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THE NEW ZEALAND AND AUSTRALIAN

BEE JOURNAL.

Devoted exclusively to Advanced Bee Culture.

VOL. I. No. 10.}

AUCKLAND, N.Z., APRIL, 1884.

{ Published Monthly,
Price Sixpence.



PUBLISHED MONTHLY.

I. HOPKINS.....Editor.
H. H. HAYR.....Business Manager and Publisher.

TERMS OF SUBSCRIPTION :—

Per Annum (in advance) 6s.
Half-yearly ” 3s.

Post free on day of publication.

On account of the Postmaster-General declining to register this Journal other than as a Magazine, book rates of postage are charged to places beyond New Zealand; consequently, we shall be obliged to charge 7s. per annum to foreign subscribers.

All correspondence intended for publication to be addressed to the Editor, Matamata, Auckland, New Zealand, and business communications to the Publisher, P.O. Box 186, Auckland, New Zealand.

CONTENTS.

EDITORIAL—

Calendar	111
Marketing Honey	112
Imported Italian Queens	112
Moths and Red Clover	112
Foul Brood	113
Our Fumigating Room	114
Auckland Gardeners' Horticultural Show	114
Test for Purity of Beeswax	116

SPECIAL ARTICLES—

Geographical Distribution of the Honey Bee	116
Bee-keepers' Association	117
Meeting of Bee-keepers	118
Auckland Provincial Bee-keepers' Association... ..	119

CORRESPONDENCE—

Temporary Winter Addition to Langstroth Hive	119
Fumigating House, &c.	120
Transferring Bush Hives	120
Packing Humble Bees	120
Starting an Apiary	121

FROM OUR CONTEMPORARIES—

Ligurian Bees in South Australia	121
---	-----

QUERIES AND REPLIES

METEOROLOGICAL OBSERVATIONS	122
------------------------------------	-----

HONEY MARKETS, &c.	122
---------------------------	-----

SPECIAL NOTICES	122
-----------------------	-----



CALENDAR—APRIL.

The fine weather that prevailed during the month just past enabled the bees to gather a nice bit of honey from thistles and other plants that in ordinary seasons would have been out of blossom. Although the days were bright and warm, the nights were excessively cold, and interfered very much with the secretion of honey. Most, if not all, the nectar gathered from spider plant is secreted at night, and the bees—as a rule—will be found visiting the blossoms by the first peep of day; but, owing to the temperature being so low after sunset, there has been little or no secretion taking place, consequently our plants have been quite deserted by the bees—a very unusual thing with cleome pungens. On several occasions, here at Matamata, during the past month, the thermometer has registered several degrees below 40, and twice during the month was as low as 34deg; in fact, we have not had what could be fairly termed a warm night at any time during the season.

The honey season in most districts may now be said to have closed, although sufficient may be gathered during the next two or three weeks to serve the bees for food during that time, and so avoid the necessity of consuming the stores already gathered. Breeding is now rapidly diminishing, and, with very few exceptions, all drones have been exterminated. It is not prudent to allow breeding to diminish too rapidly, or to end too soon in the autumn, as the result of this would be a weak colony to start with in the spring. We like to see breeding going on in a small way to near the end of May, so that we may be sure of having plenty of vigorous bees in the colony at the commencement of the following season. If they are too old they are not strong enough to stand the boisterous weather of early spring, and the consequence is they die off rapidly, and leave the colony very weak before others can be hatched to take their places. This, we think, is one of the principal causes of “spring dwindling.”

ROBBING.—In our last Calendar we incidentally touched upon robbing. As this is a matter of great importance, requiring particular attention at this time of the year, we again draw the attention of our

readers to it. Of all times of the year that robbing is most likely to be started, the first five or six weeks after the close of the honey season is the worst. Bees are undoubtedly more vicious at this than any other time, and appear ready to fight on the slightest pretext. In removing surplus honey, or opening hives for any purpose, the operation should be got through as speedily as possible, and the cover put on again so as to give no opportunity for robbers to get in. Not the slightest piece of comb containing honey should be left within reach of the bees, or they will find it very quickly. Queenless colonies, if any, should either have a fertile queen given to them or be at once united with others having fertile queens. Should a weak colony be attacked by robbers, a cloth, or whisp of straw or hay, laid across the entrance to the hive, and water poured on this from a watering pot, will generally frighten the robbers away; but the hive must be watched for some little time, and the watering repeated if they should again make their appearance.

Surplus honey may now be all removed from the hives, taking care to leave sufficient winter stores for the bees. Spare combs should be stowed away in a place secure from the bee moth, and all refuse comb and pieces of wax melted up and cleaned ready for sale. Spare hives, frames, and everything not required for use, may now be cleaned and carefully put away, where they can remain till required again. Before putting the hives, frames, and combs away, we would strongly recommend our readers to adopt the preventive measures against foul-brood given in another column. It will cost but little time and trouble, and may be the means of preventing loss and vexation.

IMPORTED ITALIAN QUEENS.

We would remind those of our customers who are desirous of obtaining imported Italian Queens to send in their orders, accompanied by cash, during the present month. Should we be unable through loss in transit, or other circumstances, to supply orders, the cash will be returned in full. Price of queens, £2. We shall arrange for them to arrive here in October next. For further particulars see February number of the JOURNAL.

MOTHS AND RED CLOVER.

AMONGST the various kinds of moths there is one commonly known as the silver Y moth (*plusia gamma*), which in England appears to be one of the principal agents in fertilizing the red clover blossoms. It has been supposed by some that the moth we have in New Zealand, which may be seen flitting about the red clover at this time of the year, is identically the same. As we were anxious to know, we sent a specimen to Mr J. L. Shadwell, an amateur entomologist, who replies as follows:—

SIR,—I have received the moth you kindly sent me from Matamata. It is not the silver Y moth (*plusia gamma*), but a specimen of *dipsacea*—the marbled clover moth—considered a very rare insect in England, being found only in a few places in Norfolk, Suffolk, and Cambridgeshire. *Dipsacea* is usually found amongst red clover and teasel, so I should think it quite likely to have taken a part in fertilizing the red clover at Matamata.—Yours, &c., J. L. SHADWELL.

Northcote Apiary, Auckland, March, 1884.

MARKETING HONEY.

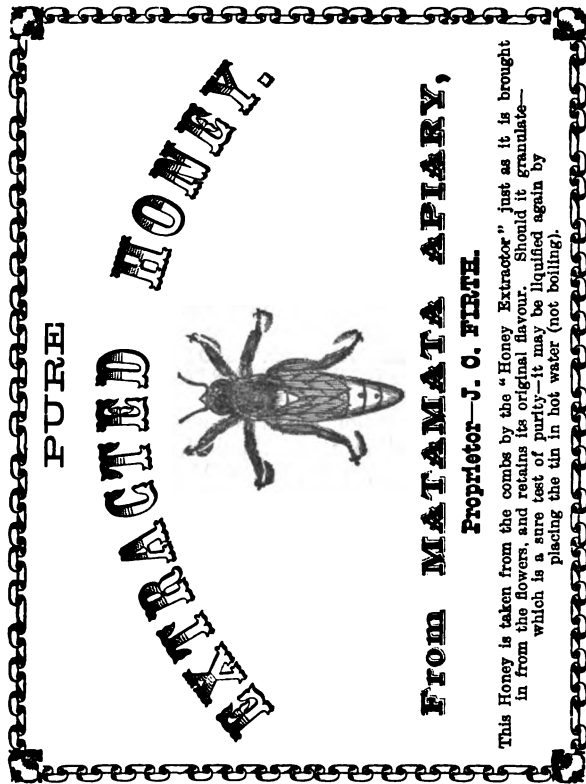
(CONTINUED.)

