any bees from fighting, nor have I ever lost a queen when colonies were united in this way.—The Jay in "*Gleanings.*"

CAPPINGS.

The worker's tongue is longer than the queen's tongue, and the drone's tongue is shorter than the queen's. The male bee not by nature fitted to gather nectar, would starve in a field of white clover, his tongue-length being insufficient to reach the secreted nectar. Among the honey-cells, however, he can get in good work, and as he is a heavy feeder, bee-keepers take pains to prevent excessive productionof drones and to secure worker brood instead.—Extracted.

The general verdict of the German beekeepers gathered at Frankfort relative to the golden long-tongued American bee was unfavorable.

The "Beekeepers' Review" gives the following way of "Filling 60lb cans with Honey":—Take the bottom out of a 60lb can, or else have a can made of about the same capacity as a 60lb can, then have a funnel-shaped tube fitted on over the nozzle and soldered fast. This makes a sort of measure in which to run the honey before it is run into the regular 60lb can; that is, this open-bottomed can is first filled up to the 60lb mark, then the honey is allowed to run out of the nozzle into a regular 60lb can. To stop up this nozzle while the measuring can is being filled, a long plug is used, one several inches longer than the can is deep. The lower end fits into the opening in the bottom of the can, then, when everything is all in place, this plug is pulled out, and away goes the honey into the lower can.

Multitudes of people do not half respect their work. They look upon it as a disagreeable necessity for providing bread and butter, clothing and shelter—as unavoiderable drudgery, instead of as a great man builder, a great life university for the development of manhood and womanhood. They do not see the divinity in the spur of necessity which compels man to develop the best thing in him, to unfold his possibilities by his struggle to attain his ambition, to conquer the enemies of his prosperity and his happiness. They cannot see the curse in the unearned dollar, which takes the spur out of the motive. Work to them is sheer drudgery—an unmitigated evil. They cannot understand why the Creator did not put bread ready-made on trees. They cannot see that the best thing in man has ever been developed by the necessity of labour. They do see the stamina, the grit, the nobility, and the manhood in being forced to conquer what they get. No one can make a real success of his life when he is all the time grumbling or apologizing for what he is doing. It is a confession of weakness. Keep your standards up, your ideals high. The attitude with which a man approaches his task has everything to do with the quality and efficiency of his work, and with its influence upon his character. What a man does is a part of himself. It is the self expression of what he stands for. Our life-work is an outpicturing of our ambition, our ideals, our real selves. If you see a man's work you see the man. —Beekeepers' Review.

An English writer on bees recently said.—"Can you, after forty years' experience, lay down for beginners in bee keeping one royal maxim of success above all others?" The Bee-master

thought a moment and replied, "Let them beware the foreign female element. Let British bee keepers cease to import queen-bees from Italy and elsewhere, and stick to the good old English black. It is a more generous honey-getter in indifferent seasons; does not swarm so determinedly under proper treatment as the Ligurians or Carniolans; and, above all, though not so handsome as some of her Continental rivals, she comes of a hardy northern race, and stands the ups and downs of the British winter better than any fantastic yellow-girdled crew from overseas."

BEES PURLOINING EGGS.—A writer in the "British Bee Journal" says:—On two occasions this autumn I have noticed my bees having purloined eggs from other hives. I observed particularly one queenless stock which I had been using for queen-raising. The young queen having been mated and transferred to another stock, the bees commenced and sealed four queen-cells; but not having any drones on hand, these cells were destroyed, with the intention of uniting the bees to another stock. This plan was not carried out, and upon examination of the stock eight days after the queen-cells were removed I found four other cells with larvæ and royal jelly. I am confident this could have come about in no other way except by the bees purloining eggs from some neighbouring stock.

It is a fact well recognised that a dog can pick out his master from hundreds of others through the agency of scent; nay, further, he can track him if he loses sight of him by catching the scent of where he has walked, in spite of the fact that hundreds of other people may have gone over the same ground. The scent that is so acute in a dog is undoubtedly highly developed in the bee, otherwise we should be at a loss to account for some of the phenomena in the domestic economy of the hive. Hence we naturally conclude that, by the sense of smell, the bees recognise their own mother from a new or strange one.

"A man cannot serve two masters," hence do not expect to get unbiased advice from the supply men or their spokesmen, or from the queen dealers. They would be fools to harm their business.

