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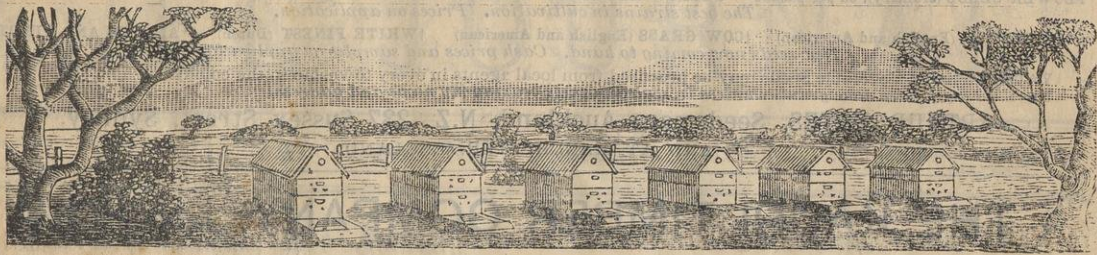
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THE AUSTRALASIAN

BEE JOURNALS



No. 7. Vol. II. AUCKLAND, N.Z., JANUARY 1, 1889. [PUBLISHED MONTHLY SIXPENCE.]

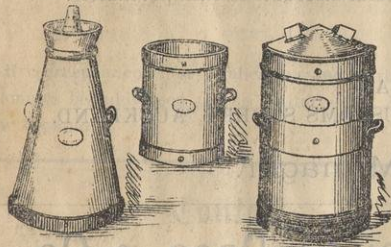


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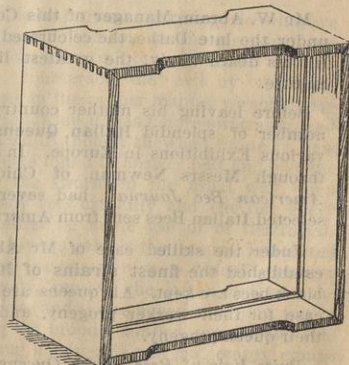
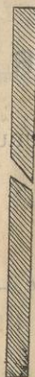
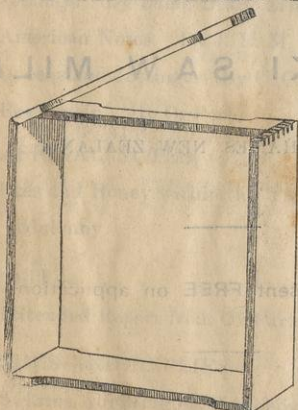
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THE AUSTRALASIAN

BEE JOURNAL

No. 7. Vol. II.] AUCKLAND, N.Z., JANUARY 1, 1889.

[PUBLISHED MONTHLY.
SIXPENCE.]

The Australasian Bee Journal.

PUBLISHED MONTHLY.

I. HOPKINS ... EDITOR AND PROPRIETOR.

TERMS OF SUBSCRIPTIONS

Per Annum (in advance) ... 6/-
Post Free on day of Publication.

All correspondence for publication and business communications to be addressed to the Editor, P.O., 386, Auckland, New Zealand.

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Editorial.

SEASONABLE OPERATIONS FOR JANUARY.

NOTWITHSTANDING the very favourable opening, the past spring, from a beekeeper's point of view, may be reckoned among the worst we have had for some years. From every quarter of New Zealand reports have come to hand of the backwardness of the season. This has not been from the lack of growth of vegetation or of blossoms, but from the lowness of the temperature, which has been against the secretion of nectar. Clover appears to have blossomed more profusely than usual, but the excessive cold rains and winds, together with the low temperature at nights, prevented all but the most meagre flow of nectar to the flowers. Only a very small quantity of comb honey has reached the Auckland market up to the present time, whereas we have generally had the market glutted with it at this date. The outlook for an average crop of honey for the colony does not look very promising at present. This is to be greatly regretted, on account of the increasing demand both for home consumption and for export, which would now take a fairly large crop to supply. The weather at the present time of writing (December 17th) is very unsettled and cold, quite unseasonable for the time of year, and unless a change for the better sets in very shortly there will be very little opportunity for the bees to make up for any of the lost time. It is to be hoped we are not going to experience a similar season to the last in the Northern Hemisphere.

SWARMING.

As we predicted last month, the bees took the swarming fever on the first few fine days we had early in December. Swarms were issuing from half-filled hives and under all sorts of conditions when least expected. This is always the case when the season has been kept back by unfavourable weather: the bees seem to run wild on the first opportunity. Swarms may still be expected through the whole of this month, but if any issue it will be at the expense of honey; so that where the latter is required everything should be done to prevent swarming.

RETURNING SWARMS.

It is not always possible to prevent swarming, do what we may, especially during such a season as the present; but after we have done all we can to prevent it, and swarms do come off, we may counteract the evil by returning them; and if this be done in the proper manner we shall have the colony in the same condition it was before swarming, and the bees will be as satisfied as though they had formed a new colony. The plan we have found to answer best and give the least trouble is to hive the swarm in the usual way, then overhaul the parent colony very carefully and cut out every queen cell, which can either be made use of or destroyed. In the evening take the hive in which the swarm is located and place it as a super on the parent hive. Should the hive have a top box on already, remove the latter and put the swarm next the lower hive, and the removed super on top of all. While overhauling the brood-chamber, remove any side frames of comb containing honey only and put empty combs or frames of foundation in the centre in order that there may be more room for breeding purposes. The queen will quickly

descend to the lower box, and the next morning everything will be the same as before the swarm issued.

MARKETING HONEY.

The Committee of the New Zealand Beekeepers' Association, after mature consideration of the matter, have come to the conclusion, as will be seen by the report of their meeting, that the tinning of honey in small packages for market cannot be done so satisfactorily nor so cheaply by beekeepers themselves as at a central dépôt, where such work is made a speciality. The extra cost of procuring a small number of tins, labels, and cases, and the freight on these, with return freight to market, would make the expenses heavy compared with the other methods, to say nothing of the trouble saved. The committee concluded that the expenses would be more than half as much again in the one case compared with the other. I. Hopkins and Co., in their circular, state that they are prepared to tin, label, and case honey in 2lb. tins at 1½d. per lb., or in 10lb. tins at ¾d. per lb. Now it cannot be done at anything like this sum by beekeepers themselves unless the tins are made by themselves: hence it would be foolish to attempt it.

With regard to the best sized packages for our local markets, 2lbs. and 10lbs. are undoubtedly the best for good table honey; for second-class, 10lbs.; and for inferior grades for manufacturing purposes, 60lbs. For export, 60lbs., for all kinds. For comb honey, the best-sized packages are boxes containing either one or two dozen 1lb. sections, preferably the former.

The instructions given last month with regard to surplus honey will apply to this.

BEE AND POULTRY JOURNAL.

It has been suggested by a subscriber well known to all our readers, but whose name at present we are not at liberty to disclose, that this journal should be enlarged and a portion of it be devoted to poultry culture. The gentleman in question is both an experienced beekeeper and poultry farmer, well up in all the practical knowledge necessary for success in either and has been carrying on both successfully for a great number of years. In the event of his suggestion being carried out he has offered to edit and take the sole responsibility of the poultry department. From experience he is convinced that the two industries will work well together, and that poultry culture, properly carried on, is a very profitable undertaking. It has made great strides of late years in England and America, and more attention has been given to it lately in these colonies. Beekeepers he believes to be the kind of men who would make good poultry farmers, and he thinks that by having the two industries represented in the one journal, while not exceeding its present cost, would be a great advantage to subscribers.