HONEY in glass jars looks remarkably tempting, and would be preferred by many, but, unfortunately, there are two serious drawbacks to this kind of package. The first is, glass vessels are very expensive as compared with tin; and the next—perhaps the greatest—is, that after the honey granulates, which it is sure to do in time, it has anything but a tempting appearance to the inexperienced consumer, who, on seeing it through the glass, would be pretty sure to say that it had been adulterated, although granulation is one of the surest tests of the purity of honey. Some kinds of honey will granulate much quicker than others. We remember having some on hand about five years ago that, although in an open jar for over twelve months, remained in a liquid state the whole of the time. Clover honey we find granulates as soon as cold weather comes on. We have not tried the experiment of heating honey to prevent granulation on a sufficiently large scale to warrant us recommending the process authoritatively, but from the little we have tried good results have been obtained. If this is practised great care must be taken that the honey is not heated to too high a temperature, as it would have the effect of both darkening the colour and destroying the flavour of it. Any bee-keeper wishing to adopt this method when glassing honey could have a cheap and simple water bath fitted up as follows:—Procure a shallow pan, say 9 or 10in. deep, and as large as convenient for standing in an ordinary fireplace, or over a stove arranged on purpose; one inch from the bottom put in a perforated false bottom, or what would be perhaps better, have a perforated movable tray made to take out or put in. This false bottom or tray is to stand the glass jars on to prevent them breaking, as they would be apt to do if standing on the bottom. When required to use, place the pan on the fire with a little water in it, now place the unstoppered jars—after being filled with honey—on the tray and fill up with water sufficient to nearly cover the honey, and heat the water till the temperature is about 170deg., after allowing it to remain awhile at this, stopper the jars and remove them, taking care that the jars are made airtight. If this process will answer in keeping the honey in a liquid state, and we have little doubt about it, it will remove one great objection to glassing honey.

Our next consideration is the labels. The importance of having a neat and attractive label cannot be over estimated, the sale of many a good article is marred through the shabbiness of its outward appearance. In placing a new brand of any article upon the market it should be made as attractive as possible, so that it will catch the eye of the general public; in this way only can we expect to get the article introduced quickly. Tradesmen, too, will give an engaging-looking article a more prominent position in his window and shop, which materially helps the quick sale of it.

Very fine lithographed labels can now be obtained, of any design, and in any number of colours and fancy lettering, at most of the leading printing establishments throughout the colonies, at a very reasonable rate, obtainable on application. The first labels we had lithographed were very fine ones, but small, only occupying a portion of the surface of the body of the

tin; this we soon found to be a mistake, as it necessitated japanning the whole of the tin. Labels should be large enough to encompass the whole body leaving only the top and bottom to japan. The design of the label may be made to suit the taste, but it is as well to have some distinguishing mark in front to answer as a sort of trade mark, such as a hive, queen, or extractor, and as it is necessary that the consumer should know how to liquify the honey again after it becomes granulated, this should be explained on the label. The following sketch will give beginners some idea of what is required:—



Of course we have only given a rough idea of a label in the above, although the principal points are shown. Previous to sticking on the labels—which would be already gummed when received from the printers—the tops and bottoms of the tins should be japanned to prevent them rusting. Japan can be bought of any oil and colourman, and should be thinned down with turpentine to the proper consistency before being used. After the tins are labelled it would be better to wrap each in thin tissue paper to preserve and keep the labels clean. The material for packing cases can be procured, cut to any dimensions, from any of the sawmills; these, of course, would be put together at the apiary. A very convenient sized case is one that will hold 2 doz. 2lb tins, or double the quantity of 1lbs; with the kind of 2lb tins we have on hand, a case measuring 15in. x 18in. x 7½in. would pack the above number, but it would be better to take the dimensions of the tins before ordering the cases, as all tins do not measure alike. A stencil plate is required for marking the name of apiary, proprietor, and weight of honey on each case; and also some show

cards for sending with each consignment, for a little money spent in bringing the article prominently before consumers is well spent. We may mention here that labels for glass jars will only require to cover a very small portion of the glass and should be cut to fit nicely.

We lately received a letter from a correspondent who informed us that he was putting the bulk of his honey (about one ton) in 60lb tins, two of which are packed in each case; both tins and cases are obtained from a distance, and the expence altogether with freight to Auckland will amount to about 1d. per lb.

(To be continued).

FOUL BROOD.

From different quarters we hear of the existence of that dreaded scourge, foul brood. We are inclined to think with Professor Cook that this disease arises from more causes than bee-keepers are at present aware of. There is, however, one thing certain, that is: when once started it is easily propagated, and spreads very rapidly. Our knowledge of the disease at present appears to be very imperfect, but, no doubt, in time some one of the many persons experimenting with it will discover the exact nature of the disease, when a knowledge of the causes and effectual cure are almost sure to follow. In the meantime, the salicylic acid remedy is the only one known, a mixture of which acid every bee-keeper should have at hand, ready for use on the first appearance of the slightest symptoms of foul brood. The appearance of the disease, and the method of applying the acid, are now given in detail in all modern works on bee-culture, and has already been published in the JOURNAL, so that there is no need to go into the matter here. Our object at present is to point out measures which should be adopted in every apiary as a preventative against the disease, and to show how it may best be kept from spreading when once introduced.

Since we have learned how easily the germs of foul brood may be introduced into an apiary if the disease exists anywhere in the neighbourhood, and that salicylic acid solution will kill these germs, we have often thought that if a little of this solution could always be present in the hive it would be the best preventative against its introduction. As the germs of the disease appears to be a minute fungoid growth, and capable of being carried on the feet of a bee, it would be necessary that the solution should be spread over the whole interior of the hive, including the frames and combs. And not only this, but it should be present in the honey as well, and here is where the difficulty comes in, for the germs are said to live in the honey, although dormant until they are introduced into cells containing larvæ, when the effects of the disease are soon made apparent. It appears practically impossible to get the solution mixed with the honey, as it is stored in the cells by the bees; of course, when feeding them, it could be mixed with their food, and this should always be done. Although we cannot always get the acid solution mixed with the honey, we can do the next best thing, that is: thoroughly disinfect the cells before the honey is stored in them. If this were done with all spare combs and hives before being stowed

away, there would be little risk of these being the means of spreading the disease.

Mr Thos. Wm. Cowan, in his admirable little work—*The British Bee-keepers' Guide Book*—has recommended the following precautionary measures to be taken:—"All hives, floor-boards, and frames that have been in use should be scalded and thoroughly cleansed before they are used again. The winter is a convenient time for doing this, so that they may be ready for work again in the spring. In addition, they should be washed all over with salicylic acid solution, of which the recipe No. 1, is given under the head of "Recipes." This will prevent the propagation of foul brood by destroying any germs of the disease which may be present. All empty combs, which have been put away, should also be sprayed with this solution before they are used again. The solution is inexpensive, and the prudent bee-keeper will be well repaid for the simple precautions he may take to prevent the introduction of foul brood into his apiary. In any case precaution is better than cure."

RECIPES.

No. 1.—SALICYLIC ACID SOLUTION, for mixing with syrup for feeding bees, painting over hives, and spraying combs, &c., for prevention and cure of foul brood:—

Salicylic Acid	...	...	1 oz.
Soda Borax...	...	...	1 oz.
Water	...	...	4 pints

No. 2.—SPRING AND SUMMER FOOD for bees:—

White Lump Sugar	...	...	10lbs.
Water	...	...	7 pints
Vinegar	...	...	1 oz.
Salicylic Acid Solution No. 1	...	...	1 oz.
Salt	...	...	1 oz.

Boil for a few minutes.

No. 3.—AUTUMN FOOD for bees:—

White Lump Sugar	...	...	10lbs.
Water	...	...	5 pints
Vinegar	...	...	1 oz.
Salicylic Acid Solution No. 1	...	...	1 oz.
Salt	...	...	$\frac{1}{2}$ oz.

Boil for a few minutes.

Every bee-keeper with a clean apiary should adopt some precautions to prevent the introduction of the disease, and we know of none more simple and likely to be more efficacious than those now given.

Foul brood, its cause and cure, is a matter that might well be taken up and inquired into by our newly-formed "Bee-keepers' Association." The opportunity is open to anyone who could throw any fresh light upon the question of not only making a name for himself, but of doing a world-wide good.

