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West Maitland, N.S.W.: E. Tipper, June 28, 1902

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The Australian Bee Bulletin.

A JOURNAL DEVOTED TO BEEKEEPING.

Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W.

MAITLAND, N.S.W.—JUNE 28, 1902.

The following is a list of advertisers in our present issue:—

Supply Dealers.

- R. K. Allport, Chuter St., North Sydney.
- A. Hordern & Sons, Haymarket, Sydney.
- The W. T. Falconer Manufacturing Co.,
Jamestown, N.Y., U.S.A.
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- A. Hordern & Sons, Haymarket only,
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- W. L. Davey, Plenty Rd, South Preston
Victoria.

Foundation.

- R. Beuhne, Tooborac, Victoria.

Old dried prickly pear makes good fuel for smokers.

Professor Gillet says Cyprian bees have the longest tongues.

Peppermint oil is said to stop the pain and swelling instantaneously of bee stings.

The *Canadian Bee Journal* says this season's prospects for honey were never better.

As the spring advances go through all your colonies and equalise their stores, by taking combs of honey from those that

have plenty and giving it to those that only have a little.

A unique swarm catcher is a one-legged milking stool daubed in slum gum.—Exchange.

In Los. Angelas Co., California, in 1897 there were 40,000 colonies. Four bad seasons followed when only 28,000 were left.

Carniolan bees are great breeders and swarmers. If it is wished to increase the number of your hives start with them, and afterwards Italianise.

Leaky covers may be made sound by a heavy coat of paint, strips of muslin over the calico, and then another coat of paint on top of the calico.

Mr. Coggsall, who owns between 1600 and 1700 hives, winters his bees with from two to five inches of planer shavings on top, with carpeting underneath the shavings.

A Mr. Harbison in the early 60's had 6000 colonies, which averaged 60lbs. of honey each in one season. A man named Early, started with 500 colonies, increased to 1200, and took 180 tons of honey.

Mr. Dadant's hives have double boards on the north side—the side away from the sun in North America. The bees feel the effects of the warm sun on the southern side, which they would not do if chaff-packed or double-boarded on that side.

One Newcastle firm recently bought out 194 tins of honey from Mr. G. Kelly at 3½d per lb.

A Newcastle firm has been instructing its traveller to say that honey could be purchased at 2d per lb. in Newcastle! Such unprincipled schemers should be watched by beekeepers and avoided.

F. L. Thompson, in *Progressive Beekeeper*, after careful experimenting with ordinary sections and plain and fence separators, has decided that the fences were a comparative failure for the specific purposes for which they were designed, namely - lessening the number of passage ways in the combs, and reducing the number of uncapped cells of the upright edges.

CLIPPING. - When the queen is found she should be taken by the wings with the thumb and finger of the right hand; pass her to the left hand; let her grasp the end of the second finger of the left hand with her feet; close the thumb and fore finger gently against her body, letting the abdomen hang down from the second finger, clip the wing on one side, slantingly, lengthwise, taking only the lace. Do not cut the bone. Place her on the top bar, and let her go. If it is done rightly, there should be no loss of queens. — *Exchange*.

TAREE, MANNING RIVER.

(R. LATIMORE.)

There is nothing of a very startling nature to report from here in apicultural matters. The past season has been one of the worst known in these parts for honey, since the white man took over to himself the running. No honey at all, except a little in autumn; we secured some 30 tins from 100 colonies of bees. The decrease in number of stocks has, and is being the cause still, of increasing the piles of empty boxes. However, next season promises well, as many of the best honey-producing trees here are loaded with bloom, in the embryo as yet. So should we be blessed with the right conditions at the right time, we may confidently hope for better results next year. Honey has been a fine price all along, and no doubt the old stocks of honey stored in Sydney and elsewhere will all be consumed before our next crop arrives. Beekeepers should make a note of this and unite for the purpose of main-

taining a uniform price in all the principal centres of the Commonwealth in future for their honey.

WAX. — I rendered down 1900 old combs (Root-Hoffmann) for 397lbs. of marketable wax, for which Messrs. Hawken & Vance, Sydney, obtained 1s 1d per lb. Very good indeed, was it not. Now, will some beekeeper who knows, kindly inform me whether I should have obtained more wax from the number of combs treated? I am of opinion it is wise, certain seasons, to cut out all old combs, as they pay well for the trouble. Besides, the good book says: 'We should not put new wine into old bottles,' and I am beginning to find out, that it is not judicious at all times to have new honey stored away too often in old musty combs, as the honey is never so nice as when taken out of clean cells; and combs made for the purpose by the busy little workers, it is natural for them to secrete the wax at all times when honey is at all plentiful, and the manufacturing and building of combs is nothing more, nor less, than mere fun and pastime. Anyone who has hived a good swarm need not, that any should tell this, unless they are mentally moon blind. Then of course it would be different. I always read Mr. Beuhne's letters with intent to learn, and I find the word 'luck' is vigorously repeated from his apiarian vocabulary; all to credit you for your pluck brother Beuhne, I believe you are logically correct this time. The reason and causes of our failures in many of our things we engage in, is not far to seek very often, if we only knew where to look, but this knowledge is often denied us, through no fault of our own.

SIZE OF BEES

Would we gain by breeding a large, large-sized kind of bees? Notwithstanding the contrary opinion of some high authorities, I say, unhesitatingly, yes. Granting that a large bee would not fly faster than a small one, and granting, also, that she could not suck the nectar out of the flowers faster than the small

one, there would yet be a saving of time going and coming. For the large bee would bring in the same quantity of nectar in a less number of trips to the field and back. But it is probable that the large bee would fly somewhat faster, and it is almost certain that she could suck the nectar from the flowers faster, on account of a larger tongue.

In order to breed larger bees it will be necessary to use foundation with larger cells, for a bee cannot be larger than the cell in which she has been reared. If any one doubts the correctness of this last statement, let him look at the drones reared in worker-cells. That will settle it.

The increase of the size of the cells should be gradual, otherwise it would be difficult to avoid an overproduction of drones.

There is a limit to the size of the cells that can be used. Too large cell would not hold the honey; that is, the honey would run out of it. It is probable that cells of drone-size, or perhaps a fraction larger, are all that can be used. This might give us bees the size of the famous "*Apis dorsata*."

In India and other parts of South Asia are found several kinds of wild bees, some of them the size of our bees, some much smaller—and finally the *Apis dorsata*, much larger. While this last gathers a considerable amount of honey, the small kinds do not gather enough to speak of, and never more than they can use.—ADRIAN GETAZ in *American Bee Journal*.

HOW TO SECURE RAPID INCREASE.

I will tell you how I increased three colonies to thirty, in one season, I wintered them nicely. In the outset I will say that no combs were built (except from foundation) and no queens were reared. Foundation, or empty combs, and queens were furnished. Not only this, but the season was favorable—there

was a good flow. I waited until the colonies were fairly populous, and honey coming in, then took, from each, two combs of brood and honey, with the adhering bees, and set them all together into a new hive, on a new stand. This newly formed colony was given a laying queen and two more empty combs to fill out its hive. The empty places left in the old colonies by removal of the combs were filled either with empty combs or full sheets of foundation. When a colony is fairly populous, the weather warm, and honey coming in, it is going ahead so rapidly that the removal of a frame or two of bees and brood seems to scarcely check it in its onward and upward course—especially is this true if empty comb of foundation is used to fill the vacancy. A colony made up of combs of brood covered with bees, and given a laying queen, is soon the equal of the colonies that furnished the bees and brood and it was only a few days before each of the four colonies could spare two combs of bees and brood for the formation of the fifth colony, to which was given a laying queen.

This plan was continued throughout the season. As often as the colonies already formed could spare enough combs in the aggregate to make up a new colony one was made, and given a laying queen.

The only objection that I found to this plan was the necessity of finding the queen in each hive before removing the frames of bees and brood; but, with the gentle, well behaved Italians, I did not find this a serious drawback.—*Beekeepers' Review*.

PRICES OF HONEY.

Australasian—Honey and Beeswax.—The market for honey continues to be affected by the supplies from South Australia, as well as from Queensland. The demand for Victorian honey is therefore quiet, and, although some holders are asking 4½d to 4½d, buyers refuse to operate at these prices, and the market

an only be quoted at 3½d to 3¾d for prime, and 4d for specially choice. Dark and congealed lots are hard to place, the value being about 2d. Prime beeswax is quoted at 1/1 to 1/1½.