The details of the suggestion are as follows:—The *Journal* to be enlarged from 16 to 24 pages; 12 pages of reading matter to be devoted, as at present to apiculture, under our editorship, six pages or more to poultry culture, under the editorship of the gentleman in question, and the balance to advertisements. In the event of more space being required for advertisements more pages to be added, and as soon as circumstances will admit the reading space to be enlarged. The subscription to the *Journal*, as we have already intimated, to be the same as at present, viz., 6s per annum.

It was understood that the question should be submitted to our subscribers for their approval or otherwise, and that our decision would be entirely

guided by their wishes. If they approve of the addition we are quite ready to arrange for it; if not, the *Journal* will remain as it is.

With regard to our own particular views we are of opinion, 1st, That it would tend to enlarge the circulation of the *Journal* considerably, and relieve us of much of the anxiety we have been labouring under with regard to it from a financial point of view; and 2nd, That it would be of much greater value to the majority of our subscribers who are already poultry keepers.

Of late a considerable trade has sprung up between poultry breeders in these colonies and America; and as the gentleman who would edit the poultry department has been in direct communication with some of the best American breeders for years, an agency would be established in connection with the *Journal* whereby subscribers could obtain through us at breeders' prices any strains of poultry from any breeders in America or England, and as the mail steamers first touch at Auckland, the birds would be received by us, seen to, and be forwarded on to their destination without trouble to the importer.

Should our subscribers be in favour of the alteration, the new *Journal* will commence in July next with Vol. III.; but a specimen edition would be published in June. We, however, leave it entirely in the hands of our subscribers, who, we trust, will not hesitate to give their opinion whether for or against the suggestion.

BEEKEEPERS' CONVENTION.

NO DOUBT the members of the New Zealand Beekeepers' Association and other beekeepers who feel interested in the progress of their industry, will be particularly pleased to know that the committee of the Association has been so successful at the outset of their proceedings in arranging for the proposed Convention as to secure such liberal concessions from the Steamship Companies and Railway Department, as is shown in the reports of the Association's proceedings. The fact of having to pay half instead of full travelling fares will no doubt be a great inducement to many to attend the Convention. The majority of beekeepers are not among the most wealthy of men, and very few could afford the full rates to travel on such an errand, however much it might be their wish and to their interests to do so; but with the heaviest item of expense so liberally reduced it will probably be within the means of most of the fraternity to pay a visit to Auckland in March next. It is the committee's intention to arrange for reduced terms for respectable accommodation for those who may require it, so that the whole of the expenses will be reduced to a minimum.

Apart from the attraction of the Convention and Show, the pleasure of meeting those we feel familiar with, though we may never have seen them, will be well worth all the cost of a journey. The month of March is the most pleasant time of the year in New Zealand for travelling, and should be a convenient time for beekeepers to indulge in a holiday. Everything at present seems favourable for enticing our

beekeepers away from the scenes of their every-day labours to put in an appearance at the Convention.

We must draw the attention of our friends in the south to Mr. Hudson's letter in the report of the meeting of the New Zealand Beekeepers' Association, so that they may take advantage of the railway concessions if required.

NEW ZEALAND BEEKEEPERS' ASSOCIATION.

The regular monthly committee meeting was held at the Secretary's office, Lower Queen Street, Auckland, on Friday, 14th December, at 2.30 p.m., Mr. G. L. Peacocke, vice-president, in the chair. The routine business having been disposed of, the secretary stated that the president and himself had waited on the committee of the Royal Horticultural Society at their last meeting, to ascertain the precise terms upon which they would allow the New Zealand Beekeepers' Association to hold a beekeepers' show in connection with their autumn show. The whole of the committee were favourable towards meeting the wishes of the Beekeepers' Association as far as lay in their power; but owing to the low state of the funds of the Horticultural Society, they were not in a position to be very liberal. A sub-committee having been appointed to devise ways and means for holding the autumn show, it was deemed advisable to postpone the discussion of the subject until their next meeting. The president and secretary were again deputed to attend the next meeting of the Horticultural Society's committee, and obtain the best terms they could.

The following letter from the railway department was then read:—

Auckland Department,
12th December, 1888.

In re Bee Convention at Auckland, March, 1889.

SIR,—The General Manager advises me that the Minister for Public Works has consented to the free carriage of exhibits, and a regulation to this effect will be gazetted later on.

With regard to the concession in fares, Saturday return tickets will be given to enable visitors to attend the convention on production of a certificate signed by the secretary. Before advising stations of this privilege, however, the General Manager would like to hear when the exhibition opens, how long it will remain so, and when it is desired the issue of tickets should commence, with currency of same; also, from what other sections of railway beekeepers may be expected.

A month's notice at least must be given, so that proper arrangements can be made.

Will you kindly afford me the above necessary information.

I have the honour to be, sir,

Your obedient servant,

C. HUDSON,
District Traffic Manager.

I. HOPKINS, ESQ.,
P.O. Box 386, Auckland.

With regard to the information required, the committee were of opinion that concessions should at least be asked for all sections of railways in the North Island, and they would ask for the same for the South Island if they knew that the privilege would be of any use to southern beekeepers; that is to say, if there were any beekeepers in the South Island intending to be present at the convention. It was deemed advisable to give notice through the *Farmer and Australasian Bee Journal* to all beekeepers intending to be present to communicate with the secretary at once, in order that they may have the advantage of the privilege. The secretary was instructed to convey the thanks of the Association to Mr Hudson, and inform him that his instructions should be attended to.

The subject of marketing honey was next discussed, and in order that the committee should have the advantage of knowing Mr Mulvany's views as to the best kind of packages, the secretary had provided each member with printed slips of his article, which appears in this issue. The committee recognised the importance of the subject, and were anxious to come to an understanding as to the best and

cheapest method of marketing honey. During the discussion, which lasted nearly two hours, it was proved to the satisfaction of the committee that, taking into consideration the present cost of tins, crates, freight, etc., it is impossible to put honey on the market in anything less than 60lb. tins at one halfpenny per lb.; in 10lb. or 12lb. tins it would cost the producer at least one penny per lb., and in the event of his obtaining the tins, etc., and tinning it himself at his apiary, it would cost him more. From data furnished by the secretary, it was shown that his firm had been supplying honey tins to beekeepers at cost price, and stated that the firm would continue to do so to their customers. They were quite prepared to furnish 10lb. honey tins crated and put free on board, rail or steamer, at £3 5s. per gross, and 12lb. tins at £2 14s. per gross; but smaller quantities would cost more in proportion. He (the secretary) was, however, convinced that honey could not be tinned so cheaply nor so satisfactorily at the apiary unless the tins were made there as at a central depot, where it is intended to market the honey. He felt considerable hesitation in putting forward this view lest it might be thought he spoke from interested motives, as his firm undertook this work. In the circular lately issued by the firm the charges for tinning honey had been put at the very lowest, and if it came to tendering for the work they could not undertake it for less. If sufficient inducement offered, they were quite prepared to find casks and kegs in which beekeepers could ship their honey to the firm, a mere nominal charge being made to cover wear and tear. After a lengthy discussion the committee were unanimous in their opinion that the best and cheapest method for beekeepers to adopt is to ship their honey in bulk to a central dépôt (where one exists) to be tinned and placed on the market, and after going into the particulars of Hopkins and Co.'s charges, they were satisfied that the work could not be done satisfactorily at a lower rate. The hour being late, it was decided, on the suggestion of Rev. Father Maddan, that the further discussion of the subject and that of the programme of the proposed convention be adjourned till Friday, 21st inst., the secretary being instructed in the meantime to procure tenders from the various tinsmiths for honey tins.