OUR FUMIGATING ROOM.

WE have been asked to give a description of a fumigating room, together with the internal fittings; perhaps the best thing we can do is to give a description of our own, as we find it answer admirably.

Our workshop is 34ft. long, with 10ft. studs; against the back of this is built a lean-to 10ft. wide and the length of the shop. There is a drop from the floor of the workshop to the floor of the lean-to of about 10in., which allows of that much more pitch in the roof, the back studs being 8ft. At one end of the lean-to is the office, 8ft. x 10ft.; at the other end a comb-honey room, 12ft. x 10ft.; leaving the centre compartment 14ft. x 10ft.

This is the fumigating room. The whole of the lean-to, including partitions and roof, is close lined with tongued and grooved lining, making the different compartments as nearly smoke tight as possible. In the centre of the partition, between the honey and fumigating rooms, is a door leading from one room to the other, and a window in the centre of the back of the fumigating room. A passage is left down the centre of the room, from the door, 3ft. 6in. wide; and on each side of this passage, 2in. x 3in. scantling are nailed in an upright position from floor to ceiling, 20in. apart; the narrow edge of the scantling towards the passage. On each side of the scantlings, 3in. x 1in. battens are nailed in a horizontal position to carry the frames. These are nailed a sufficient distance above each other to allow a space of about 1 $\frac{1}{2}$ in. between each tier of frames. The space on the side of the window and immediately opposite it is unoccupied, so as not to block out the light. When we are storing away our spare combs, they are carried into this room and hung on the battens exactly like they hang in the hives, the battens answering as rabbets. The combs are kept about an inch or so apart. As soon as we detect the slightest sign of the bee moth, we fumigate the room in the usual way. This sized room has a capacity for storing about 2500 combs.

AUCKLAND GARDENERS' HORTICULTURAL SOCIETY'S SHOW.—APIARIAN CLASS.

THE Autumn Exhibition under the auspices of the above Society, was opened in the Drill-shed, Wellesley-street, Auckland, on Friday, the 21st of March, and was continued during the following day. Unfortunately the unfavourable weather interfered materially with the attendance on the opening day. During the latter part of the morning and the whole of the afternoon, the rain fell in torrents and made it very unpleasant for visitors. The Show, as a whole, was—we believe—the best that has ever been held in Auckland. The exhibits, including fruit, flowers, and vegetables, was simply magnificent, and would have done credit to a much older colony than New Zealand; but as we are mainly interested in the Bee and Honey class, we shall confine ourselves to the apiarian exhibits.

Until about a week or so before the Show, we were very doubtful as to whether there would be a sufficient number of exhibits in the apiarian class to fairly represent the honey industry of the Auckland Province, owing to the very short notice that had been given to bee-keepers to prepare their exhibits; but after receipt of several letters and telegrams from some of the more prominent apiarists, stating that they would be present, and also intended to exhibit, our doubts were dispersed, and it was with a considerable amount of pleasurable anticipation of meeting these gentlemen that we started for Auckland. Shortly after arrival we learned from Mr H. H. Hayr that a very fair number of exhibits had arrived, and that, as far as the bee class was concerned, it was likely to be a great success. Amongst those we had the pleasure of meeting at the Show, and who are known through the JOURNAL to most of our readers, were Messrs. Bagnall, sen., and Mr L. J. Bagnall (of Bagnall Bros.), Mr T. J. Mulvany, Katikati; Mr J. Newland, Ngaroto; Dr. Dalziel and Messrs. Beloe and Brown, Pukekohe; Capt. E. D. H. Daly, Hautapu; Messrs. Shadwell and Robinson, Northcote; J. Collins, Taukau; besides a large numbers of others.

Great credit is due to the Horticultural Society for the arrangements made to display the apiarian exhibits and bee manipulations. The stage devoted to the exhibits occupied one end of the shed, about 50 feet in length; this was fully taken up without undue crowding. In the centre of the stage was a very fine glass show case, about 4 feet square, containing Mr L. J. Bagnall's exhibit of comb honey, on the top of which was placed extracted honey in glass jars, surrounded by very neatly got-up tins of the same article. The exhibits of comb honey in 1lb sections, by Messrs Stevenson, Bagnall, Collins, and Beloe, were very good, indeed. Extracted honey was also well represented by Messrs. Mulvany, Stevenson, Blair, Blackwell, Capt. Daly, and the Auckland Agricultural and Mercantile Company. Messrs. Bagnall Bros. and Co., and Messrs. Shadwell and Robinson had a very fine display of apiarian appliances, Messrs. Bagnall Bros. and Co. being the most extensive—every modern appliance being shown. A novelty in comb-foundation was exhibited by Messrs. Shadwell and Robinson, viz., wooden based foundation. This consists of a very thin board, covered with a slight coating of wax on each side, on which the impressions of flat-bottomed cells are stamped. Messrs. S. and R. made one or two sheets as an experiment, and have presented us with one for trial. As it is now too late to test it this season, we shall do so next, and report the results through the JOURNAL. Comb-foundation of different makes, and wax, was well represented by Messrs. Blair, Shadwell and Robinson, and Hopkins. Altogether, the display—although not so large as we hope to see it in future years—reflected great credit on the exhibitors, and was, without doubt, the best of its kind that ever took place in the Australasian Colonies. Outside, at the rear of the building, a bee manipulating tent had been improvised by enclosing a space of about 12 feet square with mosquito netting; outside this a wall of calico 8ft. high was erected, leaving a passage 8ft. wide, in which the spectators could stand to view the manipulations going on inside the mosquito netting, without in any way being interfered with by the bees. Two three-framed observatory hives, the property of Messrs. Bagnall and Hopkins, were located in the enclosure, the one belonging to Mr Hopkins being stocked with Ligurian bees, and the other with hybrids. The inmates were at work in the usual manner and created a large amount of interest amongst the visitors to the Show. It had been arranged that we should give an exhibition of driving and transferring on the opening day, but owing to the heavy rain, we had to postpone it until the following one, in the hope that better weather would prevail.

The second day continued fine throughout, and brought a large number of visitors to the Show. At 2.30 p.m. we went through the operation of driving and transferring the bees from a common box to a bar-framed hive, assisted by Mr L. J. Bagnall, at the same time explaining various details to the onlookers. At 4 p.m. we transferred the second box hive and amalgamated the bees, &c., with the first lot. The spectators were evidently very much astonished to see bees handled in such a manner, many of whom previously thought that it was impossible to take up large handfuls of bees without being severely stung. There can be no doubt that such exhibitions as these will do a vast amount of good to the bee industry, and tend to popularise bee-keeping amongst the masses. We cannot

conclude without calling attention to the indefatigable exertions of our Class Steward, Mr H. H. Hayr; to him, in a great measure, is due the success of the apiary department of the show. That it was a complete success was testified by the great amount of interest taken in the various exhibits by the visitors. Mr Hayr took charge of all exhibits sent, and saw that they were placed to the best advantage; and, after the show, disposed of all the honey, &c., at very satisfactory prices. The following is the list of prizes awarded:—

Messrs I. Hopkins and T. J. Mulvany, Judges.

J. C. Firth, Esq., on behalf of NEW ZEALAND AND AUSTRALIAN BEE JOURNAL—For the best and neatest got-up Tins of Extracted Honey, ready for market. Tins to be either 1lb or 2lb or both; not less than ten tins. Prize, £1 1s—Awarded to Bagnall Bros., on behalf of the Auckland Agricultural and Mercantile Company.

For the best and most attractive method of preparing Comb-honey for market. Packages to contain not less than 24lbs in 1lb sections. Prize, £1 1s—Awarded to Mr Collins.

Mr I. Hopkins, Editor NEW ZEALAND AND AUSTRALIAN BEE JOURNAL—For the best and most suitable Package for the Carriage of Comb-honey without damage; the package to carry not less than 24 1lb sections. Prize, 10s—Awarded to Mr Collins; certificate of merit, Mr L. J. Bagnall.