S. M. Herald.—Beeswax, 1s 1d per lb. Honey—Scarce. Choice 3½d, other qualities 3d per lb for tins containing 60lb.

Garden and Field, (South Australia).—Prime clear extracted honey 3d to 3½d.

CORRESPONDENCE.

C. U. T. B., Loyalstone.—I thought one time that a press similar to the sketch of one you had in the "A.B.B." a month or so ago would be a grand idea for squeezing the honey from the cappings. I tried it and as long as the honey was thin it was an excellent idea, but with honey anyway thick it proved a failure. The holes appeared to block up with wax and the honey forced its way after pressure over the lid I had the screw fastened on. The solar is the quickest, only for spoiling the flavour of the honey, and a slight shade over the glass will not prevent the sun spoiling the flavour, so I fall back on the old way yet; only I have an uncapping box of large dimensions able to hold plenty of cappings which, if well cut up, will allow the honey to run through easily. But if pressure is put on cappings it blocks up the outlet for honey and retains most of it in the cappings. I notice Mr. Pender in his journal suggests putting frames of honey through two roller affairs instead of through the extractor to extract the honey. I would like to see him try it on capped combs of yellow box honey. I guess it would all cling to the roller and leave nothing in the frame. I tried one one time through a small wringer, and will never forget the mess it made. I thought I was going to squeeze all the honey out and leave the comb clear of

honey, but found I had a real good mixture of honey and comb on the roller, and an empty sticky frame. When much extracting is to be done, it becomes tiresome turning the handle. I am thinking next season of fixing a wheel in place of the handle, and working with a belt fixed on an old sewing machine stand, to work by the foot-treadle power. How do you think it would act?

[We have tried the Pamberthy wax press (the one alluded to) for now two seasons, and are very pleased with it. A great quantity of cappings, after being drained for a time, can be put into it. (We seldom have honey to extract in cold weather.) The screw is screwed down as far as it will go, perhaps once a day for three or four days, or till you have another lot ready to put in. We have never found the honey to press over the lid. The treadle might act, but we think would only be a transference of labor from the arms to the feet.]

T. A., Glen Creek, Vic., June 2.—Honey has been scarce here this season, though we are better off than a good many beekeepers according to the accounts given in the "A.B.B." I am pleased to say my bees are wintered down with plenty of honey. I had a letter from Mr. W. L. Davey a few days ago, and he tells me he has had to feed his bees for the winter. We have only had one night's rain here since October. It is trying to rain here now, but I am afraid it will be a failure; one great blessing is we have plenty of good clear running streams about here. By the way, can you tell me through the "A.B.B." of any queen-breeder in Australia who sells Carniolan queens. I do not see any nearer than America advertised in your paper, and I would like to try them, as I do not think much of the Italians for wintering. The blacks winter better here but they are beastly things to handle; it takes me half a day to find a queen and the other half to catch her, so I got rid of all my blacks this year. I think by what I have read about the Carniolans, that they would be suitable for this part, this being a wild district; in fact it is almost as mountainous as Gippsland.

[Mr. H. L. Jones, of Goodna, Queensland, used to breed Carniolans. Whether he does now we cannot say. Write him.]

J. S. C., Kendal, May 30.—The season here has been very bad, hardly any honey anywhere about. Bees in very good condition at present, and gathering honey from gum. I intend to do a little extracting during winter, although I don't approve of it.

C. G. R., Harvey (W.A.), May 19.—This is my best year for three years now since I started beekeeping. I started with black bees from the bush, of which the bush was full. I got over 20 hives in a radius of a mile, but the year I started the moth made its appearance, and now you may say there are no bees in the bush except crosses with Italians. This year I got 10 cwt. extracted honey (red gum and Christmas Tree) from 15 hives, which I have increased to this year from four I took through winter. The black bees I had to give up, for I could not keep them free of moth even when I cut out all grubs every week sometimes. I found them three days after looking through as bad as ever. The Perth market here is coming down to Sydney level, being now 2½d to 3d per lb., and less still if in kerosene tins.

J. L. S., West Tamworth, June 2.—We had a little sprinkle of rain here to-day, and heavy clouds hanging about like thunder clouds. We could do with four or five inches. The bees will have all they can do to weather the winter through although yesterday was as hot as a summer's day. I expect when we get the winter it will be all at once, but I suppose we must put up with whatever God pleases to send us. Trusting your bees will weather the winter safe. I suppose you are feeding. I have not started as yet.

G. C., Long Reach, May 29.—You have lost a warm advocate in Mr. Evald, who has gone to California. I bought most of his bees together with many other things, although I know next to nothing about bees. He sold one hive to a neighbour and asked me to have a look at it later on. I did so, there are plenty

of bees, abundance of honey, but wholly bereft of eggs and brood. Don't you think there is something amiss considering the warm weather we are having so far, and a little honey coming in. I do not seek a continual pen and ink correspondence, neither would I bother you if the answer required much expounding.

[There is not anything necessarily wrong in there being no eggs or brood at this time. Looking through one of our apiaries last week several were in the same condition. Watch them as the spring comes on.]

W. S. M., Axedale, Vic, May 27th.—Things in the bee line have been dull. There was a fair flow from grey box, now the spotted gum and blue box are in bloom. Have just wintered down my few hives (20), bees strong, plenty brood and queens laying strong. We are having very dry warm weather, and bees are flying same as spring or summer.

C. Y., Wollongong, May 28.—I have not much bee news, it has been a very poor season here in this district. There was only a very light flow off the willbutt for about a fortnight.

T. E. W., Moruya, May 1902.—No bee news, bees did not swarm this year. Honey flow very erratic, did not see a travelling swarm all the season.

K. Q., Harden.—So far the season is so bad with the drought that I think a poor prospect for the coming year. It will take all their time to find food for themselves without bringing in much return.

N. M., East Milton, May 27.—I notice that there has been a general scarcity of honey all through the Commonwealth, this district not being an exception to the rule, though I have had a fair quantity considering the season. I lost about 20 hives last spring, swarms dying out and leaving honey in hives. I have 20 odd hives at present (going strong) with abundance of stores for winter, and expecting a good honey flow next spring. The blackbutt and woollybutt are budding strong. Have sold out all my honey locally at 3d per lb.

H. W. S., Walcha, May 16.—We have 56 hives now and only extracted 200lbs. this year, so you see we had to be content with a poor year after a good promise last year. The trees are budding splendid for next summer, but I don't take any notice of them as it is very dry here at present.

E. A. H., Mount Torrens, S.A.—Would you kindly send me the August number of 1899 containing your method of producing wax. Will you please let me know if I could procure any of the bees called *Apis Dorsata*, and if you know of anyone that has tried them.

[The August 1899 number of "A.B.B." contains nothing about wax. You have evidently made a mistake. Our plan is as follows:—Put all cappings to drain over a wire cloth in a honey tank for several days. Put in a Pemberthy press (Mr. Pemberthy, of Elsmore, N.S.W.) a perforated cylinder with a screw that presses all honey out. Keep it there for several days, tightening the screw as the escaping honey decreases the bulk of cappings. Then boil the wax in water, in, say a sugar bag, place in a press with slatted sides, when all the wax will be squeezed out, leaving only pure slumgum in the bag. (Mr. Beuhne's). The wax is let cool and get solid; boil again and strain through a cheese cloth. Dip in top and place in moulds. In the last boiling drop sulphuric acid, a small quantity in it, stirring well. No one in Australia has *Apis Dorsata*. The conclusion respecting them both by English and American scientists who have studied them, is that they are untameable, and their habits such as make them quite useless for domestic purposes.]

F. C., Bandon Grove, June 9th.—The bees have done fairly well this season.

G. C., Longreach, June 9.—We are having a little rain while I am writing but am afraid it won't amount to much. I think this a fair spot for bees as there is nearly always something for them to work on, the bloodwood blooms here late in the season, in fact it is not all gone

yet. I covered my bees with 3 or 4 inches of sawdust, but I find they are eating their way out through the canvas bottoms. In fact two hives completed the contract outright. Too hot in midday I suppose. Possibly I should have added wire cloth.

