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The Australian bee bulletin. Vol. 2, no. XVII August 26, 1893

West Maitland, N.S.W.: E. Tipper, August 26, 1893

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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 2. No. XVII. AUGUST 26, 1893. PER COPY, 6d.
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Select Tested " " (best for breeding)	17/6	75/-	—
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Imported direct from America and Italy, and is now expecting a fresh arrival from Italy, and will be able to supply Queens at low rates, and Bee Implements also.

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1 Three-frame nucleus, with bees and queen ..	0 17 6
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All these Extractors are fitted with side gearing unless otherwise ordered, the wearing parts, being made of gun metal are unbreakable.

Honey Tanks, with strainer to hold 500 lbs.	£2 0 0
Uncapping Cans, from	0 12 6
Galvanized Tanks, 600 gallons	2 18 0
Ditto 400 " "	2 8 0

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CONSULT US.

SHOULD you have a doubt on any matter in your apiary, or wish for any information, do not hesitate to write us, enclosing a 2d stamp. We will reply to our best per return, and give questions and answers in the following numbers of the A.B.B.

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KINDLY note if such is on the wrapper of your *A. Bee Bulletin*. It means **YOUR SUBSCRIPTION IS DUE OR OVERDUE** and stamps or a Post Office order will be gladly accepted at the office.

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Publishing Office: 164 Clarence-st., Sydney

 [We shall be glad to insert in this column Advertisements of dates of meetings of the various Bee-keepers' Associations.]

Hunter River Bee-Keepers' Association.

MONTHLY MEETINGS.

—AT—

Technological Rooms, West Maitland.

TUESDAY, AUG. 29TH.

TUESDAY, SEPT. 26TH.

TUESDAY, OCT. 24TH.

MICH. SCOBIE, Hon. Sec.

The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEE-KEEPING

WEST MAITLAND.—AUGUST 26, 1893.

THE SPECIAL SUBJECT.

Our best thanks are due to the many subscribers who filled up the papers re the above sent out in our last issue. For the month of

SEPTEMBER

(our next issue) the subject will be

How to Prevent Swarming.

We want to give *four pages* of original Australian matter on this important subject. Now friends, scrape your quills. We are not sending out question papers, but leaving the matter to come in *ad lib* from all.

THE UNION.

WE are sorry to hear the appeal for members of the N.S.W. Beekeepers' Union has not been responded to as it should. Surely every beekeeper must be aware of the many advantages to be gained by union. Every man insures his property against fire, but here is not only an insurance against evils that may crop up, and are continually cropping up, but a society that by its efforts will help to increase the money value of your products. As will be seen by the report of the meeting of the committee, elsewhere, the first practical question has come before them. Mr. Taylor, of Cowra, complains that 300 acres of a Town Common that supplied his bee forage, is to be ring-barked. Is there need for it to be ring-barked, and if none can it be prevented? Singly Mr Taylor could do nothing, but backed by what

ought to be a strong Union, his means of living might be saved. There is no beekeeper but what will be benefitted, in some way or at some time or other, and the subscription asked—5s. per annum—is not very large. The secretary is Mr. Major Shallard, of Glenbrook. We would be glad to hear suggestions, or reasons any beekeeper may have for not joining.

SYMPATHY.

Our deepest sympathy goes out to the proprietors of the *Canadian Bee Journal* in their sad loss by fire on Tuesday, July 4th. *The Beeton World*, *The Canadian Bee Journal* and *Canadian Poultry Journal* were owned by the Beeton Publishing Co., which occupied the whole of the second story of a building, the first story of which was occupied partly as a dry goods store, and partly by a millinery establishment. The fire is supposed to have been caused by a defect in the chimney. The Beeton Publishing Co.'s loss is reckoned about 5,000 dollars. They hoped to resume work again in a week or two.

THE N.S.W. BEEKEEPERS UNION.

A meeting of the Committee of the above took place at the Technological College, Harris-st., Sydney, on Thursday evening last. Present—Messrs. R. Scobie, M.L.A. (in the chair), Shallard (secretary), F. G. Daly, W. Abram, J. War-rall, Trahair, Allport, and Tipper (*A. B. Bulletin*). Minutes of previous meetings were read and confirmed.