For the best sample of Extracted Honey, not less than 20lbs. Prize, 10s—Awarded to E. D. H. Daly; certificate of merit, Mr Stephenson.

Messrs Bagnall Brothers and Co.—For the best collection of Honey for market, the produce of one apiary. Prize, £1—Awarded to Messrs Mulvany and Son.

Mr H. H. Hayr, Publisher NEW ZEALAND AND AUSTRALIAN BEE JOURNAL—For the best Observatory Hive stocked with bees and queens at work; if possible, combs to be visible on both sides. Prize, 10s—Awarded to Mr Hopkins; certificate of merit, Bagnall Brothers.

For the best sample of Comb Honey, in 1lb sections, not less than 20lbs. Prize, 10s.—Awarded to Mr Stevenson.

Auckland Gardeners' Horticultural Society—Best Collection of Apiarian Appliances. Prize, Society's Silver Medal, £2 2s.—Awarded to Bagnall Bros.

Best sample of Artificial Comb-foundation, for brood frames, not less than 5lbs. Prize, 10s.—Awarded to Mr Hopkins; certificate of merit, H. B. Morton.

Best sample of Artificial Comb-foundation for sections, not less than 2lbs. Prize, 10s.—Awarded to Mr Hopkins; certificate of merit, H. B. Morton.

Best sample of Beeswax, not less than 10lbs. Prize, 10s.—Awarded to Shadwell and Robinson; certificate of merit, Mr Hopkins.

Best Movable Comb Hive, with arrangements for surplus honey. Prize, 10s.—Awarded to Bagnall Brothers.

Mr Greenshield's prize for honey in glass—a pair of silk suspenders, worth, we believe, 30s.—was awarded to Messrs Mulvany and Son.

WE wish to draw the attention of our readers to the supplement issued with this number of the JOURNAL. As will be seen, it is proposed to form a Bee-keepers' Association that shall occupy the same position in this colony that the British Bee-keepers' Association does in Great Britain. There cannot be a question as to the good that such an association will do to the bee-keeping industry, and we trust that all our subscribers will become members.

Subscribers will please notice the stamp on back of wrapper, and see that the date corresponds with the period for which their subscription has been paid, and accept this as a receipt.

TEST FOR PURITY OF BEESWAX.

We are very glad to be able to give our readers a reprint of a very simple method for testing the purity of beeswax, so that every bee-keeper may have it in his power to find out for himself whether he is being imposed upon by the sale of adulterated comb-foundation.

Messrs Dadant and Sons write as follows in the *American Bee Journal* of February 6th, 1884:—

Friend Newman,—We have just hit upon a very easy plan for testing the purity of wax, and will give it to you: Dilute water and alcohol in a vial about $\frac{2}{3}$ water and $\frac{1}{3}$ alcohol. Then take a small piece of wax which you know to be pure (you or any beekeeper can easily find such), put it in the vial and add alcohol slowly until your mixture is of the same specific weight as the wax. Then the wax will go to the bottom very slowly. Your testing apparatus is now ready. If you have wax with tallow or paraffin, and put it in the mixture, it will remain at the top, its specific gravity being less than that of the mixture. If it contains rosin, on the other hand, it will go to the bottom quickly, being heavier than the mixture.

In testing, you should take care that the sample contains no air, as this would change its specific weight. In testing foundation, therefore, the sample should be thoroughly melted before testing, so as to exclude all air from the inside of the sample.

This test is cheap and conclusive. There may be a small difference from one sample of wax to another, but it is not so as to exclude the clear discovery of paraffin or tallow, which are the worst enemies we have, for purity of wax. We have tested one or two samples which we suspected, and they floated in a manner that proved their impure origin clearly.

As this may be of use to bee-keepers at large, we authorize you to publish the above entirely in the columns of the *Bee Journal*, and will be glad if it can be of service in preventing the sale of adulterated wax.

Hamilton, Ill.

GEOGRAPHICAL DISTRIBUTION OF THE HONEY BEE.

BY T. J. M.

Conclusion.

INDIA is only incidentally mentioned by Dr Gerstaecker in his treatise, and that in a way which leads one to suppose that the true honey bee had never penetrated from Central Asia beyond the ranges of the Himalayas into the plains of India, and that any bees existing in that country must be of different species. Speaking of America and Australia, he says: "Neither one nor the other of those portions of the earth possessed originally any indigenous species of the genus *apis*, while on the other hand the old continent can point to three such in addition to the *apis mellifica*, namely, *apis dorsata*, *Indica*, and *sirialis* of Fabricius, all indigenous to India and the adjacent islands." He does not say that he had seen and examined any samples of those bees, and I take it for granted that he had no opportunity of doing so, as the information we now have would seem to show that these three sorts of bees are also only varieties of the *apis mellifica*, with precisely similar structure and instincts, though differing in size, and perhaps in colour.

The *London Times* of 18th August last contained a long notice about "Bee-keeping in India," from which we learn that the Indian Government have been for some few years collecting information "in all parts of India, to ascertain what are the actual facts in connection with the popular treatment of bees," and that they

have now published the results of those investigations in a volume prepared for the information of the Secretary of State. It is not, perhaps, safe to judge of the whole volume from the extracts given in the newspaper, but as far as one can see, it would appear as if much interesting statistical information has been collected by the Government officials, without the assistance of either a scientific naturalist or a practical bee-keeper, and therefore leaving only vague impressions as to the varieties of the bees and the probabilities of success for an improved system of bee-culture, but sufficient to leave no doubt that some varieties of the honey-bee are spread over the whole country, that wild honey is to be obtained in quantities in most of the hilly districts; and that, if it is impracticable to introduce bee culture on the plains, it is owing to the nature of the climate and the scarcity of honey-producing plants and flowers, not to the character of the bees.

In Southern India the chief honey district appears to be about Coorg and the Wynaad, near the Neilgherry Hills. In Coorg, it is said, "the wild bees build their combs in the trees, and as many as 100 combs are occasionally found on a single tree. An average of 8lbs of honey is obtained from each comb in this district, and the bees are driven out by smoking-torches being applied to their nests." I presume each of what are here called "combs" is the separate nest of a small stock, such as may be expected to be found in a climate favouring numerous and small swarms. This district is in the part of India nearest to Ceylon, and the bee is most probably the *apis dorsata*, which Mr Benton (as quoted in Hopkins' "Bee Manual," p. 19) found building there in the open air on branches of trees, and if so many as 100 different nests may be found on one tree, it will account for the fact he mentions that "thirty natives have each taken a load of honey" therefrom. A case is mentioned of a large mango tree, some 20ft. in girth, standing on the boundary between Wynaad and Mysore, where the natives in each district exercise the right of collecting the honey from the branches overhanging their own territory. European residents in Wynaad and the Neilgherries "show how easily the domestication of the wild bee might be accomplished," and also "give a description of their habits, which shows the Indian bees are practically identical with their European cousins." Mr Morgan, Deputy Conservator of Forests in the Wynaad, comes to the conclusion that "only one kind of bee, the *apis Indica*, is capable of domestication, and that only in hilly districts, not on the plains." The larger sort of bees, which they call "large cliff bees" (building in cliffs, under projecting ledges of rock) are represented as so ferocious in habit, and furnished with such deadly stings, as to be dangerous to both men and beasts coming within their neighbourhood.

In Northern India, on the southern slopes of the Himalayas, it would appear that bee-culture might be successfully carried on if the attempt were made in a proper manner. In Nepaul, no attempt at domestication is made, as "the natives get sufficient honey for their wants from the wild bees of the forests." In Cashmere, they induce the bees to build in holes, left for the purpose in the walls of their houses. These holes are about 14 inches square by 2 feet deep (the full thickness of the walls), covered on the inside with a flat tile, which can be removed to smoke out the bees and take their combs. There are ten or a dozen such

holes built in the walls of each house. The bees return to the robbed hive and continue to build there "generation after generation." This looks like bee-keeping made easy! Further, the honey is said to be "as pure, clear, and sweet as the finest honey of Narbonne."