D. M. M., Deep Lead, Vic.—Its a long time since I wrote a few lines to your valuable paper, but I can't complain—I have been getting along very well. We have had a nice fall of rain, but not before it was wanted. Things have not been too good here, but we have nothing to complain of to what you N. S. Wales people have. It must be terrible over there. I hope you have good rain by this. My bees have gone to winter in very fair order, with abundance of stores. It has been pretty dry, but we managed to have a surplus of a few tons for the year, and also a good price; I sold the last two tons of my honey at 4d. clear at apiary. The question asked in your April number about the box blooming in the Wimmera districts of Victoria, I may say the Wimmera district is a very large one, and there is more than one kind of box, but as I am residing in one part of the Wimmera I will give my experience of it here. The yellow box blooms from September, and sometimes earlier, right on till March, as a rule, and the honey always a first-class article. Then comes the grey box in March, and blooms on till the winter; this tree we find a very useful one for breeding up on in winter. The honey from the grey box is real good honey also; the only fault it generally candies before winter. I am informed that the mallee blooms all right, but the honey is very strong, and not liked. I know I have sold honey in the same towns where the mallee honey was sent, but could always get 2/6 to 5/- a tin more for the box honey.

H. M., Merimbula, June 16.—The BEE BULLETIN comes along with the regularity of the sunrise, and I still find the same pleasure in reading it as formerly. The honey flow here this season has been con-

tinuous, one bloom following another with pleasing regularity. At present it is the woollybutt which is in bloom, and although it is only a light flow of honey, still it has kept up for over six weeks and is a fine mild flavoured honey. This is a unique and exceptional season so far as the bees and self are concerned, as they never before gathered honey till midwinter as they are doing at present.

E. J., Tarrawingee, Vic., June 13.—I am well pleased with the "A. Bee Bulletin," it is getting better every year. I took 40 tins of honey off 50 colonies this season and left them well provided for winter. I am quite satisfied with the result for such a dry season. Will send some bee news later on.

J. B., Palmer's Island, June 18.—Have had a very good season here, got about 2½ tons from 45 hives, also a very fair price for it. Mr. Editor, here is something I can't understand. Last month I sent four 60lb. tins to one agent, and by the same boat four to another agent, eight tins altogether. Each tin had exactly 60lbs. of honey, not including weight of tin. Still both agents only gave me back 58lbs per tin, making a loss of 16lbs. to me on the 8 tins; and what struck me was how both the agents' returns were just the same. Something wrong somewhere. What can we do to keep the present good price of honey up? I think it can be done. I tried hard to keep the price up, but several around me started selling for half what I was getting. One man was letting it go at 7s 6d for a 60lb. tin. I intend to have a chat with the beekeepers around here to try and stop this underselling.

[Success to your efforts.]

A. A., Ashburton, (N.Z.), June 12.—I like the "Bulletin" better than any bee paper I get. Wishing you and it every success.

A. I. Olmstead says in the *Beekopers' Review* that if there had been as much time spent examining and measuring the wings of our bees as in length of tongue we would be better off.

QUESTIONS.

- 8.—Loyalstone's system of wax production?
- 9.—Suggestions or remarks re late convention in Sydney.

HUGH RUSSELL.

1. Have not studied the question, but fancy that nurse bees would have no influence whatever on the character or disposition of their nurselings; but I do think that if quiet bees and cross bees are mixed up together in fairly equal numbers, the quiet ones are more likely to become cross than that they would quieten the cross ones. The progeny of a quiet queen given to a cross colony, would from force of example be cross, so long as the cross bees were the more numerous. As their numbers decreased and the numbers of the quiet ones increased, the bees would loose their acquired vices.

2. No experience.

3. In the Wimmera, near the Grampians, 25 miles south of Horsham, grey box blooms every year, alternate years very profusely. Comes into flower middle of March and lasts for two or three months. Always a bountiful honey producer, but the honey is very apt to candy, especially when gathered after heavy rains. Medium quality yellow box blooms very heavily every other year, and occasional trees during the off year. It commences to flower early in the spring, and there is a plentiful supply all through the summer until late autumn, different trees coming on at intervals all through the time. A very sure and prolific honey producer of a very clear and light coloured sample.

4. I believe so, but have none around here.

5. No.

6. No Boil them all down.

7. Set to with a will, and do as much as you can every day, till you get through.

W. AGER.

8. If Loyalstone's experiments and figures prove correct his plan should be of benefit to beekeepers in the warmer localities, but my present opinion is that running an apiary entirely for wax-production is an unprofitable pursuit.

9. I notice the criticism in last issue of the *A.B.B.* referring to a marketing scheme. I would ask is there anything concerning bee-keeping of more importance than rising the price of honey from the deplorable condition which generally rules? What is to be done with our honey in a year of plenty? under the present system of marketing it is flocked into the city commission agent's room, where it commands a price from 1½d to 2½d per lb., and with exporting to England we get from 15s to 27s per cwt. This season most beekeepers are nigh bankrupt for want of honey, another season they are the

same way for want of a price. Are beekeepers going to let things take their own course without using a little energy to try and alter them?

F. W. PENBERTHY.

8. I have been wondering if Loyalstone wanted to take a 'rise' out of us when he wrote that article on wax production. Those three hives that produced 17lbs. of wax each may have been the strongest in the yard. The first cutting out was old combs, as I understand it, and should not be added unless the frames were left full of combs at the end of the season. He does not mention whether there was a honey flow on at the time he was feeding back. He says, "the return of wax is 1lb. for every 5 1/20lbs. of honey returned to the hive." That is not saying 1lb. of wax was produced from 5 1/20lbs. of honey consumed. It may pay to produce wax alone in Cuba with a nine months honey flow and labour £3 per month, and honey only 1½d per lb. It might pay to cut out combs of inferior honey, but to feed back is another matter, where all the extra work comes in and the result so doubtful.

W. NIVEN.

9. Having attended the annual meeting of the N.S.W. Bee Farmers' Association, I would like to say a few words, as they may assist to make the next annual meeting a greater success. At one time in this district we had a Beekeepers' Association of which I had the honor to be secretary in that capacity. I had an opportunity to know the difficulty to get beekeepers to attend the meetings. Taking into consideration the poor crops of honey there has been this season the number of bee farmers present at the annual meeting came up to my expectation. I may also state I was put to some inconvenience to attend the meeting at the time, as I was suffering from inflammation in one eye; and to travel to Sydney and back, very near 600 miles, for the one purpose of being present at the annual meeting. I am quite willing to do the same next year, and as one of the committee I will do all in my power to carry out the work in a more satisfactory manner at our next annual meeting. I hope every officer will do the same. There is one thing we should congratulate ourselves on the meeting—was a beekeeper's meeting, and if kept as such, and the respective officers perform their duties as they should, the Association will be a power of strength in placing the beekeeping industry in a better position than at present in this State. It was very kind of the manager of The Farmers' Co-operative Company to give use of room for holding meeting; unfortunately there was too much noise. Next year we should secure a quiet place for meeting, and have a two day's sitting. At the meeting there were a large number of subjects brought forward and dealt with in a short

space of time not in a satisfactory manner. The concession made by Commissioners for Railways are of little use. We will have to visit them again at those meetings. I would like to become acquainted with brother beekeepers and have some side talk on bee matters and see the meeting turned more into a friendly one.

QUESTIONS NEXT MONTH.

H. BARNES.

10. Wanted useful receipts for honey in foods etc., cough mixtures, by beekeepers and other who have tried them.

11. Do queens deteriorate when brought from a warm to a colder climate.

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FOUL BROOD.**BACTERIA AND THEIR RELATION TO DISEASES.**

Comb frames should not be placed in the hive in such a way as to favor the growth of the bacteria. If a farmer in putting a dozen sacks of corn in his barn placed half of the sacks against the wall and the other sacks up against them, it is more than likely the rats will cut the sacks and eat the corn, and if the sacks remain long enough make more rats. If the farmer had placed the sacks of corn away from the walls of the barn with a space around each sack for the cats to run, and the cats attended to their duty, the rats would most likely have been diminished in number, and the corn preserved. If the combs are placed in the hive in such a way as to prevent the bees reaching and carrying away all particles of organic matter that may happen to lodge about the interior of the hive, the bacteria will get the advantage. And if the surface area the bees are required to keep clean and free from bacteria growth is too great for the strength of the colony at a time favorable to the growth of the bacteria, the bees must go under. The strength of the colony fluctuates very quickly owing to the short life of the worker bees in the busy season. As bees located in chimneys and garrets dispense with frames around their combs, and also with floor boards, with known advantage to their health so far as foul brood is concerned, it is important that these appendages to their home should interfere with their welfare as little as possible.

If we must use frames they should present the smallest possible area of surface for the bees to keep clean and if the bee-keeper must use floor-boards he should, for obvious reasons, clean and disinfect them frequently, and particularly when he hears that his neighbor's bees are dying from foul brood. "Perfect elasticity" in the hive is of no advantage whatever, but sometimes a positive evil—chimneys and garrets have no elasticity.