A letter was read from Mr. C. Mansfield, secretary of the late Convention, regretting not being able to be present; recommending that if the committee meetings were held on Friday or Saturday evenings it would be more convenient for country members, and suggesting the objects of the Union should be brought more prominently before beekeepers, and the columns of the A.B.B. utilised for the purpose.

From Mr R. Patten, enclosing names of three new members; and from Mr J. Taylor, of Cowra, stating that 300 acres of the Cowra Temporary Town Common, from whence he derived his principal honey flow, was about to be ring-barked, and asking the Union to use its influence to prevent it.

The secretary laid on the table the Foul Brood Act of South Australia, which we reprint elsewhere.

It was resolved that the meetings in future be held on Friday nights, unless otherwise inconvenient.

Re Mr Taylor's letter it was resolved the secretary write to Mr Woods, the Under Secretary, to ascertain if it could be prevented, and the following were appointed a deputation to interview him if necessary—Messrs Scobie, M.L.A., Gale, Trahair, Allport, Tipper and the secretary.

The bye-laws committee brought up their report, which was adopted.

The committee appointed to wait on the Chamber of Commerce re adulteration also reported the willingness of that body to urge on an Act dealing with adulterated food in general, but adulterated honey alone could not be dealt with.

Mr Daley called attention to the Pure Food Act of America, and suggested the secretary should write for a copy.

A small account was passed for payment.

It was stated by the secretary that the Government were willing to supply the Union with a good Library on Apiculture.

CATALOGUES.

During the past month we have received several catalogues.

The first to hand was from that energetic Queenslander, Mr H. L. Jones, of Goodna, Q. It is very complete, containing over 40 pages, and as we know Mr Jones to be one of the straightest men we have ever met, we feel assured all who patronise him are safe of getting their "shilling's worth."

The next to hand was that of Mr R. L. Pender, of West Maitland, New South Wales. This is also very complete, and as Mr Pender has largely imported American machinery to execute his orders he ought to do a real good trade.

Messrs Hebblewhite & Co., of Sydney, came next. The "get up" is excellent. Messrs Hebblewhite do not, however, confine themselves to bee goods alone, but very extensively in labour saving appliances and specialties. A visit to their stores, opposite the Sydney Arcade, George-street, Sydney, will always repay itself, if not from the variety of useful things displayed, from the ideas to be picked up.

We must not omit to mention Mr R. J. Cribb's (of Brisbane, Q.) It is full of information, and numbers some 42 pages.

Each of these catalogues has, we know, been distributed pretty freely, but we should recommend those who have not received either of them to send for them. In these times we can't afford to let a single idea pass by unnoticed, and knowledge is not only power but money.

MURRURUNDI BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the above Association was held in the Public School on Friday evening, August 11th, Mr Goard (president) in the chair. The minutes of the previous meeting were read and confirmed. Mr Goard reported that he had attended the Beekeepers' Conference in Sydney as the representative for this Society, but he was sorry to state that he was disappointed with the Conference. He had expected to gain information on behalf of the bee-keepers of this society. The meetings were not of an educational character, the commercial side of the question being principally discussed. He hoped in future gatherings more prominence would be given to the management of bees. The secretary shewed some specimens of flowers which were visited and preferred by bees. Most of the beekeepers reported that they had lost a number of their colonies during the winter, but as the flowers were now coming into bloom, and the weather becoming warmer, the worst had passed. Several residents were reported to be about starting beekeeping, and the promise of a very good season has brightened the hopes of our society.

D. C. LEYS, Sec.

MINMI.

We paid a visit to the Minmi Agricultural Show on the 19th inst. There was a splendid display of honey, reflecting the greatest credit on the Messrs. Taylor, Osborn and Ayerst, the local apiarians. That veteran beekeeper, Mr. J. W. Hopkins, of Tichhole, was judge, and gave every satisfaction. He was also an exhibitor of a 4-frame Stanley Extractor. The following were the prize winners:—

Trophy—H. W. J. Taylor, 1; Chas. Osborn, 2; R. A. Taylor, 3.

Wax—R. A. Taylor, 1; H. W. J. Taylor, 2; C. Osborn, 3.