A vote of thanks to the chair concluded the meeting.

The adjourned meeting was held on Friday, the 21st of December, at the secretary's office, Mr G. L. Peacocke in the chair. The Rev. Father Madan, who intended to move a resolution in connection with the subject of marketing honey, had been unexpectedly called away on the previous day, and therefore was not in attendance; it was on this account considered advisable to postpone further discussion till the next regular meeting.

The programme of the proposed convention was then considered. The secretary had drawn up a programme, which was submitted to the meeting, and after mature consideration the following arrangement was decided upon as a general outline of the proceedings, which may be modified at the time of the convention, if thought desirable:—Three meetings of three hours each on three succeeding days. One evening to be devoted to a conversation and lecture. At each meeting two papers to be read and discussed, to be followed by the asking and answering of questions. With regard to the subjects of papers, it was proposed by the chairman, and seconded by Mr. Herbert, that the following are those suggested by the committee to be dealt with at the convention:—

1. Address by President.
2. Annual report of the New Zealand Beekeepers' Association, by the secretary.
3. Paper on marketing honey.
4. Creating a demand for honey.
5. Practical work of the apiary, with practical illustrations.
6. Comb foundation manufacture.
7. The raising of extracted and comb honey, with special reference to extracting bush honey.
8. A lecture on the anatomy and physiology of the honey-bee, illustrated, if possible, with microscopical specimens.

It was understood that the discussion on the papers should so far as possible embrace the varied experiences of the different individuals who had made special study of the subjects, and that although the papers may be allotted by the committee to particular individuals, this would not debar others from preparing matter to be read and discussed.

It was proposed by Mr. Hooker, and seconded by Mr. Poole, that the secretary be instructed to communicate with any beekeepers he may believe will take an active part in the proceedings, and invite them to contribute papers from amongst those suggested by the committee, or on any other subject they may choose.

As the programme is to be printed, it was suggested that it should be made up as soon as possible.

During the discussion Mr. Herbert promised to bring forward, for the use of the convention, four powerful microscopes, and would endeavour to get a lot of subjects mounted, such as foul-brood, the different organs of the worker, drone, and queen bees, and various specimens of honey, etc. His own mounting appliances had not yet arrived, but he thought he could get assistance from microscopist friends. The committee hoped Mr. Herbert would succeed in what he proposed doing, as it would add very materially to the attractions of the convention.

The president and secretary will bring up their report re the show at the next meeting.

A vote of thanks to the chair concluded the business.

CHEAP PACKAGES FOR EXTRACTED HONEY.

BY T. J. MULVANY.

AFTER the expression of opinion given by the Executive Committee of the Beekeepers' Association, and by nearly all the correspondents who have written upon the subject to the *Journal*, it may be assumed that we are all agreed as to the necessity of pushing the trade in ordinary extracted honey in such a way as to make it a staple article of consumption in New Zealand and Australia, even at the sacrifice to ourselves, as producers, if competing in price, as nearly as possible, with the superior qualities of manufactured sugar. That being the case, the question arises, what practical steps can be taken to assist us in working in that direction? One of the most important certainly would be the selection and adoption, as a general standard, of such forms of packages for the honey as shall be found to secure its perfect condition and to suit the convenience of purchasers, and at the same time to be the cheapest possible, and thereby cause the smallest additional cost per pound to the consumer. I think there are few ways in which the Executive Committee could render more real service to the members of the Association than by giving the benefit of their experience and the opportunities they may have of obtaining the necessary information for arriving at a practical conclusion on those points, and ultimately, by promoting a rational system of co-operation on the part of the members in the way of giving their orders, placing it within the power of each individual to obtain such packages on the most reasonable terms.

In placing honey on the market in competition with sugar, the former must always labour under some disadvantage as compared with the latter, in this item of the cost of packages. Honey has one great advantage in common with sugar, and as contrasted with milk, butter, cheese, and other articles of food, it will keep for any length of time, with the most ordinary care, without any deterioration of quality. But then it has always to be put up in a liquid state, however soon it may solidify afterwards, and must therefore have watertight packages of some sort, and cannot be

sold in paper, in sacking, or in matting, as sugar is sold, with so little cost for the package.

The first point to be considered should probably be, what material is to be used for the packages, and as far as I am aware there are only two of any importance to be spoken of—wood and tin. Glass is very nice for small samples of fine honey, and glazed earthenware is, I believe, the most suitable for household purposes in cases where the vessels can be sent to a neighbouring apiary to be filled; but as soon as it becomes a question of putting up extracted honey in bulk, to be subsequently transported to a more or less distant market, I think there is no choice left except that between wooden kegs or barrels and tin cases. The use of tin has become so general of late years for packages of all sorts and sizes, and for so many kinds of produce, that it has naturally been very usually adopted in the case of extracted honey. As long as the general run was upon one and two-pound packages, nothing else could be thought of; and I believe it will always obtain a preference for packages up to a certain size. Wooden kegs and barrels will probably be found better and more economical whenever it is required to put up the honey in very large quantities, as for manufacturing purposes, and, I should be disposed to think, even for household consumption, whenever the latter becomes so general that packages of 100lbs. and upwards can be brought into use. But it has yet to be determined what may be the limit of size at which tin ought to give way to wood, and also what native timber is most suitable for the making of secure watertight kegs or barrels which will not impart any injurious flavour to the honey, and at what cheapest rate such packages can be obtained.

Assuming that tin will continue to be generally used for the ordinary marketing of extracted honey, we have still to consider what size or sizes of tins should be recommended for adoption. The larger the size up to a certain practical limit the cheaper will be the package *per pound of honey*, for which the consumer has, of course, ultimately to pay. The smaller the size, down to another practical limit, the more convenient it will be for a large class of purchasers. I think the limit as to largeness must be determined by the consideration of the convenience of handling, and the limit as to smallness by what may be fixed as the outside cost per pound of honey which should be admissible in the price of the package. In both cases due consideration must also be given to the convenience and economy with which a certain number of each class of tins can be put up in packing cases for distant transport.

For the larger size, it has been the practice for some years, both in America and here, to use tins somewhat similar in shape to those in which kerosene is generally sold; the exact size is $9\frac{1}{2}$ inches square and $13\frac{1}{2}$ inches high. These hold just 60lbs of extracted honey of the specific gravity usually obtained here, and two such tins fit in a packing-case which is not too heavy to be handled by one man when loading or unloading a cart. For the smaller size, round tins of 6 inches diameter and 7 inches high have been very generally used, which hold 10lbs of honey. It may be

questioned whether in the latter case the limit of admissible cost has not been already passed. I think that if the honey is not to cost the consumer more than three to four pence per lb., including all charges for packing, freight, and dealers' profit, we can scarcely afford to allow more than one halfpenny per lb. of honey for the tin, and it has not been found practicable as yet to procure ten-pound tins for 5s per dozen, or £3 per gross. For this reason, and for others to be alluded to further on, I am disposed to question if it would not be better to fix the small size at 12lbs., or one-fifth of the large size.