Perfect control over the floor-boards is of the greatest advantage and no hive is perfect without it.

The treatment recommended in guide-books for foul brood, when the disease has reached an advanced stage, is to shake and brush the bees off their combs into a skep or box, and confine them for forty-eight hours before allowing them to commence comb-building. This treatment originated in America over thirty years ago, and, about ten years ago, a noted bee-keeper in Canada modified it, as he considered, with advantage. He did not confine the bees, which is objectionable, but he allowed them to build combs on "foundation starters," which he took away after forty eight hours, and let the bees commence again on new foundation.

The object aimed at in this treatment is to compel the bees to consume, that is, to eat all the infected honey they have carried with them from the combs they were brushed off. The great majority of the old bees can eat the bacteria causing foul brood with impunity, but the young bees cannot. When foul brood is prevailing in an apiary, numbers of bees, principally young, may be seen crawling on the ground in front of the diseased hives. These bees have been fatally attacked by the bacteria. If the majority of the bees could not eat the bacteria with impunity, bees could not exist in Ireland.

The great majority of the human inhabitants of Ireland can dispose of the tubercle bacilli without any risk. About one-fourth, however, cannot dispose of them with impunity—the bacteria proving fatal to a great many. In about an eighth the bacteria attack successfully for a time, often to the extent of bringing about hemorrhage of the lungs or other evidence of consumption; but the bacteria get defeated, and the attacked individuals become healthy and strong. The resistance to the disease increases with time, so that we find that the old are not nearly so apt to be affected with the disease as the young.

Every observer must have noticed that it is not those most exposed to consumption that are the most liable to be affected with the disease. As a rule it is just the contrary; the strong and healthy are the most active, and must, therefore, encounter more bacteria than the delicate and less active, and still the strong and active are rarely affected with the disease.

The bee-keeper is interested in knowing whether the bacteria causing foul brood are abundantly disseminated as the bacteria causing consumption. There is every reason to believe that the bacteria causing foul brood are much more abundantly disseminated. The bacteria causing consumption are difficult to cultivate, and gave their discoverer some trouble to find a suitable medium in which to cultivate them. The bacteria causing foul brood, on the contrary, are easily cultivated; will grow in any culture medium, even on cut potatoes, although bee-lava is a richer soil for them. They have been found growing in the human mouth. They must be everywhere, but the conditions everywhere are not favorable to their growth. In damp countries, favouring fungoid growth, bees must be continually exposed to the bacteria causing foul brood, but every colony of bees is not vulnerable to their destructive attack. Every child is exposed to the bacteria causing consumption, but every child is not affected with consumption.

It will interest the reader to notice, very briefly, the different ways bacteria act in diseases. In smallpox they attack the strong as readily as the weak, and we can make use of the bacteria to protect the strong and the weak from the disease. The duration of the disease is limited, and immunity to the disease is quickly established. The growth of the bacteria, like the growth of the annual plants, is not continuous. In consumption the disease is not limited in duration. The bacteria cannot attack the strong, and we can make no use of the bacteria to protect the weak. The weak do not keep up a

continuous resistance to the continuous growth of the bacteria, and immunity to the disease cannot be quickly established. The tubercle bacilli are perennial plants.

We find many bee-keepers stating that they had no foul brood in their apiaries before they introduced foreign queens, and that soon after introducing the queens foul brood of a virulent type broke out, necessitating the destroying of many colonies, and even sometimes the burning of the hives. The inference is that the foreign queen brought the disease into the apiary, and caused the destruction. The queens may have brought no disease into the apiary. If a bee-keeper imports a foreign queen from a locality where no foul brood has been known to exist for half a century or more, and if all the bees accompanying the queen come alive to hand, there is no probability of the bees bringing the disease. If the bee-keeper at the same time gets a queen from some locality where foul brood has existed, more or less, as long as men living there can remember, and the queen has been taken from an infected colony, and half or more of the bees accompanying her have died on the way, there is every probability of the bees bringing the disease with them. Now, if the bee-keeper introduces these queens into colonies, the results will be strangely different. The queen from the infected colony will start no foul brood, while the queen from the healthy colony will start foul brood of a virulent form, and difficult to control. What did this queen bring to start the disease? She brought a progeny with her that were not resistant to the disease? Her bees did not plaster holes, crevices, or seams in the hive, nor carry out scattered pollen-grains. There was no necessity for it where they came from. The bees there dreaded no evil from open seams, scattered pollen, or dirty floor-boards, and the queen's progeny soon became a prey to the bacteria. The queen from the infected colony brought with her, or in her, if you will, a progeny

of crack-plasterers and hive-cleaners, and they gave the bacteria no chance to prey upon them.

When bees are changed from a locality unfavorable to the growth of bacteria to a locality favorable to their growth—from a dry and warm to a cold and wet climate—there is always danger of disease. It is like taking a lot of children, not vaccinated, into a locality where a case of smallpox crops up now and again, and when the epidemic breaks out, the children are blamed for bringing the disease. The children brought something worse than the disease, but they did not bring the disease. They brought the gunpowder for the explosion, but they did not bring the match.

In all localities in which foul brood is likely to prevail, manipulating the hive is always attended with some risk, and in some localities manipulating alone will start the disease. Smoking a struggling family into matricidal maniacs is not the best way of helping the family to resist disease. As a general rule, the less smoke that is used in the apiary the better it is for the bees, and the more honey they will collect. Of the two evils, excessive manipulation, and no manipulation, the latter is to be preferred.

To advance apiculture in Ireland, or, in other words, to advance the art of robbing bees of their honey, we must take a lesson in statesmanship. The statesman studies the interest of the money-makers, knowing that if money becomes abundant the government will manage to get a share of it in some way, without studying much about it. The common robber never studies the interest of the robbed, and he has great difficulty in getting rich, and frequently comes to a sad ending in a short time. To rob the bees successfully, and for a length of time, we must study the welfare of the bees, and that is the only way by which we will ever succeed in getting rid of the bacteria, and shutting them out of the game.

As to the brimstone robber, he should be induced, in some way, to stop his cruel work, but I fear it is not likely to take place very soon. An old veteran near me declares that there was far more honey in the country before the new honey-robbing hives were invented, and he, for one, is ready to join in a crusade to burn them all up, as he had to do with his own. For, unless it is done, he says, there will soon not be enough honey in the country to cure a sick man's sore throat. He is in earnest, and believes every word of it.—A. W. SMITH, M. D., DONEMANA, in the *Irish Bee Journal*.

Queens Reared under the Swarming Impulse.

FERTILIZING QUEENS IN UPPER STORIES; A SIMPLE AND PRACTICAL PLAN FOR GRAFTING CELLS.

(BY F. GREINER.)

What interests the honey-producer most is how to get a good crop of honey. He will leave no stone unturned to secure it. The wise and experienced bee-keeper also knows that he must have his colonies in as good condition when the honey season arrives as is possible and practical. One of the essential things to get the colonies into best condition is, to have good queens. In buying queens we do not have full assurance that we are getting good queens. If we raise them ourselves, we at least know what the parentage is on the mother's side. We can select our breeding mothers. We also know that they have been handled carefully.

It is often said queens reared under the swarming impulse are better than such as are reared at other times or under different conditions. How true this is I do not know. This much, however, I do know. Queens may be reared during this swarming-period more easily than at other times, so I prefer to rear them for my own use during June and July,* the regular swarming months. If the weather is favourable the last third of month fo

* In Australia December and January.

*May, when the apple-trees and other fruit-trees are blooming, then is a favourable time to begin.

Some honey-producers will use swarming cells from any of their colonies. I did this myself years ago, but such a practice can not be recommended. There will always be found a very few colonies that outstrip the rest, not only in the larger honey-yield but also in their milder temperament, better markings, color, or other other good qualities. From such we should breed, providing we are satisfied the stock is of pure blood, be it Italian, German, or other blood. I usually select one or two queens to breed from. The colonies containing them need not be crippled by drawing on them for brood. Since we have become familiar with the newer methods it is not even necessary to mutilate brood-combs to obtain brood for our purpose. By means of some simple and suitable tool, I prefer to use a small camel-hair brush. We can remove young larvæ from any brood-comb containing them, without difficulty, and without the least injury. This trick of transferring larvæ is not a very late discovery. It was first brought out by Mehring, a German, who is known as the inventor of comb foundation. He had found difficulty in having certain colonies start queen-cells from selected brood, they seemed to be bound to use their own for the purpose. He finally hit on the idea of supplanting the larvæ in the cells started with other larvæ from his selected stock, and he succeeded in thus fooling the obstinate colonies. For some reason Mehring's discovery did not then become universally known, but of late years has become a general practice. I do not know that it is necessary to say much more in regard to this art or trick; still, I will tell just how I proceed.