Six Sections of Honey—R. A. Taylor, 1; H. W. J. Taylor, 2.

3 Bottles of Honey—C. Osborn, 1; H. W. J. Taylor, 2.

We partook of tea at the hotel adjoining the show, but though hundreds must have had their meals there during the three days of the Show, there was no honey on the table. Would it not be well if bee-keepers watched this when they are away from home?

G. S., Brushgrove, Clarence River, writes—I have only twenty-five colonies, but hope to increase before long. Have had to feed, but am now in good form for clover, which is springing up in fine style. Hear a lot of great losses in this district through floods and severe weather.

N.S.W. BEEKEEPERS' ASSOCIATION.

The annual meeting of the N. S. W. Beekeepers' Association was held at their room at the Technical College, Sydney, on Wednesday the 16th, at 8 p.m., for the election of officers and to receive the report and balance sheet for the year. Mr. R. K. Allport took the chair. The minutes of the previous meeting were read and confirmed. The report and balance sheet was read and adopted. The election of officers was then proceeded with, and the Secretary announced that he had received a note from the President (Mr. T. H. Bradley) stating that owing to ill health and the difficulty which he had in attending meetings he was reluctantly obliged to resign. The Secretary was instructed to write to Mr. Bradley and convey the regret of the Association at his retirement, and to thank him for his past services. The following officers were elected:—

President, Mr. Albert Gale, Technical College; Vice Presidents, Messrs W. Abram, Beecroft; R. K. Allport, Sydney; and W. T. Seabrook, Gordon; Secretary and Treasurer, Major Shallard; Committee:—Messrs W. C. Jones, Emu Plains; M. B. McFarlane, Rooty Hill; Henry Lord, Technical College; T. H. Bradley, Appin; C. F. Manning, St. Leonards; Roberts, Woolahra; Scanlon, Sydney; J. Trahair, Sydney; E. Thorne, Sydney; Rev. J. Ayling, Pitt Town; Mrs Shallard, Leichardt.

It was decided that the question of judging honey be the subject for discussion at the next meeting.

It was announced that at an early date a more convenient room would be placed at the disposal of the Association with a good bee library attached. The N.S.W. Beekeepers Union will also use the room.

MAJOR SHALLARD,
Hon. Sec.

J. C. Teralba, writes—My bees are in good order, and are doing very well off ironbark and ground scrub, which this bit of fine weather is bringing out splendidly.

IMPORTATIONS OF GLUCOSE.

We are indebted to the courtesy of Mr. James Dowell, of the Customs Department, for the following, of which we will have something more to say on a future occasion; calling attention however to the figures on page 100, of the importation of honey into N. S. Wales the same years:—

Quantity of Glucose imported into New South Wales during the years 1891–92.

year.	liquid.		solid.
	cwt.		cwt.
1891 ..	4080	—	2280
1892 ..	6871	—	1301

THE SOUTH AUSTRALIAN FOUL BROOD ACT.

We are indebted for a copy of the above to the courtesy of Mr. Major Shallard, Hon. Sec. of the N.S.W. Beekeepers' Union:—

AN ACT TO PREVENT THE SPREAD OF FOUL BROOD AMONG BEES.

[Assented to December 9th, 1887.]

Preamble.

WHEREAS it is desirable to prevent the spread of, and to eradicate the contagious disease known as, "Foul Brood" among Bees—Be it therefore Enacted by the Governor of the Province of South Australia, with the advice and consent of the Legislative Council and House of Assembly of the said province, in this present Parliament assembled, as follows:

Destruction of comb and disinfection of apparatus.

1. Every person who shall have in his possession, or under his care, any colony, hive, or swarm of bees affected with foul brood, shall forthwith destroy all comb, and thoroughly disinfect any box, case, or hive, and any material or thing which shall have been used in connection with the bees so affected.

Penalty for neglect.

2. Any person who shall, after one week's notice in writing having been served upon him by the Inspector or person appointed or authorised under the provisions of the next clause, knowingly fail to observe the foregoing section in any particular, or shall knowingly have on his premises any comb infected with foul brood, shall be guilty of an offence under this Act, punishable, on summary conviction, by a penalty of not less than Five Shillings nor more than Ten Pounds.

Inspection.