The British district of Kumaon is also mentioned as being "the scene of an active and intelligent industry in bee-culture," and the production of wild honey in the Sunderbunds, at the delta of the Ganges, is said to be "superabundant."

There seems still to be a want of any clear information as to the varieties of bees and state of bee-culture in the East Indian Islands, in China, and Japan.

It will have been observed that Dr Gerstaecker makes no mention of New Zealand, and seems to have been quite unaware of the introduction of the German bee into these islands in the years 1841-42, and their rapid spread through the colony, as detailed in Hopkins' "New Zealand Bee Manual," p. 4. Is he not also mistaken in the statement that the first honey bee introduced into Australia was the Italian variety, and that in the year 1862? From Mr Fullwood's communications in the BEE JOURNAL, it is evident that, at least in Queensland, the German bee has been of long standing there until overcome by an imported moth; that the early attempts to introduce Italian bees were unsuccessful, and that he has been himself obliged to import them direct from England in 1880, and others from Italy in 1882. Can he or any other Australian apiarist inform us precisely when and in what way the German bee was first introduced into any of the Australian Colonies? It would certainly be very desirable to have this fact duly recorded.

Dr. Gerstaecker's assertion that none of the countries of the New World possessed any species of the *genus apis* until the importation from the old world took place, would seem to be at variance with the statements in Hopkins's "Bee Manual," p. 3, about a small sort of bee found in New Zealand, which builds in the ground, and seems not to collect honey, and the *apis Tregona*, found in Australia, which is also useless to the apiarist, unless we suppose that these insects may have been accidentally imported, like the bee moth into Queensland. As far as New Zealand is concerned, it does not appear to have been known to naturalists up to 1842, or even up to 1863, that any species of the *genus apis* was indigenous, as "Grey's Fauna of New Zealand," published in Dieffenbach's book at the former date, makes no mention of any such, although specifying several other examples of the order Hymenoptera, to which that genus belongs; and Von Frauenfeld, the colleague of Hochstetter, in his chapter on the same subject, published in the work of the latter in 1863, is equally silent about any variety of the bee, although he mentions in a summary way that eighteen species of insect of the order of Hymenoptera were then known. I presume the entomologists of New Zealand and Australia are now in a position to decide such a question authoritatively. At all events it may be assumed that there was certainly no variety of the honey bee proper indigenous to these countries, as, seeing with what rapidity the spontaneous spreading of the insect took place when once introduced, there can be no doubt that if it had been originally present at all it would have been found swarming in all the bush country, and must have been known to the Maoris.

It is to be hoped that the BEE JOURNAL will, in course of time, become the medium of collecting such information as will complete our knowledge of all such points, not only for New Zealand and Australia, but for all the islands of the Pacific.

Bayview Apiary, Katikati.

[The statement in the first edition of the "N.Z. Bee Manual," regarding the period at which the German bee was first introduced into New Zealand, referred to by "T.J.M.," we afterwards found to be incorrect. Instead of the first bees arriving here with Mr Cotton in 1842, Lady Hobson introduced them about two years before. The following correction appears in the second edition:

"Shortly after the first edition was published containing the above [referring to the statement in the first edition.—Ed.] I received a letter from a gentleman, calling my attention to the fact that I had made a mistake in giving credit to the Rev. Mr Cotton of first introducing the common black bee into New Zealand; stating that the first bees arrived here in the ship 'Westminster,' in the early part of 1840, nearly two years before Mr Cotton came to this colony. These bees belonged to Lady Hobson, wife of the first Governor, and were watched over on board the vessel by Mr McElwaine, the Governor's gardener. They landed in the Bay of Islands.

"In a subsequent letter, the gentleman—Mr Wm. Mason, who was, at the period above-mentioned, Government architect and Inspector of Public Works—told me that he distinctly recollected them on board the ship, and stated that they were in straw hives wrapped in blankets; but believed they remained at the Bay when the Government party left to establish the seat of Government on the Waitemata—now the city of Auckland.

"From further enquiries made, I feel quite satisfied that to Lady Hobson belongs the credit of being the first person who introduced bees into this country, although, no doubt, it is to Mr Cotton we are indebted for their wide distribution."—Ed.]

BEE-KEEPERS' ASSOCIATION.

L. J. BAGNALL.

By the time this appears, I have no doubt but that an Association of bee-keepers will have been formed. That such an institution is needed, I think there can be little doubt; at the same time, there are many drawbacks to its usefulness and success. Chief amongst these is the cost of travelling and the amount of time lost in attending meetings. In America, where there are, I should think, hundreds of such associations, they have great facilities for travelling from one part of the continent to the other, and by a judicious combination of the dates of the meetings with the dates of shows of agricultural and horticultural productions, greater inducement to bee-keepers and their friends to attend the meetings of the associations is afforded.

The chief object of these associations is to acquire and disseminate the best information which can be gained from the detailed experiences of the members, or from any other available source. They afford, also, a valuable opportunity for bee-keepers making each other's acquaintance, and of comparing notes on the various matters of interest. The wide range of subjects which are discussed at the American

associations would astonish a novice—such as, How to prevent or control swarming, Queen rearing, Size of section boxes, Standard frames, Are separators necessary? Which is the most valuable race of bees? Diseases of bees and their cure, The best way to prepare honey for market, The best hive, and many other equally interesting subjects. On all these subjects we require information of a real and practical character—the results of the experience of the apiarists of this country. The experience of other countries is of value, but not nearly so much value as that gained in our own country, with its new and varied circumstances.

The greater the number of those who can be got together, the more varied the experiences will be, and consequently the more valuable. The greater the number of localities represented the better. The chief obstacle is the want of cheap and quick means of travelling. If, however, the meetings are held in suitable places, say Auckland and other centres, at a time when there are other inducements for bee-keepers to visit these places, I think there is a tolerably fair prospect of success attending the operations of the Association. I hope all who take an interest in this subject will help to make the proposed association successful and useful both to the members and to all engaged in bee-keeping in New Zealand.

MEETING OF BEE-KEEPERS.

A NUMEROUSLY attended meeting of Bee-keepers was held at the Commercial Hotel on the evening of the 21st ult. The meeting was called for the purpose of forming a Bee-keepers' Association. Mr I. Hopkins was voted to the chair, and Mr H. H. Hayr was requested to act as secretary. The Chairman read the advertisement calling the meeting, and asked Mr L. J. Bagnall, the convener, to explain the object sought to be attained.

Mr Bagnall said, that he with several others had for some time discussed the advisability of forming a Bee-keepers' Association. He had mentioned, in a communication to the BEE JOURNAL in the January number, the suitability of the present occasion for forming such a society. Acting in concert with the Secretary and others he had called the meeting. He thought that no time need be wasted in discussing the necessity for having a society which would bring bee-keepers together, and at the same time promote the interests of scientific bee management. He stated that the bee-keepers of the Pukekohe district had formed an association, and that their secretary, Dr Dalziel, with some other of the members, were now present. He (Mr B.) regretted that any action had been taken which might cause any division of interest, and hoped that the result of the present meeting would be to form an association with which all could unite. He moved—"That in the opinion of this meeting it is desirable to form an Association of Bee-keepers."

Mr T. J. Mulvany, of Bay View Apiary, Katikati, seconded the motion. He hoped an association would be formed embracing the whole of New Zealand, and that provision would be made for forming branch associations in any locality where there were sufficient bee-keepers to do so.

Dr Dalziel here explained how the Auckland Provincial Bee-keepers' Association came to be started,

and thought it would be better for the bee-keepers present to join the association already formed rather than start another, and moved as an amendment, "That in the opinion of this meeting it is undesirable to form another Bee-keepers' Association in the provincial district of Auckland, there being already one in existence."