In the first place I go to my breeding colony and get a brood-comb containing young larvæ. Almost any comb contains some at this time of the year. This I take to my workshop, and place it upon a cloth-covered board in front of the window.

* In Australia November.

In order to let the light to fall into the deep worker-cells it may be necessary to tip up slightly the brood-comb (board and all). I then select a larva of proper age or size, insert the little brush into the cell containing it, and, by a twisting motion, pick up the larva which adheres to the tip of the brush. It is then transferred to one of the artificial cups by my side. With a twisting motion the brush is quickly withdrawn and the job is done. Each cup is thus stocked up. The comb of brood is then returned to the colony it was taken from.

A colony which is making preparations to swarm is well suited to build our cells, or, in other words, rear our queens; but in order to be on the sure side I always remove the queen from such a one, and also several of the brood combs. Those that are left have to be looked over for cells once or twice, till the danger of cells being started on them is past. Immediately after the queen has been removed, a vacant place for one comb is made in the centre of the brood-nest. A brood-frame is so fitted by cutting notches in the end-bars on the inside as to admit the insertion of three or even four bars parallel with the top-bar, the first one being about $\frac{3}{4}$ inch below the top-bar, the next one 2 inches below the first one, the third one 2 inches lower than the second, etc. These middle bars, as I call them, are provided their whole length with narrow strips of comb, and to these are glued artificial queen-cups (from 15 to 18). The strip of comb is used in order that the queen-cells, when ripe, may be easily cut from their bars without any risk of injuring the cells. Only one bar with its 15 or 18 cells is given to the prepared colony at this time or at one time. These cups have been provided with a little jelly before they were stocked up with young larvæ. The queenless bees are very apt to accept about every larva given, and will at once proceed to lengthen out the cells and feed the larvæ.

If a great many cells are wanted as quickly as possible, such accepted cells

may be given to any other colony to finish. Said colony should have brood in an upper story with queen-excluder between lower and upper, and queen in the lower. The colony from which the accepted cells are taken must then be supplied with a second set of newly stocked-up cups, which, when accepted, may be removed and finished by another colony, etc. Ordinarily I make the queenless colony not only start but also finish the cells. In this case a new set of stocked-up cups are given every third day, so that, after a while, there will be cells of various ages in this one hive. It is very necessary that a careful record be kept of these cells; and as soon as they have come near maturity they must be removed.

The arrangement, as I have described it, makes this removal very easy. All we have to do is to slip out the bar with cells attached; and, if we are ready for it, insert another in its place with fresh queen-cups, as spoken of several times before. A colony may be kept at building cells in this way for a long time, providing a comb of brood is given it from time to time. It goes without saying that these combs must also be kept track of, for it is not impossible that cells may be started on them by the bees in addition to those we give them.

On the eighth or ninth day after giving a comb of brood the same is looked over, and what cells may have been started are removed. It is, however, rare that any are found. The bees seem to be satisfied with those artificial cells we give them from time to time.

We have now gotten as far as to have the cells, some of them, near maturity. After having had some experience in the matter of selecting larvæ for queen-rearing we shall be able to select such as are of proper and uniform age, and we shall also be able to determine very nearly when each set of cells will hatch. We all know the raising or producing of the cells is the most inexpensive part of the business. The expensive part is having our

young queens fertilized. I was once very enthusiastic on the Doolittle plan of getting the queens fertilized from upper stories with full normal colonies below. Now, while I have not been successful practically in this I will relate briefly how I proceeded. It may prevent some one going over the same ground, and be saving money and time; or some one may be able to tell me or suggest why I have failed, and give the remedy.

The upper stories, as I used them, were made as follows: They were half-story bodies, divided into three compartments by wood division-boards nailed in solidly. Each division or chamber was sufficient to hold two or three combs. Each wood division-board had a piece of queen-excluding zinc inserted. There was also a zinc excluder nailed under each storey, so there was a connection, vertically, between the brood-chamber and these apartments above as well as laterally between the apartments. For the sake of experiment, some of the upper stories had the central chambers *only* connected by zinc with the broodnest below. Wire screen was used to prevent any direct connection between the outside chambers above and the brood-nest below. By not putting a queen into these central chambers you can readily see a queen can in no way meet another queen except by having fine-meshed wire screen between them. I had great faith in this last arrangement if not in the other. In addition to this I also tried these queen-fertilizing chambers on colonies that had cast swarms, so that there were *only* young queens in the hive. I stocked up a number of these chambers. Some I placed on top of supers where bees were working in sections. While I succeeded in getting a few queens fertilized, on the whole it was a failure, and for years I have made no use of the fertilizing stories or bodies. In fact, I have not hit on any plan (*the Swarthmore included*) by which to get queens fertilized, except by the old-style nucleus plan, which I need not describe here.

Where colonies are allowed to swarm naturally a very good use may be made of our matured cells by giving each mother colony, after swarming, one of these—removing, of course, all other cells they may have in their hive. It may be found necessary, some time after, to look each colony over again for cells, and remove them, if colony is not treated by the Heddon plan. On the whole I rather like this way of propagating our best stock. All colonies that swarm can thus be easily provided with queens from superior stock.—*Gleanings*

[We have tried all methods of having queens fertilized in the upper story; but when perforated zinc only is used between the upper and lower stories, or between the several compartments, the plan is liable to prove a failure. But we have been very successful in using upper stories by separating the brood-nest from the supers by means of wire cloth, then making each compartment "upstairs" entirely distinct and separate. On this plan the warmth of the cluster below rises up through the wire cloth into the nuclei above. This enables us to use weaker nuclei. So far our results in getting queens fertilized by this plan have been very satisfactory.—Ed. *Gleanings*.]

good, as the two wings would be easily liable to be separated in flight, and thus break the force of the stroke. But there is a beautiful arrangement which keeps them in position relatively to one another, and thus enables them to offer to the resistance of the air, what is practically an unbroken surface equal to their combined areas. The wings of a hornet, or failing these, of a humble bee, or wasp will show this arrangement admirably. For a certain distance, beginning rather more than half-way along the anterior edge of the hind-wing, there is a series of hooklets, bent obliquely outwards, upwards, and backwards. The number of hooklets varies with the insects; for example, the hornet has 29, and the hive bee about 23, humble bees have from 19 to 26, according to species and sex, and so on. Along the hinder edge of the forewings, in the part immediately opposite the hooks, the membrane is strengthened and bent under, forming a sort of trough or gutter. When the wings are expanded, the hooklets of the hind wing hang over the edge of this trough, and thus the two wings are firmly linked together, so that any movement of the one drags the other with it."—*Australasian*.

INSECTS WITH LINKED WINGS.

Mr. E. A. Butler, writing in "Knowledge" for March, says:—"Among insects that link their wings the Hymenoptera take the first place. The order contains bees, wasps, ants, sawflies, and that host of parasitic insects known as ichneumon flies. Each wing, whether primary or secondary, is by itself long and narrow, and in proportion to the size of the body, offers but a small surface to the action of the air, and hence would not have much sustaining power. But the anterior edge of the hind-wing has nearly the same outline as the posterior edge of the forewing, so that, when in use, the two fit pretty accurately together, one behind the other. This alone would not be of much

CAPPINGS.

From American and other Bee Journals.

Dzierzon tells in Leipziger Bienenzeitung, of a reasonably sure method by which queens may be purely mated: As early as 8 o'clock in the forenoon, if the weather is bright, queens and drones may be induced to fly for mating purposes by exciting the colonies containing them with a sweetened water-spray by way of the entrance. He considers this method superior to the other one of confining the colonies, having the young queens in a dark cellar till afternoon, when the drones of all other colonies have ceased flying.—*American Beekeeper*.