There are some questions of minor importance which should not, however, be left out of view in fixing upon the sizes of packages, especially those intended for export. For instance, the rules and customs of various foreign markets. In America I believe they count 2,000lbs. of honey as a ton; but they practically buy and sell by the pound weight, and it is therefore immaterial whether a certain number of packages make up exactly 2,000lbs. or not. In London honey is quoted and priced by the cwt. or ten, and therefore it might appear convenient to make a tin hold 56lbs., or exactly half a cwt., instead of 60lb. But in fact they do not accept any packages as containing a stated weight; they weigh all, empty a certain number, and ascertain the average tare, and calculate the net weight accordingly in pounds, which have then to be reduced to cwts. and tons. There appears, therefore, to be nothing gained in the way of convenience in fixing on 56lbs. instead of 60lbs. as the standard size, and in other respects an even number of tens or twelves is preferable for ordinary calculations. I think the two sizes of 12lbs. and 60lbs. particularly to be recommended on account of the very way in which the price of a package can be converted into a price per lb. of honey, and *vice versa*; every penny per lb. makes one shilling per package in the one case, and five shillings in the other; and although this may be looked upon as a trifling matter, still it is a practical convenience which may as well be obtained where it is possible to do so without any counteracting inconvenience.

As already observed, all tins, whether large or small, will require to be put in wooden packing-cases for distant transport; and it has been found that a case containing two 60lb. tins is of convenient size to be handled by one man. Ten tins of 10lbs. each can also be packed in a case of convenient size—about 2ft. 8in. × 1ft. 1½in × in., outside dimensions—but if 12lb. tins can be made square instead of round without increase of cost, they would be only 6 inches square and 6½ inches high, and ten of them would fit in the same case which would answer for ten round tins of only 10lbs. each, and they would be in every way more convenient for packing. Then each case, with ten 12lb. or two 60lb. tins, would contain 120lbs. net of honey, would be just under two cubic feet in bulk, and would pack together twenty to the ton of measurement.

All these tins should be plainly made, without any legs or handles, and as far as I know at present, the most practical arrangement for filling and closing is to have a round hole, not under

2½ inches diameter, in the top, with a disc to be soldered on. In the smaller tin this hole may be in the middle, but in the larger one as near to one corner of the top plate as practicable. When the tins are to be opened for use, after the honey is solidified, this top plate can be cut round three sides with a tin-cutter, and left attached by the fourth side as a hinge until the honey is all removed, when it can be cut off altogether, and the empty tin, with very little trouble, be made useful as a vessel for carrying or boiling water.

Lacquering and ornamental labelling, though highly to be recommended for small fancy tins, are, in my opinion, quite unnecessary for this class of market packages. The bright new tin, with a simple label of the apiary from which it comes, will be quite attractive enough and more business-like and economical. The packing cases should be as plain and cheap as possible, but neat, and should bear, properly stencilled or branded, the name of the apiary, trade mark, if any, and invoice number.

If the standard sizes were once fixed upon, the Committee of the Association could easily obtain tenders from a number of tinsmiths or other contractors, and thus ascertain the cheapest possible price of such tins and packing cases when ordered, in very large quantities, as they would be, if all the members of the Association would join in stating their requirements. Where hundreds of grosses of each sort would have to be made, such large orders would pay well for the providing of the most complete labour-saving and cost-saving machinery. The manufacturers should be able to deliver the tins, when required, in the packing cases, which they can obtain very cheaply from the nearest saw mill; and the steamship companies and the railway management could, no doubt, be induced to make arrangements for conveying such cases to the respective apiaries as "empties," at a very low measurement freight, being pretty sure of subsequently getting the transport back, when filled with honey, at the ordinary goods rates. The Committee in acting as intermediary between the apiaries and the manufacturer or contractor (or rather in putting the one in direct communication with the other, without, of course, incurring any risk in the business transaction) would, I conceive, be conferring a great practical benefit upon both, and would materially facilitate the economical placing of the honey upon the market.

[After the next meeting of the New Zealand Beekeepers' Association Committee we will go fully into the matter of the best, most economical, and suitable packages for market, according to our experience.—ED.]

A LIBERAL OFFER.

AS we have a number of spare copies of each issue of the *Journal* (with the exception of the first, which is now out of print), we will send post free to any address in Australasia the eleven numbers of Vol. I. for 4s. This is a good chance for new subscribers to get the *Journal* from the start.

There are also a few copies of Vol. I. of the *New Zealand and Australian Bee Journal*, cloth bound, still on hand, which will be sent post free in New Zealand for 3s., or out of New Zealand for 3s. 6d.

I. HOPKINS & CO.

THE PROPOSED CONVENTION.

BY L. J. BAGNALL.

BEEKEEPERS' conventions have become so marked a feature with the beekeepers of America, as to cause some surprise that so little has been done in Australasia in the same direction. Doubtless this is to be accounted for in the great cost of travelling and the loss of time in attending such meetings in these colonies. Still, there are so many substantial advantages to be derived from a well managed convention of practical beekeepers, to say nothing of the social enjoyment, that I wish to express my satisfaction with the action of the committee of the New Zealand Beekeepers' Association in their proposal to hold such a convention in March next, and to express a hope that it will meet with a hearty response from New Zealand beekeepers generally. I also notice that it is proposed to hold a show in the same room as the Horticultural Society's show. This, I think, is a desirable thing, although shows are getting somewhat played out. I remember on a previous occasion going to Auckland to attend a show of a similar character, and have a lively recollection of the sublime ignorance of all the friends whom I met in Auckland of the fact that a show was to be held. Every person to whom I mentioned the show, asked, "What show?" And, on inquiry, I found that not one of them knew anything about it, notwithstanding that the committee had expended a very large sum in advertising. I mention this as a reminder to the committee on the present occasion, and to show that money spent in advertising in the ordinary way in the daily papers is very often a poor investment. The average newspaper reader sees them as though he saw them not.

Another matter which I think merits the attention of the committee is, don't have too many attractions or too long a programme. Every person from the country who attends will be sure to combine business with pleasure, and will require a certain amount of time to devote to business as well as to call on his friends. This matter has been referred to in a recent number of *Gleanings*, where the following questions are asked:—"Should local bee conventions be held on the grounds during fair time? Jones (who has had adverse experience in organising bee conventions independent of any other attractions) asserts that they should be held at a fair, because a larger attendance is secured. Brown disagrees. He argues that there are so many outside attractions, such as shows, poultry, cattle, horse-racing, and general sight-seeing, that the convention is continually interrupted by those coming in and going out. Further, that the members of said convention on the ground will not be present half the time. Which of the gentlemen named is the nearer right?" Out of seventeen answers given, twelve say Brown is right.

I presume one of the subjects to be discussed is the Foul Brood Act. As there are some persons who have shown opposition to this Act, notably Professor and Mrs. Aldis, I would suggest that an opportunity may be given to those opposed to state

the grounds of their opposition. The chances of passing this Act are very much prejudiced by the opposition which it has met with, and I think that it is important full consideration should be given to the views put forward by honourable opponents. The arrangements made by the committee with the managers of the Union and Northern S. S. Companies is very satisfactory. I would, on behalf of Thames and Ohinemuri beekeepers suggest that an effort should be made to obtain the same concessions from the Thames steamers. I will further say, in conclusion, that I shall make an effort to be present, and in the interval shall be glad to do anything I can to promote the success of the convention.