Mr Beloe seconded Dr Dalziel's amendment. Considerable discussion took place, Mr Mulvany, Mr Newland and others expressing the opinion that our Pukekohe friends had acted with commendable spirit in forming an association, but thought that, notwithstanding it was called the Auckland Provincial, it could only be looked upon as a local institution. As for himself (Mr Mulvany) he had only heard of it to-day, This meeting should content itself with affirming the desirability of forming an association and then communicate with the bee-keepers of the colony, asking their co-operation. The head-quarters of such an association must be in the principal town and not in a country district. Bee-keepers like himself could attend a meeting in Auckland because other business could be attended to at the same time, but it would be very inconvenient to attend at Pukekohe. On being put to the meeting, the amendment was lost and the motion carried.

In discussing the arrangements for carrying out the motion, Dr Dalziel and the other bee-keepers from Pukekohe agreed to assist in forming a colonial association if their association was recognised. Those present thought there would be no objection to this.

It was then resolved, "That a committee be formed consisting of the Chairman, Secretary, Dr Dalziel, Messrs Mulvany, Newland, Graham, Robinson, Shadwell, and Bagnall, to communicate with the bee-keepers in all parts of New Zealand, and frame rules to be submitted to a general meeting to be called by the committee."

After a vote of thanks to the chair, several of those present gave in their names to the Secretary, as members of the Auckland Provincial Bee-keepers' Association.

A committee meeting of the proposed Bee-keepers' Association was held at the Commercial Hotel, on Monday, 24th March, at 2 p.m., for the purpose of making arrangements to communicate with bee-keepers in various parts of New Zealand, with a view of drawing their attention to the advisability of forming an association for New Zealand, to occupy the same position that the British Bee-keepers' Association does to Great Britain. Mr I. Hopkins in the chair.

On the motion of Mr L. J. Bagnall, seconded by Mr J. Newland, it was decided to send a circular to all known bee-keepers in New Zealand, inviting them to join the proposed Association. (See Supplement).

It was also resolved, "That the Secretary be empowered to communicate with the Secretary of Horticultural Society, thanking them on behalf of Bee-keepers for the facilities afforded them for the exhibiting of their produce at the late Show, and to express the hope that, on complete formation of the proposed Bee-keepers' Association, they may be able to make satisfactory arrangements with their Society for future Shows." A vote of thanks to the Chairman concluded the meeting.

AUCKLAND PROVINCIAL BEE-KEEPERS' ASSOCIATION.

A MEETING of bee-keepers, convened by circular, was held in Mr Buchanan's Hall, Pukekohe, Auckland, on Saturday, 23rd of February, for the purpose of forming a Bee-keepers' Association. Owing to many of those interested still being engaged in harvesting operations, and consequently unable to leave their work, the attendance was not very numerous; however, the earnestness of those present made up for the want of numbers. In the unavoidable absence of Captain Hamlin, M.H.R., who was expected to take the chair, Mr W. Morgan was called upon to fill the office of chairman. After a few introductory remarks from the chairman, Dr Dalziel, the convener of the meeting, was called upon to explain its object. This he did by stating that the feeling had become pretty general amongst the bee-keepers of the Franklin district, that it would be to their interest to form themselves into an association. He pointed out that Bee-keepers' Associations had been one of the means of causing the bee industry to make such rapid progress as it had done of late in England and America, and he thought it was quite time that similar associations should be formed here for the purpose of giving an impulse to scientific bee-keeping already established in these colonies. After a few further remarks, the following resolutions were passed by the meeting:—That a Bee-keepers' Association be formed; that the name be the Auckland Provincial Bee-keepers' Association; that the association be managed by an Executive Committee, comprising the President, Vice-Presidents, Treasurer, Secretary, and three members of the General Committee; that the subscription be 5s per year; that J. C. Firth, Esq., be requested to accept the office of President; that the following officers be elected:—Vice-Presidents, Captain Hamlin, M.H.R., Captain Jackson, R.M., Messrs Pounds, Bagnall, and Hopkins; Treasurer, Mr J. Collins; Secretary, Dr. Dalziel. It was proposed that the following gentlemen constitute the General Committee, with power to add to their number:—Messrs Allan, Beloe, Brown, Elliott, Jamieson, Morgan, Savage, and Sproul. Votes of thanks to Mr Buchanan for the use of the hall and to the Chairman concluded the meeting. Subsequently J. C. Firth, Esq., declined to take office as President of the Association, owing to want of time to attend to the duties. Mr Hopkins also had to decline, when applied to, on the same grounds.

A meeting of the Executive Committee was held at the same place on the 8th of March; Dr. Dalziel, Secretary, in the chair. Correspondence from Messrs Firth, Bagnall, and Hopkins, declining to take office for various reasons, were read. The Committee then proceeded to discuss and draw up the Memorandum of Association and By-laws; after which it was decided to procure association badges. The next business being the election of President, in accordance with a resolution passed at the meeting held on the 23rd of February. It was agreed after some discussion to leave the appointment of President in abeyance until after the Horticultural Show, to be held in Auckland, on the 21st, 22nd and 23rd of March, and that the Committee endeavour to secure as many members as possible from

amongst the bee-keepers attending the show. It was then agreed to call a general meeting, to be held at Pukekohe, on Saturday, 15th March, for the purpose of receiving and ratifying the Memorandum of Association and By-laws; the meeting to be convened by advertisement, in the Auckland *Weekly News, Herald,* or *Star*.

At the general meeting of the Auckland Provincial Bee-keepers' Association, held at Pukekohe, on the 15th ultimo, the Memorandum of Association and By-laws—after making a few alterations, suggested by Mr Hopkins—were confirmed.



For the N.Z. and A. Bee Journal.

All correspondence must bear the name and address of the writer, not necessarily for publication, but as a guarantee of good faith.

TEMPORARY WINTER ADDITION TO THE LANGSTROTH HIVE.

SIR,—Your correspondent, "Dunoon," suggests what probably would be a suitable contrivance for reducing the quantity of cold air passing in at the entrance during winter. Additions like this or any other kind are not desirable if it is possible to avoid them, they increase expense and involve labour in fixing and removing. If by experience it is found that some such protection is necessary, then I would recommend that Dunoon's plan should have a fair trial. My own opinion is that external additions are unnecessary in any part of New Zealand if care and proper precautions are taken in wintering. If the apiary, as it should be, is in a situation which is sheltered from the cold winds, all that I think will be found necessary is to reduce the entrance in size just sufficient to allow the bees to pass in and out conveniently, cover the frames with a chaff cushion or other warm covering, and, with wood or chaff division boards, reduce the size of the hive so that the bees will cluster on all the frames between the division boards. In very strong colonies the division boards would probably not be required, still I think it would be advisable to divide off all frames upon which bees do not cluster. The covering might be of old blanketing or other warm material which will allow the necessary ventilation to pass through. If a few supports were put under the covering about the centre of the cluster just high enough to allow the bees to pass from one frame to another it would be an improvement. I have wintered bees in Langstroth hives at Thames without any division boards or covering other than the ordinary mat. One small late swarm came through last winter in this condition and did well. The warm covering and division boards are very useful in the spring, when the young brood begins to come.

I trust that the bee-keepers in the South will publish their experience in wintering in Langstroth as well as other hives, so that we may be able to determine if any additions, and of what character, are necessary for wintering in the Langstroth hive. To winter bees suc-

cessfully, so that they may be strong and healthy in the spring, is very important to bee-keepers, and deserves careful attention.

L. J. BAGNALL.

Hape Apiary, Thames, March, 1884.

FUMIGATING HOUSE.—APIARY BOOK-KEEPING.

SIR,—In the February JOURNAL Mr Thomas asks for a description of the smoker I use. I thought the best reply was to send him an illustrated price list, one of a dozen or more sent me with the smoker. I enclose another with this, and would recommend you to import a quantity of the smokers; they are really first-class, and would sell well.