THE BEEKEEPER BETTER LET INBREEDING ALONE.—Until we can get a better idea of just what position the bee occupies in the scale of animal life, it will not be possible for us to decide how far inbreeding will be of use or a detriment. I therefore believe that if the bee-breeder will let in-breeding alone, commercially, until it has been investigated experimentally, he will in a measure save the industry from the ill advised inbreeding which has been done, for instance, among trotting horses, and which causes apparently "spontaneous" variations which can only be referred to an ancestor that should not have been thus bred. This incidental inbreeding is one of our greatest difficulties in breeding horses. With the very rapid breeding and maturity among bees, together with the fact that we may yet obtain a large number of individuals of excellent quality, and practically unrelated, two of the chief reasons for inbreeding are practically eliminated; and the comparatively slight expense at which we can test bees bids fair to keep these reasons from becoming a menace.—F. P. SIMPSON, in *Beekeepers' Review*.

FORMING NUCLEI.—A little depends upon the number of frames filled with brood, for you can make a good nucleus from each two frames. You can make a nucleus for each frame of brood but you will hardly do it a second time, and it is better not to try it the first time. Suppose there are 6 frames well supplied with brood. Of course there will be two other frames of honey and pollen. Take two frames of brood with adhering bees with one of the frames of honey, and put them in an empty hive, taking the queen with them. Two days later take from the old hive two frames of brood and bees and put in a hive on a new stand. Use the other two frames of brood and bees for another hive. That leaves your old hive with only the one frame of honey, Go to the hive that has the queen, and take from it the frame of honey, and put it along with the queen in the old hive.

The object of taking the queen away two days in advance is to be able to form your nuclei from queenless bees, which stay where they are put better than bees that do not feel themselves queenless. If you want to make the matter more sure, you can stop the entrances with green leaves for 24 hours after forming your nuclei. Only you need not close the entrances of the two hives that have had the queen in them.—*Exchange*.

A glance at the entrances in mid-summer reveals to the experienced eye whether honey is coming in or not. When it is, we can by close observation, make a shrewd guess of the rate at which it is being gathered by the manner in which the bees arrive and alight. Practice will enable us to calculate whether it is being carried from far or near, and their mode and course of flight reveals to him where they chiefly forage. This conduct reveals many points worth noting. Last summer one bright day, some one came in haste telling me my bees were *all swarming*. A casual glance along the flight-boards showed me the bees coming tumbling home in thousands, all eagerly rushing for the entrances. This lasted for about ten minutes. All the time the sky was cloudless, but I assured my informant that it was not swarming they were, but that they had "smelt a shower." And sure enough the ten minutes were scarcely gone when it came on such a downpour as is rarely seen on a summer day.—*Beekeepers' Record*.

The writer used to want his bees to be queenless two or three days, in order to become fully aware of their loss before the new queen was put into the hive. He has become convinced of late that this is productive of as much harm as good. It allows the bees to start queen cells. It helps advertise to them the fact that another queen placed among them is a stranger, and it makes them all the more meddlesome and disposed to resent her intrusion. Moreover, the new queen-cells in the hive incline them to the determination to rear of their own. It is

not alone the presence of the growing queen larvae, but the awakening of the instinct of cell building as well, that arouses obstinacy in the bees and makes them unwilling to accept royalty from abroad. If all queen cells are destroyed, they will just start more with the new queen caged among them, and this will be repeated until larvae are too old. If in destroying cells, even one be overlooked, the bees will sometimes destroy the queen as soon as they can get at her, and at other times they will accept her until the virgin queen is out, and then will quietly supersede her.—*Lone Star Apiarist.*

A score or more years ago I began to turn my attention to improvement of stock, and soon adopted the following plans: At the close of each honey season I struck an average of the number of pounds of surplus honey produced by the whole apiary; and then all the colonies which did not come up to this average were marked. These colonies were united, either in the fall or spring, with others, which had produced an average amount, or above, if such uniting was deemed advisable, through colonies light in bees or scarcity of honey. If all were not disposed of in this way (of course I always destroyed the poorest queen and retained the other), I superseded the inferior queens by those reared from colonies known to have produced the very largest amount.—*Exchange.*

The wings are the most important indispensable tools for the field-bee, and when they are gone, or worn out, the bee's utility is gone and she dies. The wings of the bee develop at the very last end of the imago's life, and if the growing insect runs short of material, the wings will of necessity suffer most, and a short-lived bee is the result. To ascertain the truth of the matter he had made an experiment, selecting two colonies of equal strength; one, which seemed to provide their young always with abundance of food, the other, which exercised great economy in this direction. Into

each of these colonies, both of the German race, he placed a comb full of newly-laid eggs at the same time, said eggs originating from a very yellow Italian queen. When the time came for these yellow bees to become field-workers he kept close watch of the two colonies. The colony that fed their young abundantly, retained yellow Italian bees about two weeks longer than the one which provided scantily.—Mr Olmstead in *American Bee Journal*.

THE MAKING OF VINEGAR.—Soak all cappings and the like, and using the sweetness in the making of vinegar. The liquid must not be too sweet or too weak. This can be tested by the use of the saccharometers or by an ordinary egg, which should just float in a liquid of the proper sweetness. The sweet liquid should be left in an open-top barrel or other vessel and allowed its time in making. Honey vinegar is in every way more healthful, purer and better than any other vinegar, and all bee keepers should save all the sweetness they can and allow it to make into vinegar, for what is not used at home can be readily sold, and at satisfactory prices.—C. P. DADANT in *American Bee Journal*.

The French have an apparatus for measuring bees tongues. The glosso-meter is designed to aid the apiarist who, by judicious selection, seeks to develop a long-tongued race. The apparatus is simply a glass vessel for syrup, with a lid having numerous perforations, and a floating scale to show the height of the liquid when the bees just reach it through the holes. Some Americans are now saying we ought to try more for wing length and power.

Bees will not start queen cells with larvae as old as three days, when younger larvae are present; but they will continue to start queen cells after all the larvae present become too old for the purpose.—*Gleanings.*

In a cluster a bee will support 32 times its own weight.

VICTORIAN APIARISTS' ASSOCIATION.

ANNUAL MEETING.

JUNE 9, 1902.

The President (Mr. T. Bolton), took the chair at 10 o'clock, and opened the meeting with the following remarks:—I am pleased to be with you again at the end of another season. Although the season has been a bad one the Association has been doing a good work, and that work was partly of an educative nature. The Forestry Department had shown its respect and recognition of our industry and the honey value of our timber, in a manner that was to be highly appreciated. The Association had been the cause of that good result.

With a good, live Association dealing with the different questions that cropped up from time to time, the public must get to know the opinion of the honey producer. Therefore, carrying on such an Association means the education of public opinion from the beekeeper's standard.

I would even like to see it more lively, for instance; many opportunities occur in the daily papers for replying to certain individuals, which reply would be a good peg for the beekeeper to use. Quite recently a correspondent in the daily paper expressed his views on Beekeeping, and I should have liked someone to make an official reply to the writer (a voice: "why didn't you") of the article referred to. (Mr. Beuhne here intimated that he had done so in the *Leader*). The public do not know that the main honey crops are gathered from poor and inferior country, many parts of the country where nothing will grow, are very rich in honey yielding timbers, and it is these lands the beekeeper should have for his use, and public education on the question is the best way of securing that end. Of course there were good agricultural lands which the beekeeper had no moral right to ever expect to have reserved for him, but the

poor lands rich in honey yielders we must secure. I here wish to say that I think the more honey there is produced the better will the market be. I can sell twice the honey in a good season to what I can in a bad, and I feel confident that our future trade depends on our having a more constant supply of good honey.

In conclusion I may state that I was half inclined to stay at home instead of attending this meeting, but I am now very glad I came, and I trust we shall have a useful meeting.—(Applause).

The Secretary then read the minutes of the previous Conference, May 1901, which were confirmed on the motion of Mr. Colstein, seconded by Mr. Jas. McFarlane.

The Treasurer's and Secretary's Report was then called for, which read as follows:

Dr.			
Balance last year	..	..	£1 11 6
Subscriptions from 64 members for the year	..	..	8 0 0
Total	..	..	£9 11 6
Cr.			
Rent of Room for last Conference	..	..	£1 0 0
Postages	..	..	1 8 6
E. Tipper, printing, etc.	..	..	2 14 0
Stationery	..	..	0 8 0
A B.B.	..	..	0 5 6
Balance	..	..	3 15 6
Total	..	..	£9 11 6

Moved by Mr. Jas. McFarlane, seconded by Mr. Cox, that the Treasurer's Report be received.—(Carried.)

The Secretary in his report stated that the members had increased from 47 to 66, or an increase of 19 for the year, which he was sure "they must all regard as very satisfactory" progress during such a bad season.