3. Any Inspector, or person appointed or authorised by the Commissioner of Crown Lands for the purposes of this Act, may, with such assistants as he may think fit, enter upon any land or premises where bees are kept, and inspect all beehives and materials used for beekeeping thereon.

Short title.

4. This Act may be cited as the "Foul Brood among Bees Act."

In the name and on behalf of Her Majesty, I hereby assent to this Bill.

WM. C. F. ROBINSON, Governor.

THE HON. F. M. SLATTERY'S PAPER.

READ AT THE LATE BEE CONVENTION BY
MR. W. S. CAMPBELL.

"In New South Wales amongst 12 bee farms recently visited in connection with the National Prize competition, comprising 862 hives, the quantity of honey produced was 122,042lb., or an average of over 140lb. per hive, being 6.5 times more than the average American beekeeper and nearly six times more than produced by any country in Europe. I find that as far as production is concerned New South Wales stands higher in proportion than any country in the world. In Greece the average quantity of honey produced by each hive is 10lb.; Denmark, 20lb.; Russia, 18.2lb.; Belgium, 25lb.; Holland, 25lb.; France, 24.2lb.; Germany, 27.5lb.; Austria, 25.5lb.; United States of America, 21.5lb. I take the following extract from a pamphlet on apiculture by Mr. Albert Gale, who has always acted as judge of the bee farms on behalf of the Department of Agriculture. Referring to the bee farm of Mr. Peterson, of Wattle Flat, Mr. Gale says:—'At the present moment the colonies are very large and also very many, as may be understood when it is mentioned that Mr. Peterson has this season, 1892-93, extracted from his hives as much as 4500lb. in a week, and on a certain day, a particular good one, 900lb. Mr. Peterson has obtained as much as 22½ tons of honey from his hives in a single season, an average of 750lb. per colony, the largest take that gentleman has ever heard of. This season a start was made with 120 colonies and an increase of 40, which would doubtless have been much more had the summer not been cold, wet, and windy.' Of course this is an exceptional case, but I find from records in our Agricultural Department that on the Northern rivers no less than 780lb. of honey was taken in seven days during the spring of the 90-91 season from 18 hives, averaging nearly 41lb. per colony per week, and during that period (seven days) one of the 18 produced 120lb., or over 17lb. a day.

This honey was sold at 5d per lb. I am pleased to note such rapid strides are being made with regard to queen-raising. I find that in this respect there is a very satisfactory improvement even on last year, and that, from the methods followed by the various gentlemen who devote particular attention to this portion of the beekeeper's business, we shall before long be possessed of a purely Australian strain. It is remarkable to learn the rapid strides made in beekeeping, especially during the last 12 or 13 years. I find that black bees have been in the country since 1822. But, practically, beekeeping on commercial principles commenced when, in 1883, Mr. Wm. Abram, of Beecroft, brought some colonies of Italian bees from Italy with him, and settled with them in Parramatta. In the very few years which have since elapsed, I believe that I am safe in saying that no less than 200 bee farms on a really commercial basis have been started and are in full work, and that in most of them the Italian bees have succeeded in replacing whatever other kind may have been originally kept. This in itself is remarkable, but the increase since 1890 is still more so, judging from the facts within the knowledge of the department. In 1891 amongst the few apiarists who competed for National prizes there were 723 colonies. In 1892 these had increased to 1141, an actual increase of 418 colonies amongst about a dozen beekeepers. Unfortunately full statistical returns are not at present available, but doubtless this is a matter which will shortly receive attention. With regard to the supply of honey, I am extremely gratified to find that imported honey is practically a thing of the past, and that home supplies are fully provided at fair prices. The export trade has been attempted on several occasions; but, owing to a variety of circumstances, has not been very successful. This, however, is a matter which, I understand, is receiving attention at the hands of the beekeepers; and, when satisfactory arrangements can be made for its proper treatment in London, honey exporting will doubtless become an important trade. We have the knowledge here, and our honey is pure. All that is required is a proper outlet in London. With a view to furthering the interests of the trade in this direction, I may mention that some weeks since I caused a communication to be sent to the Agent-General in London asking him to report to me on the prospects of the trade in the United Kingdom and in other European countries, the qualities greatest in favour, and the best form in which to place it on the market, and, last but not least to ascertain the extent to which adulterated honey is placed on the market which it is understood is sold in London as Australian honey. At a beekeepers' convention held in the State of Missouri, America there where, as doubtless will be the case on the present occasion, many valuable papers read on matters of vital interest and importance to beekeepers. In one of these papers