As the season draws to a close provision must be made for a very important matter in an apiary of any size, namely, storing the spare combs and keeping them safe from the depredations of the wax-moth. Would you kindly give a description of a fumigating-house suitable for an apiary of 100 to 200 hives, its proper dimensions, and the internal fittings required. Last year I fumigated my combs in the hives, piling up three or four and burning a little sulphur in an empty hive below. For a few hives this is well enough; but it is hardly effective in a large apiary, as it takes a deal of time and trouble.

I have not adopted "T. J. M.'s" elaborate system of book-keeping in my apiary. It looks very nice on paper, but practically I don't see that it is of much consequence to know exactly what each hive yields. I keep a record of the operations on every hive on the lid, always carrying a lead pencil for the purpose—and I thus read the history of every hive at a glance as I work among them. In the case of a few exceptionally good ones, I have taken the trouble of weighing the honey extracted, and I find that from one swarm, hived on 22nd December, I have taken 70lbs of extracted and 52lbs of comb honey. On the other hand, many of my hives have yielded very poorly, the excessive swarming so late in the season deranged them; some got queenless and dwindled away, laying workers appeared in others and produced a lively population of drones, while many others, even though provided with fertile queens, have not been a credit to the apiary. My total yield so far has been 2300lbs extracted and 350lbs comb honey. The weather is again very broken and unsettled, and, though a little rain would have been welcome, a week of it is overdoing the thing from a bee-keeping point of view.—Yours faithfully,

Taraheru Apiary,

February 18th, 1884.

GEORGE STEVENSON.

[The description of a Fumigating room will be found in another column. After you have had a little more experience we believe you will find that it is of very much "consequence to know exactly what each hive yields." One of the most important features of the modern system of bee-culture is the improvement of our bees as honey-gatherers. Now, as this can only be accomplished by breeding the queens to stock our apiary from those we have proved to produce the best bees, how is it possible to know which queens to keep and which to discard without "knowing exactly what each hive yields?" In apiaries where no system of culling-out the inferior queens is practised, colonies will be found varying in yield of honey from 100lbs. or more

down to almost nothing. It is the boast of that eminent apiarist Doolittle, that by careful breeding he has worked up such a strain of bees that he can now depend upon each colony producing as near as possible an equal quantity of honey in any one season. We admit that there is a great want at present of some simple and expeditious method of apiary book-keeping, but that records *should* be kept every thoughtful bee-keeper will admit.—Ed.]

TRANSFERRING BUSH HIVES.

SIR,—In the January number of the JOURNAL I saw an account of transferring bees from a tree to a hive. I will give you my experience in that line, for the information of such of your readers as may find it useful. I commenced bee-keeping in October, 1883, by taking a swarm out of a large matai tree; I proceeded in the following manner:—Having felled the tree, I cut a hole in it near the bee nest, large enough to allow me to work with freedom; I then placed the hiving-box on its side on the log—I use a hiving-box as described by "T.J.M." in the October number. First I removed all the comb, driving the bees out of my way with smoke; I then got a scoop made from the butt end of a nikau leaf; I brushed the bees into this, and shook them into the box, repeating this till I had the greater part of the bees in, the queen being among them; the remainder went in themselves; I then tied the mouth of the calico bag. Having carried the bees and comb home, a distance of two miles, I made some rough frames, put the best of the comb into them, and placed the frames in a box hive, shook the bees among them, put on a mat and lid, and set the hive on a stump. In about a month I took 20lbs. of honey from them. By the 18th of January, I had robbed eighteen bush hives; out of these we have fourteen swarms, seven in box hives and seven in "Langstroth." Those in the "Langstroth" I hived on one-third bush comb, one-third full sheets of comb-foundation, and one-third starters only. Two out of four hives we lost were crushed in the fall of the tree, while at the third we were be-nighted, and the fourth I could not take. There was less honey in the bush hives this season than I remember seeing before. I used thread for fastening the comb in the frames, but it does not work well; I shall use wire next time.

THOMAS HEDLEY.

Rawera Apiary, Ruapekepeke, Jan. 28, 1884.

PACKING HUMBLE BEES.

THE following letter has been kindly sent to J. C. Firth, Esq., and as the suggestions contained therein may be useful to others, we give it publicity:—

SIR,—I hope you will excuse the liberty I have taken in addressing you. I do so in the hope that I may make some suggestions, which will be useful *re* your attempt to import the humble bee. I see from the *Weekly News* your last consignment has not done so well, and also that you are going to make another attempt immediately, which I think will not be wise, for the following reasons: At the time an order sent off now would arrive, the bees will be coming out of their winter quarters, and possibly might be caught, but they would require to be put to sleep again, and when they arrived in Auckland it would be winter, so they must be kept

asleep till spring, or until September, which, I think, will be fatal to them, as they will have been torpid nearly twelve months. The plan I would suggest would be to mark a few nests in summer, when they are easily found, and then in September or October, when the workers are all dead, there would be from four to eight or ten young queens in each nest; these ought to be secured before they disperse for their winter quarters.

How to dispose of them now is, I confess, a difficulty. I think the nearer we can copy nature the better. The insect now seeks a dry bank, where it buries itself nearly two feet deep in the ground, and there remains till the warmth of spring brings it to life again. I know this, because I have dug them out, and they go so deep to be out of the frost. They also choose a north aspect, so that snow does not soon melt off the ground, which also helps to keep them from frost.

Bearing this in mind, I think they ought to be packed in earth, or, better still, allow them to pack themselves, which they would, probably, if facilities were offered them. To induce them to do so, have a case, say about three feet each way, filled to within about six inches, with earth pressed so as to be firm, but not hard, with some glass in the lid, so as to allow them a little light, which put in a cool place. Perhaps, it would be better if the earth could be put in like a ridge, so as to form a bank, thus A I dare say they ought to have air as well as light. I think frost will kill them, so they should not be frozen, but kept a little above freezing point.

If secured at this time, and sent off immediately by steamer, they would arrive in Auckland by New Year, which allows them time to rear a brood of queens for a future season. Trusting that my interest in the matter will excuse this intrusion.—I am, &c.,

WILLIAM WRIGHT.

STARTING AN APIARY.

SIR,—I am purely and simply a novice in the art of bee-keeping, so hope you will excuse me asking your advice through the JOURNAL.

Wishing to start an apiary as soon as possible, and being at a loss where to get bees to start with, I offered a young fellow a certain sum of money to get me a swarm last spring. Well, one evening as I was homeward bound with my coach, I met him with a four-bushel sack on his back, when he commenced calling out: "I have the little chaps you were asking about." Now here was a job, my coach was full of passengers and, of course, had they have known what was in the sack it was not likely they would agree to have it on board, and yet I was so anxious to get the bees that take them I must; so I gave the boy a wink and told him to shove the sack in the box of the coach, which he did. I was rather alarmed, I can assure you, for fear any of them should get loose; however, I reached home without having any trouble with them. It was now dark, about 9 p.m.; but I got two boxes, placed one on the ground under a tree as a stand, then emptied the bees into the other and put it on the first. In the morning I found a few dead bees outside, but the rest were all right. I saw nothing more of them for some time (middle of December), when I turned up the box and found the bees clustered at one end, with no appearance of any work done. The next day being fine, I noticed

them very busy at work, carrying in a red and yellow substance on their legs; I took out my watch and timed them—they went in from 7 to 10 per second, all heavily laden. I tried yesterday to look into the box, but it was so heavy and troublesome to move that I thought I had better let it alone until I had asked your advice. I have never before had anything to do with bees, and know nothing about them, except that they sting sometimes, so if you will kindly instruct me what to do I shall feel obliged. Yours, &c.,

Bombay, Feb., 1884.

R. S. WHITE.

[The best advice we can give, is to let the bees remain as they are until next spring, sheltering them from the wind and rain through the winter as much as possible. In the meantime, get a Langstroth hive complete with comb, &c., ready to transfer them into, and a work on bee-culture—the "N.Z. Bee Manual," for instance. Study it, and make yourself familiar with modern bee-culture as described therein, when you will be ready, by the time the season comes round again, to go to work in a systematic manner, and so reap a profit from your little workers.—Ed.]