The work accomplished during the year just completed included several items of a new nature, not the least was the Beekeeper's License, which had been inaugurated by the President being the first to avail himself of the enjoyable position of obtaining a small block of

land from the Government, exclusively and solely for the business of honey production, a thing once dreamt of, now a fact.

Samples of English honey had been secured at the suggestion of the Association by the Government, for comparison with our honies.

During the year the Executive had met and transacted business on behalf of the Association which was also unique in its way, no other attempt by the different Beekeeper's Committees had ever resulted in an executive meeting (constituted solely of Beekeepers), being carried to a successful issue.

The Advisory Committee had twice been communicated with, and the opinion expressed being unanimous were acted upon.

The adulteration of beeswax had received a decided check at the hands of the Association during the year, and in many other ways the work had been effectual in helping beekeepers, but the greatest factor was the growing influence of the Association as a power amongst beekeepers. The honey producer had lost confidence in the Associations of the past, but they were now showing their confidence in the Victorian Apiarists' Association in a practical manner, because its aims and objects accorded entirely with their wishes.

The quality not so much the quantity of opposing armies decides for victory. We have just seen the close of the Boer war, and we are celebrating the victory gained; and our Association had gained a great victory. Yes, we have had our little war with those who opposed us, we captured their best men, a few were slain, some surrendered, and we were the victors. Peace now ruled, but we must not rest on our oars. We must be a power, unity must give us strength, we must be prepared for any emergency. At any moment we may have a harder battle than our first, our forests, our markets, our very calling may so need that we must make ourselves felt in the land.

To this end all beekeepers must work. We must use our influence with our neighbouring bee man (we means all of us, not two little dark fellows one at Tooborac and one at Preston), (laughter), so that when the time arrives for any great action the beekeepers of Victoria will be so organised and unanimous, that their voice will be felt throughout the State, and if necessary throughout the Commonwealth.—(Applause.)

Moved by Mr. Moorfield, seconded by Mr. Cox, that the Secretary's Report as read be received.—Carried.

The Hon. Correspondent reported that during the year he had written to the Agricultural Department asking them to obtain samples of English honey for comparison with our own. He had also requested them to obtain books and other information relating to bee life and bee diseases from America. He had also arranged an interchange with the Department to send to the Association the monthly publication of Rural Industry for the "Australian Bee Bulletin." A communication had been received from the Minister of Agriculture asking if it would be advisable to declare a close season for the cutting out of bee trees, which the Advisory Committee had answered in the negative. He had corresponded with over 50 beekeepers requiring information on Association matters. He now asked the annual meeting to endorse his actions if they thought them proper.

The Chairman: I think we must all feel very grateful to Mr. Beuhne for the very valuable work he has done, and we can best endorse his action and thank him by giving him a hearty acclamation.—(Hearty applause.)

The "Review of Beekeepers Licence" was opened for discussion with a few remarks by the Chairman, who said, that he had experienced a rather troublesome time of it when endeavouring to get out his license.

After he had made application in the proper manner, and had forwarded the necessary fees, the matter was duly advertised to be dealt with at the Quarterly Meeting of the Land Board, and of course was opposed by the person leasing the land, with so much success that the Land Board referred the matter on to the Minister of Lands, who in his turn after much deliberation eventually granted the license.

He had spoken to Mr. McColl about the delay and inconvenience he had been put to in securing the license, who stated "that the intention of granting the Beekeeper's Right was never intended to be a matter for a Lands Board, but was intended to act in the same way as the Miner's Right, so that the whole matter could be settled in a comparatively short space of time."

The Secretary here put in correspondence from Mr. F. Howard, Glenorchy, which read as follows: "I see you have a discussion on 'The Beekeeper's License.'" I may state to you that I applied through the Local Land Officer for a license some six weeks ago, paid my fee and everything that was necessary, but I have received no license yet, which is very inconvenient to me. Mr. Scurry thought the easiest way to get at the difficulty quickly was to take out a miner's right, which he had been doing for his apiary and which he had no trouble in securing.

Mr. Beuhne pointed out that Miner's rights could not be taken out in any place, but only in auriferous country.

Mr. Moorfield, who as a N.S.W. Beekeeper "just over the border" was very pleased to be at such a gathering of beekeepers, and thought the Licence was a splendid thing for the beekeeper, and gave us a better standing than the Miner's Right.

The Chairman pointed out that the honey flow would be easily lost, whilst the licence was being secured.

A general discussion then followed, which resulted in Mr. Cox moving and Mr. Wills seconding, that in connection

with the Beekeeper's Licences, the necessary steps be taken to secure the same facilities for the beekeepers as the Miners' Right gives to the miners, as regards the getting of the licence speedily.

Timber Resources and Bush Fires.—These subjects being so akin to each other as affecting the beekeeper were combined, and very important discussions and resolutions resulted. The Chairman said the main thing to keep agitating upon, was that in some of the third-class land where only 1 sheep to 10 acres could live, the beekeeper could secure a far greater financial success than any other industry. It would in many cases pay the beekeeper to rent the land. Personally, he was willing to pay a fair price, if necessary, to secure the timber around his apiary. (Hear, hear.)

The Secretary read a letter from Mr. D. M. Morgan, of Deep Lead, who stated as follows: "I am glad that Bush Fires are amongst your many important questions. To my mind there is no question so important to beekeepers in general. Take the Grampians, 'as fine a country for bees as can be found in good and bad seasons; as soon as these mountain blocks are leased, in goes the fire stick so that the sheep would get the young shoots. A man is not allowed to ring-bark or cut down timber, yet he puts a fire stick into the scrub, and thus destroys thousands of acres of good forest timbers.

Mr. F. Howard also wrote, re Bush Fires, I have my bees on Crown Lands which are leased to a grazier; year by year this man sets fire to the scrub and destroys thousands of acres of bloom. I think it is a great mistake that these men should be allowed to burn off in the way they do, and thus ruin our timbers.

Mr. Beuhne said there ought to be some way out of the difficulty. He was quite in accord with the Chairman and would be willing to rent the land, if it were not for having to pay for the improvements; and having the expense of keeping down the various kinds of vermin, which would make it too costly altogether.

Mr. McFarlane suggested that we offer to lease the tree tops. He thought about £1 per mile would be a fair thing, as a beekeeper would use about 9 square miles as a bee flight, which would amount to £9 per annum.

Mr. W. L. Davey was of the opinion that £1 per mile was too high for an average bee pasturage. He thought it was a good suggestion and would act as a strong force against the illegal ringbarking, bush fires, etc., because the Government would see to it in a more effective manner when they were financially interested in the tree tops, which would be a great blow to ringbarking. Another idea he would like to see carried out was the appointment of beekeepers as Honorary Crown Lands Bailiffs. However, he thought in the matter of renting the tree tops we should make the Beekeeper's License the main thing, as some beekeepers might not be able to afford the money necessary to rent the tree tops around their Licensed Apiary. If a beekeeper could afford it, it would be wise to rent the tree tops as a protection against intruding beekeepers and against ringbarking. The rent should be arranged according to the average value of the honey crop, stringy bark country and yellow box or red gum with other inferior timbers should be worth about 10s per square mile, some picked spots might be worth more, but it would be a mistake to place those as the price for all beekeepers, therefore, he advocated an average for the whole State.

A general discussion was then continued, and was not completed when the adjournment for lunch was made at 12.30.

(To be continued.)

VICTORIAN NOTES.

R. BEUHNE.

IMPRESSIONS OF THE ANNUAL MEETING.—As a full report appears elsewhere I will confine myself to give a few impressions before I forget them. The first thing which struck me was the cordial feeling and the absence of discord of any

kind throughout the proceedings. This is somewhat different to the state of affairs at many previous beekeepers meetings.

Harmony does not necessarily mean sleepiness, far from it, the meeting was brisk and lively throughout. The various business matters initiated and decided will keep the executive busy till next annual meeting, and cannot but reflect credit upon the Association and confers benefit on the industry in general. I have no hesitation in saying that it is the most satisfactory general meeting I have attended.

Those who attended for the first time expressed themselves as pleased that they had come. There was only one regret, namely that some of the older members were absent owing to adverse circumstances. Some residing in remote localities where postal communication is not very frequent received their invitation too late to be able to arrange for an absence from home. This drawback will be avoided in future.

I should advise all who attend future meetings to leave themselves a little more time. There were several matters which could not be brought forward, which, though not very important to the Association as a body, would have been instructive and useful to a number of members.

To effect its purpose and attain its objects the Association requires the support of individuals, for which in return it will give its assistance, information and advice.