JOTTINGS.

BY LAMH DEARG ERIN.

I NOTE in Mr O. Poole's article for last month that Professor and Mrs Aldis have written to the daily papers and denounced the Foul Brood Bill and its promoters as "Jacks in Office." Ha! ha! that's good. Friend Hopkins, why did you not publish the great Professor's letters as well as Mrs Professor's ditto in our *Journal*? I should like to have perused, as well as mentally digested, the colossal Professor's notes on this subject. In the first place, what is Professor Aldis professor? Apiculture? Surely not, or he would not denounce the Foul Brood Bill. Natural History? Well, if so, I would advise him to take up "Parasites and Entozoa," especially "Bacillus Alvei," before he attempts to "jump on" the Foul Brood Bill, or else show us a better way to get rid of the pest.

"Jacks in office," are we. As Artemus Ward would say, Alars! alars! Mr Editor, let me wipe away the "doeey tear" and pity the poor Professor who, because he has a bad case, can do "nothin'" but "aboose" the other side. Friend Poole, I endorse every word you say with regard to this subject. My views were pretty plainly stated some time ago in these columns, and as I was one of those "Jacks in office" who strongly advocated the framing of a Foul Brood Bill for New Zealand, I am always willing to take up the cudgels in its defence, and if Professor Aldis and his spouse would take the trouble to argue the point in a reasonable manner I am ready to meet them, but if they are going to "sling Billingsgate" at those who for a pure love of the cause try to help their fellows in an industry that bids fair to become an important one for the colony, they will find there are plenty of apiarists amongst our ranks who can give them a Roland for their Oliver, as well as show up their folly and ignorance in trying to choke the passing of a Bill which is of vital importance to every BEE MASTER in New Zealand.

I read with interest the reply to Kendall's letter by Ward Smith and Felstead, also Mr Sydney Gibbons's report. I notice the latter is very careful in omitting to state how much of the glucose of commerce the Red Cross Preserving Company had in the samples of honey examined by him. Well done, Kendall, show them up; the sympathy

and good wishes of every progressive beekeeper is with you. Mr Sydney Gibbons also says that the public go for the clear honey in preference to the other. I did not find this the case last year, in fact the demand was for granulated honey, and I could not fulfil all the orders I got for it.

It is quite true what friend Green says with regard to the legitimate honey being closed by the "gin and candle boxum" fraternity. These people take their honey about February and March, and the honey and comb is either "hoked out" of the boxes with an old hoe or spade irrespective of bees, brood and pollen, squashed and mashed through a piece of scrim, and then put up in kerosene tins, sent to the auction room, or else to the local storekeepers, and sold for whatever it will fetch. This is what we want to put right. Let the public once know what is good and what is bad honey; then a better day for the legitimate honey-producer will dawn.

Whenever a customer comes to me for honey I take him to the honey house and show him, as well as explain to him, the method of extracting, ripening and tinning up the honey, and then describe the old style. I find that this is not time thrown away, for he sees that it is put up in a cleanly way, and makes a note of it. Again, when you sell your honey to the public, sell only *the best*, reserve the second class for the brewers and lollie manufacturers. Once get a good name for your honey, be sure and keep it; it pays in the end. That's it, friend Green. Let the Association work for making honey a staple commodity, expose adulterated honey, and keep the Foul Brood Bill before Parliament until it is passed. These are the lines to work on.

Instead of giving lectures to the public and sowing *broadcast gratis* the knowledge of modern beekeeping, I am conservative enough to say: If the public want to know more about beekeeping let them *take in the Journal* and get the *Manual*. A beekeeper the other day asked me to come over and dose his bees as they were "bad." I did so, and they *were bad*; after fixing his bees up spraying the combs, etc., he wanted me to give him my recipe. "All right, my friend. Do you take in the *Journal*?" "No." "Have you any book on bees?" "No." "Well, give me a guinea for the Association, and I'll give you the recipe," which, of course, he did not. And yet he knows something about them! and the hives stinking with foul brood; a sweet next door neighbour.

I took a trip to Waipawa to have a look at the apairian and honey exhibits, and need I say I was greatly disappointed, for owing to some delay Hopkins and Co.'s exhibits, which I was especially anxious to view, were not there. Longlands Apiary was well represented, as also was the Waipawa. One especial feature of the latter was an exhibit of granulated honey in a solid block, weighing, I should say, about 20lbs. It was beautifully white, and looked very tempting under a large glass shade. On the label I saw that it was twelve months old. If this does not take first prize I shall be much mistaken. As I stood by I envied the happy owner. I am glad to see that there is in Waipawa one apiarist who is

an enthusiast in the cause, and I wish him every success.

[Professor and Mrs. Aldis did not have all the say on the Foul Brood Bill to themselves, you may depend, and as they apparently knew nothing of the provisions of the Bill they had the worst of the argument. Our exhibits were somewhat delayed, but arrived at the Exhibition just after the opening.—Ed.]

AMERICAN NOTES.

By J. R. M.

THE October number of Mr. Root's *Gleanings in Bee Culture* opens with an important subject, viz., "The effect of shipping on the fecundity of queens." The danger seems to lie in the effect of the sudden stoppage of egg-laying on the part of a healthy queen, and while the editor states that queens received by him even from Europe, were as good in egg-laying as any that he ever had that had never been removed from his apiary, he recommends that the purchaser of a valuable queen should at once rear young queens from her. It seems proved that although fecundity is frequently checked, yet the progeny is fully equal to the mother in her best days before shipping. After some other matters, and an amusing song to be sung at bee conventions (to show the public how happy beekeeping makes people), comes a small but rather important hint—that a thick top bar tends to prevent brace comb being built between the lower frames and section boxes. It seems that the bees, in lengthening out their combs wider than the top bar, are apt to run it up a little, and then this leads them to bracing; but if the top bar is say an inch thick, the lower combs are so far off as not to encourage it. The congregation of drones from different hives in one place, where their united humming would be apt to attract queens, has been noticed for two years in succession by a Mr. Sherbourn. It would be interesting to all beekeepers if any similar fact has been noticed, or should be noticed hereafter by other gentlemen, as it is, as far as we know, the first time that it has been publicly alluded to. The value of the cucumber blossom for bees, and some experiments with the new radiating extractor, extracting from both sides of a comb at once, and other items, render this number a most interesting one.

The only article of much use in the *Canadian Bee Journal*, October 10, is the first, which narrates the experiences of the editor in directly introducing unfecundated queens, just hatched. He waits till the evening, gives a puff at the entrance, lifts up the corner of the quilt, lets the queen run in, and sends a puff after her, without the loss of one per cent. He has also learnt that by removing all the combs during the day and leaving the bees to cluster, and dropping the queen among them in the evening, and returning the combs the next day, the queen was invariably enthroned without loss. He thinks that the disposition of bees in the evening, and the care taken not to excite them, are

the conditions of success, and that all other precautions will be dropped one by one.

ANALYSIS OF HONEY.