On a flower, if an insect is seen quietly sitting with its head away from the centre of the flower, is is almost certain to be a fly. A bee would fly on to the blossom with rapidity, and more round the flower, if a composite, getting pollen from each floret in succession with a business-like action about it all, very different from the behaviour of any fly.

An English writer says:—I am often asked why I keep bees, and are they profitable? Well, if I regarded money as the one and only thing to be always striving for, I doubt if I should keep bees.

Another English writer says:—It would be interesting to know what is the highest wholesale price obtained by bee-keepers this season. If this were known, we could then judge who is reaping the benefit of the high prices—the bee-keeper or the shop-keeper.

The most common way for bracing the brood foundation is by stretching very fine wire in the frame and then with a little tracing wheel imbed the wire into the foundation. This method to me has proven unsatisfactory, the frame is not sufficiently heavy to hold the wire tight. The frame gives in time, the wire sags and becomes loose, making a nuisance instead of a support

A German Bee-keepers' Association numbers 100,000, and in the Swiss Bee-keepers' Association 6838.

According to Dr. Pol Denade, honey should occupy an honourable place in therapeutics. He relates that a lady asked his advice about a tiny emaciated baby. The child, which lay in its mother's arms, was nine months old, and gave one the feeling that it had but to close its little eyes for death to assert itself. The infant was suffering from diarrhœa, which had refused to yield to

all remedies tried ; the poor little creature was emaciated to an extreme degree, with black rings under the eyes, and the lower stomach fearfully large. The poor sufferer had no appetite whatever, but was, in its place, plagued with almost incessant vomiting and diarrhœa. He ordered her to feed the infant on honey and water, nothing else absolutely for eight days, and if the child were still living at the end of that time, to give goat's milk and water in the proportion of one to two parts respectively. I dismissed the case from my mind, since I did not hope for any thing better than death as a release," says the doctor. "What was my astonishment when, at the end of three months, I was shown a healthy-looking well-nourished baby, with an excellent appetite and regular habits, and its stomach reduced to normal proportions, may be easily guessed. Here was my little wretched creature nothing less than metamorphosed by means of the honey."—"Gleanings."

In enquiring at our local town whether the storekeepers were wanting honey, three out of four had bought much cheaper than we cared to sell for. In a fourth case a beekeeper had agreed to sell his honey at a price (we weren't told). Went back and said he wanted more. The storekeeper laughed at him and said he would stick to the bargain.

I find the following racy bit in a recent work, the chief incidents of which are located in Kent:—"Mrs. Pinion died the year of the comet; a wery bad year. And that was not the worst, for then I lost my old sow; fine animal her was too. I believe her died out o' spite, 'cause I whispered the death to the bees and forgot *her*." Pinion held to the old Kent notion of whispering news of death to the stock, as if it were a doctrine of the Church. "I got another wife," added Pinion, "a widder, married her an' her cottage, but I ain't not been able to afford another sow."—"Irish Bee Journal."

A USEFUL HINT.—Handle every frame in manipulating as though you *knew* the queen was on it. I am sure that every old beekeeper is with me on this point.

A singular thing occurred to me the other day. I had by me a laying queen without attendants, when it chanced that a strange bee alighted on the open cage. The piercing cry of terror that came from that queen surprised me: so loud and prolonged was it that my daughter in the next room remarked, "Father, are the bees 'balling' that queen?" It was accompanied by the curling of the abdomen toward off the attack. After a pause this solitary worker showed fight, and would soon have killed the queen but for my interference.—Writer in "British Bee Journal."

Freudenstein, editor of the "Neue Bienenzeitung," does not claim to have been the first one to suggest sugar feeding, but claims to have first discovered that dysentery may not only be prevented by feeding sugar syrup, but also that it is cured after the bees have been affected.

THE FIRST STING.—Bees, according to a recent judicial pronouncement, are not entitled to a first sting. "A bee is ferrae naturae, not mansutae naturae, and must be kept as the tiger at the keeper's peril.,' All careful beekeepers nowadays chain up their bee during the day, or at least place a cork on the end of its sting.—*Daily Paper*, per "Irish Bee Journal."

The inner side of every cloud
Is always bright and shining;
I therefore turn my clouds about,
And always wear them inside out,
To show the lining.

If a virgin queen, on returning from a mating trip, enters by mistake a hive where there is an old laying queen she may, and very often does, supplant the old queen. The virgin is young and vigorous, and more than a match for the old queen full of eggs. Even though the colony odor be lacking, the bees in this case accept the supplanter.