which dealt with the subject, "Should bees be Taxed," appears a sentence which is worth repetition; "Our neighbours become much interested in apiculture when it does not cost them anything, and especially so during a good flow of nectar. Everybody wants bees, but it will not pay everybody to keep them. Apiculture is a profession in which success depends not only on hard study but a natural gift and love for the little creatures. This appears to sum up the matter, and accounts for the enthusiasm which one sees amongst those who pay intelligent attention to beekeeping. It causes these conventions to be held for the interchange of ideas, and creates an *esprit de corps* only attainable where there is one object in view, and that object something beyond a mere question of profit.

MR. EDNIE BROWN'S PAPER ON FORESTRY.

(READ AT THE LATE BEE CONVENTION.

By MR. W. S. GOARD, OF MURRURUNDI.)

"In connection with this interesting and important association the honour has been conferred upon me to propose the resolution of the conservation of forests, and in doing this I desire in as brief a manner as possible to point out some of the main points of my subject, which call for your careful consideration. In the first place Mr. Chairman, I desire to express the opinion that the conservation of our forests has a very important connection with the industry which this association has at heart, and I therefore think that the thanks of the community generally are due to the Hunter River Apiary Association for making the subject one for its deliberations. We will begin by inquiring for a few minutes into the relation which forests have upon the physical attributes of this our terrestrial abode. In a word, then, it has been demonstrated beyond all doubt, from extensive experiments and observations made all over the world during the century now drawing to a close, and even from earlier data, that trees form the chief regulators of those things which go towards making our globe habitable for such animal life under which we now exist. In fact I go so far as to say that were the forests of the world cleared off from its surface, it would not be possible for us to live upon

it. This may appear an extreme view of the case; but the deductions arrived at by scientists all over the world go to support it. To put the matter a little more explicitly, I claim for forests the following:—1. That they give shelter to stock crops, and other products, from heat and cold. That they improve the fertility of soil by the animal deposits of humus or vegetable matter upon them in the shape of leaves, bark, &c., which in time become decomposed, and afford richer food for general plant life, besides acting as a sponge for the retention of what rain may fall upon them. 3. From the shelter which the foliage gives to the ground, less evaporation takes place of the moisture which falls upon their surface, and thus they act as conservators of water, and allow time to the water to be absorbed into the ground, and thus by percolation eventually form streams at lower levels. 4. Destructive floods are avoided by the surface of country being covered by trees, because under trees the soil is of a looser nature than on the open plains, and because it is of a more absorbent nature, and thus the rain is taken in and gradually given off by the exhalation from the leaves of the trees and gradual percolation. In the early days of American settlement, when the country was densely covered by forests, floods were but little known. Now, however, that the forests have been depleted and the country laid bare, floods of fearful magnitude annually occur, sweeping off hundred of lives and giving rise to enormous losses of property. The rainfall of a country is equalised when a fair proportion of it is covered with trees, simply from the fact that the evaporation is graduated over a greater period of the year, and therefore the precipitation of its return is spread over an equally longer time than if the deposit were made upon a bare baked surface of a treeless plain. Not the least important result arising from the conservation and planting of trees in a country is its rainfall would be increased. From these facts—(1) from the shelter given by the trees the temperature of