By way of putting our readers once for all in possession of the constituent parts of honey, we give below the results of Dr. Sieben's analysis of 60 samples of surely pure honey:—

1. *Dextrose and Levulose.*—The aggregate amount of these two main constituents of pure honey varied from 68 p.c. to 79 p.c., with an average of 74 p.c. As to the comparative amount of those two constituents, 11 samples gave equal amounts, 12 samples gave dextrose 45 p.c., levulose 34 p.c. (extreme variation), 37 samples gave dextrose 22 p.c., levulose 47 p.c. (extreme variation).

2. *Cane Sugar.*—27 samples gave none, 21 samples less than 2 p.c., 12 samples more than 2 p.c., with a maximum of 8.8 p.c.

3. *Water.*—The amount varied from 16 p.c. to 25 p.c.

4. *Other Ingredients (non sugar).*—The amount varied from 1 p.c. to 9 p.c.

We may then give on a fair average analysis the following:—(a) Dextrose and levulose, 74 p.c.; (b) Cane sugar, 2 p.c.; (c) Water, 20 p.c.; (d) Other ingredients (pollen, etc.), 4 p.c.

BEEES FROM A MILITARY POINT OF VIEW.

As electricity, balloons, dogs, carrier pigeons, and in fact everything that can be got hold of, are being pressed into service for modern military operations, why not put in a claim for bees? There is a well authenticated incident in the time of the French Revolution of a good Abbé's life being saved by them. A mob of revolutionists were making their way to seize the poor old man, who would have given his life for anyone of them, when his old housekeeper bethought herself of her master's hundred thousand bees. When the mob were sufficiently near, she turned the old skeps (excellently adapted for this purpose) upside down; and the bees, finding her well protected, concluded she meant them to direct their just rage elsewhere, which they did with a good heart. Need we recount the harassing details? M. L'Abbé had time to fly in the opposite direction. We commend them then to the serious consideration of, let us say, the aged Count Moltke. How many of his engagements might not have had at least a more rapid, successful issue, had he been able dexterously to "place" some squadrons of bees in the midst of his foes at the critical moment. Who could take steady aim, or give calm orders, while beset with a score or so of bees? The time cannot be far off, when no army corps will be considered properly equipped, unless it has its proper contingent of well-trained bees, supporting themselves, and even supplying wholesome food, when not required, and ready at a moment's notice to "draw their stings" on behalf of the Fatherland.

The experience of "Honey Suckle" in *British Bee Journal*, is that "by tiering up and giving plenty of room not more than 3 per cent. of his colonies will swarm." This means that for each set of 33 colonies there could be annually one only—one swarm per annum, which is as little as could be required under any circumstances.

QUEENSLAND JOTTINGS.

By C. C. CUSACK.

THE honey flow has been unusually late in commencing this season in most parts of this colony, owing partly to the severe drought which has prevailed up to the present date throughout Queensland.

No rain, excepting a few light showers, has fallen since the beginning of last April, in this and most other parts of the colony; consequently the growth of vegetation has almost entirely ceased, excepting the eucalypti, on which the drought appears to have very little effect. But now that the drought has broken up, rain having fallen in most parts of the colony within the past few days—several inches in this locality—there will be abundance of forage for the bees.

The trees at present in bloom are sugary-gum, a dwarf spotted gum, which only grows to a height of about fifty feet, but flowers heavily and yields honey of good quality; the large spotted gum (*E. maculata*), which grows into a large tree, also yields honey of good quality, but darker than the former; the mahogany, or blood-wood (this tree is called by a different name in nearly every district), which is a good honey-yielding tree and continues in flower, as a rule, from November to the end of February. It does not belong to the eucalypti. The ironbark and stringybark are just commencing their main crop of flowers, and both yield honey of excellent flavour and colour. The great bulk of the honey crop in my apiary is taken from the latter two trees.

At the present date honey is coming in fast in my apiary. I shall start the extractor going this week, and hope to keep it going through the next three months.

At present the market is rather bare of honey of good quality—sections are unattainable at any figure—and this has been the case for the past few months. From henceforward the opposite will be the rule, as numbers will rush their honey upon the market, and there will probably be a glut of extracted through the next three or four months.

Swarming is very backward. I have not heard of a single case in which a swarm has issued this season; it usually begins in September. Towards the end of this month swarms will probably make their appearance in this locality.

So it is proposed to hold a Beekeepers' Convention in March next. I think the idea an exceedingly good one, and heartily wish the Convention the success which it deserves; it will undoubtedly prove of great benefit to the beekeeping fraternity throughout the colonies.

I am very sorry to hear that the Foul-Brood Bill has not passed through your Parliament, but trust you will be more fortunate next session. The other colonies will watch with keen interest the operations of the Bill when passed, as it will probably form the basis of the Acts passed in the other colonies. Fortunately we have not yet got

that greatest of all scourges to the apiarist—foul-brood.

Indooroopilly, Queensland, December 4th, 1888.

[Many thanks for your good wishes with regard to our proposed Convention. The Committee of the New Zealand Beekeepers' Association are doing all they can to make it a success, and it will be our beekeepers' fault if it does not turn out so. We believe there is every chance of the Foul-Brood Act becoming law next session of our Parliament. We trust our Queensland friends may have a good season.—ED.]

BEE GOSSIP.

BY O. POOLE.

THE flight and range of bees—the distance which bees fly in search of honey and pollen—has been a debated subject amongst beekeepers for many years past, the general consensus of opinion being that three miles is the maximum distance to which bees roam in search of food. Many persons have therefore commenced beekeeping with the idea that if suitable forage is available within a radius of three miles a honey crop would be a certainty. The quicker this idea is exploded the better. An apiary to be worked successfully should be surrounded with suitable forage so that the bees may gather the precious nectar with the least possible labour, for we must remember that it is the wear and tear that shortens the life of a bee, and that in increasing their work we naturally shorten the period of their existence.

* * * *

Bees situated within three miles of forage may get a living, but that will be all. A few enthusiastic apiarist keep bees in the centre of London. The Rev. J. G. Wood mentions a case, in his interesting work on bees, in which a man living in High Holborn kept a hive of bees. In the morning as they left the hive, he dusted them with a red powder, and subsequently found them working on the flowers at Hampstead Heath, a distance of four miles. Some of these made the distance twice a day, so that these bees must have travelled a distance of sixteen miles through the fog and smoke of London to reach and return from the necessary forage.

* * * *

I have occasionally seen my bees at home two miles and a half from the hives, but only in a time of great scarcity of suitable flowers near the apiary. The *American Bee Journal* for October 31st gives an account of a man who traced his bees *eight miles* from home by following them across the water in a boat, but even if true I should imagine that surplus honey in such a case would be an impossibility.

Mr. Z. T. Hawk, in an interesting article on the same subject in *Gleanings* says:—

'It is undoubtedly true that bees will sometimes forage at a distance of three or four miles from home; but I am fully satisfied that they rarely go more than a mile and a half, or two miles, even when honey is very scarce. Last spring and early summer the bees nearest my farm were exactly a mile and a quarter away; within

a mile and a half were sixteen colonies, and two and a half miles away in a straight line was an apiary of one hundred colonies. During the time of which I write dry weather prevailed, and nectar was scarce. Everything was favourable to cause the bees to range a long way from home. There were many flowers on the farm, but not a bee was seen, though I looked carefully every day. At a distance of a mile and a half from the apiary of one hundred colonies I saw an occasional bee on the basswood, and at one mile the trees fairly roared for two weeks. The bees from the large apiary had every incentive to go further for their own territory was overlapped by that of a still larger apiary only half a mile beyond. In July I moved three colonies to the farm for queen rearing purposes, and during the remainder of the season the golden rods and asters in the vicinity received daily visits. My own bees being Syrio-Albinos were easily recognizable since there were none but blacks nearer than three miles. I never saw one of these bees more than a mile from home.'