LIGURIAN BEES IN SOUTH AUSTRALIA.

WITH reference to the Ligurian bees mentioned in our last issue as having been handed over to the care of Mr A. E. Bonney, by the Chamber of Manufactures, Adelaide, we notice the following in the *South Australian Advertiser*, of February 8th:—

The following report with reference to the Ligurian bees imported by the Chamber, was received from Mr A. E. Bonney, and read: "So far my attempts to raise Ligurian queen bees have not been very successful. From two hives arranged for that purpose I have only obtained three queens. One of them is now laying but I cannot tell if she has been fertilised by a Ligurian drone until the eggs hatch in three weeks time. My want of success was no doubt owing to the exceptionally bad honey season. Honey is now coming in very fast, and should it continue to do so I shall have a better chance of success with the next lot. The Ligurian bees are still doing well, and keep far ahead of the black bees. During one week in January they gave me twenty pounds of surplus honey. I enclose a letter from Mr. Turner, of Kangaroo Island, written in reply to some questions of mine. You will observe that he believes his are the only bees there, and if he could be induced to put them into frame hives there would be no difficulty in the way of introducing Ligurian queens to take the place of the black ones. Whilst his bees are in boxes it is a difficult matter to deal with them. I also forward for your inspection some bee papers, and suggest that if the Chamber would add one of them to the periodicals now in the reading-room, it would be a benefit to beekeepers." Mr. Bonney attended and exhibited a one-comb observatory hive in operation, which was inspected with much interest. The secretary was authorised to confer with Mr. Bonney as to the best plan of establishing the Ligurian bees on Kangaroo Island. It was resolved that the Chamber subscribe to the *British Bee Journal*, the *American Bee Journal*, and the *New Zealand and Australian Bee Journal*.

Mr Bonney is doing excellent work in South Australia, in the way of making known the advantages of the modern system of bee-culture; he having lately read a very interesting and exhaustive paper on the subject at the Chamber of Manufactures, before a crowded audience. Mr Bonney also exhibited a number of apian implements and explained the chief features of each. The paper, which is a lengthy one, embracing all subjects in connection with improved apiculture, is published in full in the supplement to the *South Australian Register* of February 12th.

QUERIES AND REPLIES.

We shall from time to time give replies through this department to questions pertaining to bee-culture, propounded by our subscribers. We would ask our correspondents to be as concise as possible, and to number their questions 1, 2, 3, and so on.

QUERY.—Queen Flying.—Will you kindly inform me as to the following: While looking into one of my beehives, I lifted a frame and the queen bee was on it, but before I got the frame back into the hive, the queen flew off and I lost sight of her. Is there a possibility of her returning to the hive? if not, what would you advise me to do?—Yours respectfully,

EDWARD MURRELL.

Cromwell, Feb. 22, 1884.

REPLY.—It is almost certain that she would fly back to the spot from whence she took wing and enter the hive again. We have had queens fly from the frames when attempting to catch them, but not otherwise, and they have invariably come back. Supposing she did not return, and there were worker eggs or larvæ in the hive, as soon as the bees discovered their loss they would set about raising another queen.

QUERY.—Weight of Swarms, Opening Hives, Supers, &c.

—1st. What is the weight of a good swarm of bees? 2nd. Is it necessary to smoke the bees on opening the hive, or might it be opened without smoking them? 3rd. After placing the super on the hive, should the lower one still be examined, and how often? and if so, is the super placed on a board while the examination lasts? 4th. Have you had an opportunity of comparing Holylanders with Ligurians? and if so, which have the greatest merits?

C. W. BABBAGE.

REPLY.—1st. A swarm weighing six pounds may be considered a fairly good one, and one of eight pounds, a large swarm. 2nd. The necessity of using smoke on opening a hive will depend very much upon whether the bees are gathering honey or not; if they are storing honey rapidly, the cover, mat, and frames may be removed with as little danger of the bees using their stings as when smoke is used; at other times, as a rule, smoke is required. It is as well to have the smoker always by you when manipulating a hive, as it is handy, if needed, for driving the bees out of the way. 3rd. If the instructions we have already given with regard to the lower hive be carried out when putting on the super, it will not need examining very often—possibly once in three or four weeks will be sufficient. If at any time the queen commences laying in the super, the lower hive should be examined at once, and as much room as possible given in the brood nest by carefully extracting the honey from the combs and, if necessary, removing a frame or two of brood, replacing these with empty combs or frames of comb-foundation, and any combs containing eggs or brood in the upper box placed in the lower one. 4th. As we have before stated, we can see so little difference between our Holyland and Ligurian bees that we have decided to call them all Ligurian bees, and are now breeding them together.

NOTICE TO NEW SUBSCRIBERS.

New subscribers can obtain, if they wish, all the back numbers of the JOURNAL from its commencement, and thus have the first volume complete.

METEOROLOGICAL OBSERVATIONS FOR THE MONTH ENDING 29th FEBRUARY, 1884

(SUPPLIED BY T. F. CHEESEMAN, ESQ., AUCKLAND.)

Month.	Barom. corrected (inches.)	Max. Temp. in Shade.	Min. Temp. in Shade.	Mean Temperature.	Solar Radiation.	Minimum Temp. Exposed.	Rainfall in Inches.
FEB.	80.19	69.2	56.8	63.0	136.0	49.6	1.61
	29.98			67.6			3.51

Remarks.—From 1st to 4th fine and clear, with light S.W. or S. winds; 5th, stiff breeze from N.E. with heavy showers during night; 7th and 8th, fine, wind varying from N.W. to N.E.; on the 9th, heavy showers from N.E. with little wind; from 10th to 20th, mostly fine, slight showers on 13th, 16th, and 17th, wind mostly from S.; 21st and 22nd, N.E. gale, with heavy showers but little continuous rain; from 23rd to end of month, fine clear weather, with light S. wind. Barometer pressure very high throughout, and much above the usual average; mean temperature still very low for the time of the year; rainfall small, not reaching half the average.

HONEY MARKETS.

AUCKLAND, April 1st, 1884.

HONEY.—First-class honey, both comb and extracted, in good demand. Sales of comb in 1lb sections, wholesale, 10s; retail, 1s. Extracted, in 1lb tins, wholesale, 8s; retail, 10s; glassed, in 2lb jars, 9d per lb; retail, 1s; 60lb tins, wholesale, 6d.

BEEWAX.—Scarce; buyers for clean yellow, 1s per lb; dark, 10d to 11d.

H. H. HAYR, High-street.

AUCKLAND, April 1st, 1884.

The demand for good honey remains about the same as last month, very little as yet having come into the market. The prices are as follows: Wholesale, 1lb tins, 8s to 8s 3d per doz.; retail, 1lb tins, 11s to 12s per dozen. Bulk honey, wholesale, 4d per lb; retail, 5d per lb. Extra fine, 6d per lb; in 1lb sections, from 7d to 9d per lb.

AUCKLAND AGRICULTURAL AND MERCANTILE Co., Limited.

ENGLAND.

At present we have no reliable source from which to obtain the English honey market quotations, but having called the attention of the editor of the *British Bee Journal* to the matter, we have no doubt he will see to their being published shortly.

AMERICA.

NEW YORK, February 11th, 1884.

HONEY.—White clover and basswood in 1lb and 2lb sections, 15@21c; dark, and second quality, 15c; extracted white clover, in kegs and barrels, 9@10c.

BEEWAX.—Prime yellow, 34@35c.

H. K. & F. B. THURBER & Co.

SAN FRANCISCO.

HONEY.—Strictly choice is enquired for in a small way, and for such the market is moderately firm. For common qualities there is little or no demand, and prices favour buyers. White to extra white comb, 15@18c; dark to good, 9@11c; extracted, choice to extra white, 6@7½c; dark and candid, 5c.

BEEWAX.—Wholesale, 27½@30c

STEARNS & SMITH, 423, Front-street.

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ADVERTISING DEPARTMENT.—Advertisements for the next issue should reach the publisher by the 24th of each month.