the earth is lowered; (2) the atmosphere immediately above the trees is in consequence also lower; consequently it follows (3) hot winds and clouds containing vapour which have blown over dry ground heated by the sun dissolve themselves and vanish, but if they come in contact with the cooler air above the trees they become overcharged with moisture, and rain is the result. From the facts just stated we conclude, therefore, that our arid tracts of country in the far west could be improved by planting trees upon them. A more humid climate generally would be the result of a proper proportion of forest land being maintained upon the face of a country. Then water is sucked up from the soil by the roots of the trees, and is exuded again in the form of vapour from their leaves; and again the green moist foliage constituting the forests prevents the increase of the sun's rays by radiation. Then we have the well known fact that the judicious distribution of the trees improve the landscape of a country. Also, it is well known that unhealthy districts can be made habitable by the judicious planting of suitable kinds of trees. Such, then, Mr. Chairman, are a few of the more important of the many effects which I claim should take place. Forestry, or the conservation of forests, is one of the most deserving of the consideration of our legislators. Let me see for a moment what has been done in respect to this important matter in New South Wales. Some 5,000,000 acres have been set aside by the Government for the purpose of the conservation and planting of trees. But this large area embraces by at least one-third, land upon which there are no trees, and which are unsuitable for tree culture. As a matter of fact large areas have been set apart as forest reserves, not for the purpose of reserving the timber, if any, upon them for other purposes. This only gives us about $2\frac{1}{2}$ per cent of the whole area of the colony. Now, considering the fact which has been arrived at from a series of observations in all parts of the world, that the proper proportion of forest land

to cleared land in any country should not be less than 10 per cent of its area it will be at once apparent that even the indigenous forests of the colony do not form a fair natural adjustment; and still what do we find? this, that ever since the foundation of the colony the cry has been deforestation. I have travelled through most parts of the colony, and the terrible waste of timber which has been is simply astounding. That curse of these colonies, ringbarking, is apparent everywhere. I believe that at least two-thirds of the timbered land of this colony has been ringbarked. It still goes on. Can nothing be done to put a stop to this? Yes. And one of the steps towards this desirable end is what you are now doing, that is, drawing public attention to the matter.

Thanks, *Home and Farm*, for very kindly notice last month.

A valuable communication by Mr D. P. Grant, on the *Apis Trigona*, in our next.

W. P., Marrar, writes:—The weather is nice and clear at present, with frosty nights. The wattle trees are beginning to bloom. My bees are wintering well.

BETTER THAN SOME BEEKEEPERS.—A gentleman has sent his 12 months' subscription to the A.B.B. in advance. In doing so he says—"I am not a beekeeper, but I consider the *Bee Bulletin* a very valuable journal to beekeepers. I enclose," &c.

J. S., Eugowra, writes us—Dear sir, I wish to thank you for answers you so kindly sent me. Have succeeded finally in checking robbing. Have not started transferring yet. May the *Australian Bee Bulletin* ever prosper, and also its editor. I am eagerly looking forward to its next issue.

L. C. W., Vacy, reports:—Bees doing well. Spotted gum continues to yield freely and ironbark shows a profusion of buds. When weather permitted I have been extracting through the winter. Bees are now (August 5) building up rapidly. Some hives are comb building. I have come through the winter with 95 colonies, having only lost two; and these were very weak at the beginning of the winter.

Mr. A. W., Old Junee, writes,—I have had an interest in from 20 to 40 hives during these last 15 years, and I thought I understood black bees well, but I find by reading your paper that there is a lot more to be learnt, also many improvements to be made on them by the Italian queens.

QUESTIONS.

The following replies to questions 14 and 15 came to hand too late for insertion in our last issue:—

14. It is too cold and wet for us folks on this side of the water to open up yet. As my hives are weighty I will defer the matter until weather becomes more settled.

15. I prefer inside feeding on account of robbers.—M. S., Launceston, Tasmania.

14. My answer to question 14 is, no. I am glad to say I have not had to feed my bees this winter; but I fed a little some years ago. I will give my simple way of doing it: The food I gave them was sugar and water or sugar syrup. The feeder I used was a shallow vessel such as a saucer, with some shavings in it to prevent the bees drowning in the syrup. I found this kind of feeder did very well.

15. I prefer feeding inside the hive, but not till after sunset. If fed at this time the bees will remove the syrup into the combs before morning, and with care no robbing will be done.—H. W. J. T., Minmi.

14. I am not feeding at present. If I were so doing I would prefer to put in whole sections and let the bees help themselves in a natural way. Kind of food, pure honey, because that would not be likely in any way to injure the bees.