Mr Root, in commenting on the above, says:— My experience in regard to the distance bees, work agrees exactly with yours. I am well satisfied that our bees do not like to go more than two miles from their homes for stores. At the same time I am well aware that we have had abundant testimony to the effect that they do in other localities go more than twice that distance.

* * * *

THE NEW ZEALAND BEEKEEPERS' ASSOCIATION.—I really think that the New Zealand Beekeepers' Association is deserving of more support from beekeepers than is accorded to it at the present time by those particularly interested in matters apicultural. The members of the Association may, I think, look back with satisfaction at the work done in the interest of apiculture in the past, and with additional support there is a wide field for future operations. Since the formation of the Association the honey market has certainly had an upward tendency, which I attribute in a great measure to the publication and circulation of the pamphlet, "Honey as Human Food." Next session of parliament the Foul Brood Bill is almost certain to become law, and beekeepers will have to thank the Association for that very beneficial Act; and as all beekeepers must either directly or indirectly benefit by the work of the Association. I think it decidedly unfair that the expenses should be borne by the few; and before the next annual meeting I trust to see many more of our New Zealand beekeepers come forward to swell the ranks of our Society.

* * * *

The proposed Convention will also prove an agreeable re-union, apart from the pleasure of beekeepers meeting old friends and making the personal acquaintance of new ones, whom hitherto they have only known through the columns of the *Journal*. The comparing of notes and interchange of ideas, reading of papers, and the discussions accruing therefrom, must prove both agreeable and beneficial to all who take part in them.

* * * *

It is to be hoped that beekeepers from all parts of New Zealand will, if possible, attend the Convention. Every facility has now been offered by the railway and steamboat companies at the request of the Association. It will be a lasting disgrace

to New Zealand beekeepers if this meeting is not a success.

* * * * *

Professor Cook, in alluding to these conventions in America, says: 'I am more than ever convinced of the importance of such gatherings. I have always felt that there could be no mistake in this matter—the common practice of all intelligent societies sustain this position. I believe most thoroughly that what we need, and must secure, is such action by our secretary in preparation of each meeting as will call forth in brief say fifteen minutes, carefully prepared papers, the best that is known from the best beekeepers of the several states. Then,' says he, 'we shall have a representative meeting. We shall have some facts of real value presented from all sections.' New Zealand beekeepers, don't be behindhand if you can help it. Make an effort to attend the Convention if possible and make it a success.

* * * * *

HONEY VINEGAR—During the extracting season care should be taken to save all cappings and pieces of combs containing honey. These make good, in fact the best of vinegar. Dark honey from many of our forest trees, which at present does not find a ready sale in the market, will make a capital vinegar, and will only need to be known to be appreciated. This industry of vinegar making opens up a wide field for those who cannot produce first-class honey for the market, such as bush honey, etc. I believe the price of vinegar in Auckland is about 3s 6d per gallon for the best, and our American friends reckon about two pounds of honey to make one gallon of vinegar. Mr Muth however recommends one pound of honey to a gallon of water. His recipe can be found in 'Honey as Human Food,' which can be obtained for a stamp from the editor.

Occasional Notes.

No. 5.

BEEES AND HONEY WITHIN THE TROPICS.

BY T. J. MULVANY.

In olden times, when the civilised world was confined within comparatively narrow limits around the shores of the Mediterranean Sea, and the tendency of the human race was to extend itself northwards towards cooler regions, strange ideas were entertained with regard to the then unknown tracts of land in the Torrid Zone. The inhabited portions of northern Africa and Arabia were known to be bordered on the south by arid, rocky or sandy deserts; the further south any adventurous explorer penetrated, the more insupportable the heat and drought were generally found to be; and a vague idea became prevalent that, if there were land at all so far south as to be directly under a vertical sun, it must be so parched and burnt up that a native of the more temperate climes could not exist in, or pass through it; or, that if he should survive such an ordeal, he must

at least be burnt black like the negro slaves who were known as coming from the interior of Africa. Centuries have passed since such notions were first dispelled by navigators forcing their way southwards through the dreaded zone, doubling the southern cape, and experiencing that there was a second temperate region in the Southern Hemisphere; but it was still long before it became known that even on the very line of the Equator there were lands situated like the slopes of the Andes, rising gradually from a region of tropical heat at the sea level to one of perpetual snow near the summit, through intermediate stages of temperate climate; and longer still before it could be ascertained that in the very centre of equatorial Africa there existed vast rivers and lakes, as well as rich valleys and elevated plains, covered with flowering plants, shrubs, and trees, offering abundant forage for the honey-bee.

Our knowledge of the interior of Africa, as well as any accurate information we possess about the natural history of tropical South America, Asia, and Australia, has been acquired almost entirely since the middle of the present century, and therefore dates no farther back than what we may call the era of modern improved apiculture.

When Dr. Gerstaecker, of Berlin, first published the results of his investigations about the "Geographical Distribution and the Varieties of the Honey Bee," in 1862, he stated that up to within some ten years of the time beekeepers knew only one sort or variety of the *Apis mellifica*, and it was thought to be indigenous almost exclusively to Europe, the northern coast of Africa being its supposed boundary on the south, and the coast of Asia Minor on the east. At the time indicated (1852), Livingstone had been already for three years engaged in those explorations which he continued almost without intermission for upwards of thirty years, and which, followed up by those of Stanley, have opened to us the wonders of South Tropical Africa, the Zambesi, and the Congo, with their lakes and tributaries; and some twenty years later came the labours of Burton and Speke, and Sir S. Baker, to which we are indebted for the solution of the mystery which had for thousands of years hung over the sources of the Nile. In the meantime Du Chaillu, in his search after the gorilla, explored the western coast for some distance north and south of the Equator, penetrating some couple of hundred miles to the interior at that interesting point; the Niger Valley and the Sahara Desert were also visited and described. And of late years naturalists and other travellers have made their way into hitherto unexplored districts on the east coast, between Zanzibar and the great lakes, and the illustrated newspapers have published the work of their pencils as well as that of their pens. Between 1854 and 1862, the islands of the Malay Archipelago were thoroughly examined and described by a distinguished naturalist, A. R. Wallace, and a couple of years later another naturalist, H. W. Bates, published the results of eleven years' exploration in the great basin of the Amazon River. From all these sources we can now gather much reliable information about bees

and honey in the equatorial regions of the Old and New World, although it is to be regretted that none of the explorers I have mentioned appear to have had any particular taste for apiculture, and most of them only mention incidentally the facts which come under their observation with regard to the existence or non-existence of honey-bees, the uses made of honey or wax, and the modes adopted by the natives to procure these commodities.

One important fact seems to be placed beyond all doubt, viz., that while the honey-bee, in some of its known varieties, is to be found *everywhere* in Africa and Asia, as well as in Europe, there is no representative of that species in either North or South America, or in Australasia, except what we have imported from Europe, and the natives of these latter countries knew nothing of the uses of honey until the arrival of the European on their shores; while in the most uncivilised portions of Africa and the Malay Archipelago, it has always been a favourite article of food with the aborigines.