Great International Apicultural Exhibition at Vienna, 1903.

The Central Association for Apiculture in Austria proposes to hold a Great Apicultural Exhibition of an International character, at Vienna, Easter 1903.

We hereby invite all Beekeepers' Associations, Beekeepers and others interested, in this as well as all foreign

countries to take part in this Exhibition, and to forward for exhibition live bees, implements and appliances, etc.

We are making arrangements for admission and re-exportation free of duty, also for reductions of freights and fares.

Our Association, which comprises over 6000 members, will encourage intending exhibitors to the utmost by providing numerous money prizes and medals, and judges of undoubted integrity. The unpacking and repacking for return will be carried out with the greatest care.

This Exhibition at Easter, 1903 at Vienna is intended to be a noble International Contest in Apiculture, and cannot fail to act beneficially on Apiculture throughout the world.

Further information later will be supplied by the die Vereinsleitung und das Ausstellungs Committee, Wien, I., Schauflegasse 6.

For those who allow natural swarming, I want to suggest a plan for improvement of stock that is more than 40 years old (I mean the plan, not the stock, is so old). Strengthen with brood the colony with best queen, so as to get it to swarm first. Call it No. 1. When No. 1 swarms, put swarm in place of No. 1, and set No. 1 in place of No. 2, setting No. 2 on a new stand. When No. 1 swarms again (perhaps 8 days later), set the swarm in place of No. 1; set No. 1 in place of No. 3, and set No. 3 in a new place. As often as No. 1 swarms (and it may do so several days in succession), set the swarm in place of No. 1, and set No. 1 in place of some other full colony.—DR. MILLER, IN *Gleanings*.

Extracts from a bulletin issued from the Michigan Experiment Station, U.S.A., on "Measuring Bees' Tongues":—Report of 1897: A great many queens have been bred for the purpose of testing the question whether a strain of bees could be produced which would be characterised by long tongues. The tongues of several bees of each colony were measured, and

were found to average as follows: Black, 4.2 mm; hybrid, 4.9. mm; Italian, 5.2 mm. One colony of Italians was found whose tongues measured 5.3 mm. The drones from this colony were allowed to fly at will, and the others were kept down. As a result we have in the yard at the present time one queen the tongues of whose progeny measure 5.41 mm. This result is very encouraging and leads us to continue the experiment. Report of 1898: The continued experiment on bees' tongues did not make such marked progress as it did last year. At the beginning of the season the longest tongues in the yard measured 5.41 mm. One direct cross was made; but, owing to the large number of drones from common stock in the surrounding country, no other queens were satisfactorily mated. The bees from this cross have made a gain of .9 mm., and now measure 6.31 mm. The experiment will be continued. Report of 1900: The continued experiment on lengthening the tongues of the bees so that it will be possible for them to reach the nectar in such flowers as June clover, has been carried on with little success, the average lengths of the tongues of those colonies under experiment being no longer than a year ago, the principal difficulty seeming to be the failure of the desirable mating of queens. When this difficulty can be overcome it may be possible to breed a strain of bees superior to any thing now known.

MUSWELLBROOK.—MR. A. A. Roberts, a well-known resident, who was colour-sergeant of G Company for several years, and a successful apiculturist in the good seasons of the past decade, having received the appointment of manager of a bee farm near Brisbane, was on Saturday night last presented with a purse of sovereigns by G Company and the Civilian Rifle Club, of which he had been a prominent member. The presentation was made by Captain Bowman, who warmly eulogised Mr. Roberts as having been a good citizen, a capable officer, and an expert rifleman.—*S. M. Herald*.

The lengthened drought in Australia has been responsible for the unearthing of more than one elaborate theory to account for it, including the theory of sun-spots. It and most others seem to receive their quietus from such a statement as is published in the *New Zealand Herald* (Auckland) of May 19:—"The great geographical division between Australia and New Zealand is very remarkably illustrated by the phenomenal difference in meteorological conditions recently experienced. While this colony has been subjected to heavy and repeated rains, which together constitute a record downpour, the Commonwealth has been the scene of unbroken drought." The sun-spot theory can scarcely apply specially and entirely to Australia.—*Australian*.

When cattle have acquired a taste for sweet clover, they eat it readily. Sweet clover grows from the seed, blossoms, and dies. During the first year it grows about a foot high, the second year the stem becomes so large and hard that I doubt if the cattle would eat it even if harvested. We have harvested some with other hay and always had the stalks left even though the stock would eat the tops. In sowing sweet clover, let it come up and grow, I don't care how rank and thick, and turn the cattle on it, in three years it is entirely destroyed and there is nothing left, which shows that they will eat it. It grows the first year from seed, and if stock is turned upon it they will eat every bit of it, and leave no chance for the second year; and during the second year, if you turn stock upon it before it blossoms, they will turn in and damage it to such an extent that it will grow very little.—Dadant. Dr. Miller: I had a good deal cut after it was in blossom, and, as he supposes, there are, of course, stems that are worthless, but, after all, there will be enough to make it tolerably valuable as a hay crop; but it will be very much more valuable as a hay crop if it is cut before it blossoms at all; and then the loss is nothing, because it will blossom so much later, and then it

is eaten, and if I would have my way about it—and there is a good deal growing along the roads where I live—I would have the road commissioners cut it off close down before it first comes into blossom. It would be worth more to me than if they let it all grow.

To transfer bees from box-hives to movable-frame hives by making a cover to fit the latter hive, and cutting a hole in the top just to fit the box hive, and set the box-hive on top, stopping all cracks to force the bees out through the new hive, as it is their custom to build below? It has been done, but it is not always the most satisfactory. You will have the old hive filled with honey that is not in the most satisfactory shape. If you decide to use the plan, cut away all you can from the lower part of the box-hive, cutting away some of the lower edge of the combs—the object is to leave just as little room as possible in the old hive. You could take off the old hive any time after it was so filled with honey that there was no brood in it. Or, you could take it off as soon as the lower hive contained three or four frames of brood, and three weeks later drum the bees out of the old hive.

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AUSTRALIAN HONEY IN ENGLAND.

(S. M. Herald, June 26, 1902.)

When the Surrey Beekeepers' Association held its annual show in London, last year, Sir Andrew Clarke, the late Agent-General for Victoria, instructed Mr White, the attendant in charge of the Victorian exhibit at the Crystal Palace, to gather any information likely to prove of value to Australian apiarists. A report, of which the following are the salient points, has been prepared:—

The samples of Victorian honey submitted to the experts at the show were said to possess a peculiar flavour (eucalyptus?) which was likely to prejudice its sale. To overcome this it was suggested that plenty of "lime" honey should be mixed with it, but whether it would pay Victorian beekeepers to plant these trees is another question.

The best English honey is that produced from clover and sanfoin, and readily sells at 1s and 1s 3d per lb. retail. To improve both the quality and quantity of the local product, Mr. C. T. Overton, a first-class expert of the British Beekeepers' Association, advised extensive planting of clover and sanfoin. The wholesale prices of English honey are as follows:—

First grade, in 28lb tins	7d to 7½ per lb
Second grade, in 28lb tins	6d per lb.
First grade, in jars	10s per dozen.
Second grade, in jars	8s per dozen.

The way in which honey is sent forward from Victoria is stated to compare favourably with the methods of other countries. In Mr. White's opinion, a net return of 3d per lb. could be obtained for our honey if some one at the London end could place it in suitable bottles, and supply the wholesale trade instead of consigning to brokers as at present.

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RULES & OBJECTS.

1. The careful watching of the interests of the industry.
2. To arrange for combined action in exporting honey to relieve local glut when necessary.
3. To advise members as to suitable localities for establishing apiaries.
4. Any beekeeper can become a member on approval of committee, subscription 2/6 per annum.
5. That every member with more than 50 hives shall be allowed an extra vote for every additional 50 effective hives.
6. No member be eligible for office who has less than 50 effective hives, or his subscription is in arrear.
7. The Association to consist of a central body and district branches affiliated with it.
8. The principal officers be such as will undertake to meet each other in committee at least once in twelve months.
9. The officers shall consist of President, Vice-President, Treasurer and Secretary, and Executive Committee.
10. After the first election of officers, arrangements to be made by the Secretary to call for nominations for office-bearers, and issue ballot papers prior to the next annual meeting.
11. Supply dealers or commission agents cannot become members.
12. Members unable to attend meetings or conventions can authorise or nominate any member they know will be present to vote for them on any subject brought forward. Such vote or votes to be in addition to the member's present own vote.