In South America the basin of the Amazon is remarkable for the numerous varieties of the ant which abound there, some of them of formidable size, so that it may be doubted if the *Apis mellifica* could live and thrive there in the midst of such enemies if now introduced. H. W. Bates, in his interesting work, "The Naturalist on the River Amazon," published in 1864, says: "The forest bees of South America belonging to the genera *Melipona* and *Englossa*, are more frequently seen feeding on the sweet sap which exudes from the trees, or on the excrements of birds on leaves, than on flowers." These bees are all stingless, and some of them produce a *black wax*, which the Indians use for smearing their blow-guns, from which they shoot small arrows. The following description of this bee is taken from Mr. Bates' work above quoted, page 227:—

"But the most numerous and interesting clay artificers are the workers of a species of social bee, the *Melipona fasciculata*. The melipona in tropical America take the place of the true apides, to which the European hive-bee belongs, and which are here unknown; they are generally much smaller insects than the hive-bee, but great numbers are employed gathering clay. The rapidity and precision of their movements whilst thus engaged are wonderful. They first scrape the clay with their jaws: the small portions gathered are then cleaned by the anterior paws and passed to the second pair of feet, which, in their turn, convey them to the large foliated expansions of the hind shanks which are adapted normally in bees, as everyone knows, for the collection of pollen. The middle feet put the growing pellets of mortar on the hind legs to keep them in a compact shape as the particles are successively added. The little hodsmen soon have as much as they can carry, and they then fly off. I was for some time puzzled to know what the bees did with the clay; but I had afterwards plenty of opportunity for ascertaining. They construct their combs in any suitable crevice in trunks of trees or perpendicular banks, and the clay is required to build up a wall so as to close the gap, with the exception of a small orifice for their own entrance and exit. Most kinds of melipona are in this way masons as well as workers in wax and pollen gatherers. One little species, not more than two lines long, builds a neat tabular gallery of clay, kneaded with some viscid substance, outside the entrance of its hive, besides blocking up the crevice in the tree within which it is situated. The mouth of the tube is trumpet-shaped, and at the entrance a number of pigmy bees are always stationed, apparently acting as sentinels.

"A hive of the melipona fasciculata, which I saw opened, contained about two quarts of pleasantly tasted liquid honey.

The bees, as already remarked, have no sting, but they bite furiously when their colonies are disturbed. The Indian who plundered the hive was completely covered by them; they took a particular fancy to the hair of his head, and fastened on it by hundreds. I found forty-five species of these bees in different parts of the country; the largest was half an inch in length; the smallest were extremely minute, some kinds being not more than one twelfth of an inch in size. These tiny fellows are often very troublesome in the woods, on account of their familiarity; for they settle on one's face and hands, and in crawling about get into the eyes and mouth, or up the nostrils.

"The broad expansion of the hind shanks of bees is applied in some species to other uses besides the conveyance of clay and pollen. The female of the handsome golden and black *Englossa lurinamensis* has this palette of very large size. This species builds its solitary nest also in crevices of walls or trees; but it closes up the chink with fragments of dried leaves and sticks cemented together, instead of clay. It visits the cajú tree, and gathers with its hind legs a small quantity of the gum which exudes from its trunk. To this it adds the other materials required from the neighbouring bushes, and when laden flies off to its nest."

(To be continued.)

Report.

EXTENDED REPORT.

I HAVE pleasure in forwarding the additional information you asked for in connection with the report from Ox Park Apiary. Ti-tree, from which a large quantity of honey is gathered, commences to blossom in March, continuing up to about the 14th December. You once remarked that the bees in the Thames district never worked on ti-tree. Here they are continuously working on it while in blossom. Puriri, which yields a large quantity of both honey and pollen, is in flower from March till spring, while Nikau blossoms during March and April, and the Yellow Birch through October and November; Rewa-rewa in the same months. Rata from about the 14th of November to the 15th of January, but the latter cannot be depended upon to blossom regularly. Pohutukawa, December and January; White Vine from the middle of January to end of February. There is also a long parasitical grass growing on many of the trees, that occasionally yields a considerable quantity of nectar; but our main crop comes from the pohutukawa, rewa-rewa, and ti-tree.

I notice a mistake in our report. Instead of "from the 19th of January," it should have been from the 9th. Our last extracting took place on the 12th February, from very strong colonies, and very little nectar was gathered from that time till autumn. With regard to the best bees, we find our Italians much superior to blacks, and as we have a few colonies of the latter, we shall test the two varieties comparatively, and as accurately as possible this season.

The present season is very late, and there have been some strong gales blowing, but though very little nectar has been gathered, we have been more fortunate than you, inasmuch as we have not had to feed our bees.

T. BLACKWELL.

Ox Park Apiary, Great Barrier.

[Thanks for your extended report. It appears that bees only work on ti-tree growing to the north of Auckland. We have never seen or heard of them doing so anywhere else.—Ed.]

TO OUR SUBSCRIBERS.

THE *Journal* is posted to every subscriber on the day of publication, but should any go astray, we will gladly post another copy if notified before the edition is exhausted.

Those who have not received the whole of their copies in due course please notify us at once.

Queries and Replies.

QUERY.—*Swarms alighting on neighbouring hives.*—No. 1. Have you ever known bees to carry on the following freaks, viz.: To swarm and alight on another hive, sometimes on the front, covering the entrance, sometimes on the side, and try to force an entrance into the hive they have alighted on, resulting in a free fight in either instance. Do you know any cause?

No. 2. Do we in the height of the season, with the hives we have in use now, allow sufficient room for the queen to lay to her fullest capacity?

I may state, with regard to No. 1, that such has been the experience with two or three beekeepers here; and with regard to No. 2 that I have a hive with thirteen frames full of brood and eggs, caused by the queen going up into the super. This queen is two years of age about the 12th of December, and is one of my most prolific layers, and is a black. This is a three-story hive, and they have made preparations for swarming three times, which I have prevented them carrying out, and consequently is enormously strong. This tells the advantage of strong healthy colonies over weak ones.—J. A. MORELAND.

REPLY.—No. 1. It frequently occurs, but more particularly with small after swarms. We are not aware of any particular reason, but believe it has something to do with the lack of matronly experience on the part of young queens. A good dose of smoke would put a stop to the fighting.

No. 2. If there is any fault in the Langstroth hive, it is in the brood chamber being rather small for a good prolific queen in the height of the breeding season, though many think the hive altogether too large. The side frames containing honey should be removed from the brood nest occasionally, and if attention is given to this matter, and extracting from brood frames that may be getting too full of honey, the difficulty may be easily overcome. Queen excluder zinc honey boards are used for the purpose of preventing the queen from going into the upper boxes.

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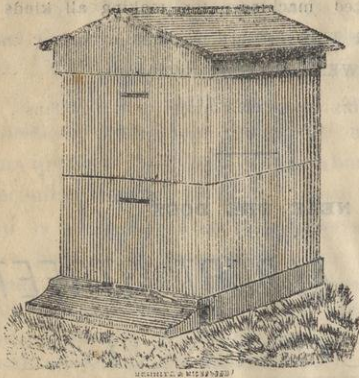
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