15. I prefer feeding inside the hive, especially in this cold climate, because the changes in temperature are so sudden and severe that bees are frequently paralyzed by the cold; and feeding outside would tend to induce bees to leave the hive and be exposed to the cold. I think it is a mistake to rob bees so closely as to leave them short of a winter's supply and thus necessitate feeding. But if swarms come out late, or some unforeseen circumstances cause a cessation of honey flow, then of course their wants must be supplied by feeding in winter or early spring.—G. S., Forest Reefs.

BEECROFT.

We spent a very pleasant two hours at Mr Abram's noted bee farm at Beecroft a few days ago. Mr Abram tells us he has tried Langstrath style hives and the Berlepsch, and after giving each a trial concluded the Berlepsch was best. We must say there are some advantages in the Berlepsch style of bee management—the comfortable avenue and the absence of so much stooping in manipulation. But whether the disadvantages are great or we will not say. Whatever kind of

hive a person gets used to he generally says that is the best. We will make this question of the advantages of different hives a special one in a future number. Mr Abrams has about 175 hives, in which he showed us some very nice Italian queens. The farm is close to the Sydney-Hawkesbury railway, about 17 miles from the former, on heights with any amount of wild bush around, and commanding a magnificent view. Mrs Abrams is an enthusiastic horticulturist, which is amply shown in the beautiful garden, with its array of choice flowers. After spending some time with the bees, we visited the honey house, where we tasted the different kinds of honey gathered here, and which Mr Abram is so careful to keep distinct, even using two extractors. He markets his honey in galvanised iron, believing that to be the best. We understand Mr Abram is one of the oldest established beekeepers in the colony, having started the Italian Bee Company some twelve years since.

A. M. R., O'Connell Plains, concludes a communication to us with:—Now while I am about it I may as well tell you of some of the blunders I made, just to save other poor fellows from doing likewise. If I had found you out before I dare say, I may never have guessed at the value of your paper. I went by a good authority, A. I. Root. I got his work A.B.C. and read it from cover to cover twice, and then started. I won't tell you how I made the bees suffer, but I did it, and made one swarm into five, and Italianized them all from Mr. Munday's queens, and extracted 380lbs. of honey. Now Mr. Root told me to be careful and avoid blunders, and still his book was not plain enough for me. He told me to make my hive just 20in long outside measurement. I did it, and $\frac{3}{4}$ lumber, so I did, and when I made my hive I measured it inside, and it just measured 18 $\frac{1}{2}$ in. clear inside. I thought then 18in. was a good length for my top bar. He didn't tell me what length, and after making 800 frames I got a simplicity hive and found the frames 18 $\frac{1}{2}$ in. long in top bar. I tried to put it in my own make and it wouldn't go. Really I think now I must be very dull—after making my hive just 20 inches long and of $\frac{3}{4}$ lumber, I can't get Mr. Root's own frame into it. Two ends $\frac{1}{2}$ in. thick takes 1 $\frac{1}{2}$ in. off 20in; that leaves 18 $\frac{1}{2}$ in. I think, and is not the simplicity frame 18 $\frac{1}{2}$ in. long? Then please, Mr Root, what's up? Now, Mr Editor, cannot you put things plainer than that, and save some other poor beginners from such a fate as mine. [The simplicity frame is 17 $\frac{3}{4}$ in. x 9 $\frac{1}{2}$ in. over all, and top bar 19in. long.—Ed.]

RETURNS.

For the following returns of hives and honey our thanks are due to the contributors :

PLACE.	No. of Hives.	lbs. honey Extracted.
S. G. S., Binnaway	20	1680
J. H., Morpeth	15	450
C. M., Largs	(including nuclei 103	3000
H. N., Mount McDonald	(poor season last year) 50	2240
J. T., Stanmore	(very bad season) 9	nil
O. P., Fassifern	23	750
A. M. R., O'Connell	7	380
J. G. M., Forbes	60	1232
W. C., Braidwood	(all black bees) 12	nil
W. D., Drake	30	560
F. W. P., Inverell	130	8000
D. G. G., Muscledbrook	(Spring count 1892) 19	2000
A. S., Jones' Creek, Gundagai	35	2240
W. C., Wingello	76	7293
J. M., Mittagong	6	25
M. A. D., Balmoral	(poor season) —	24
T. J. H., Gosford	(practically a failure) 9	nil
J. J., Cunnigar	15	300
R. F., Carlingford	45	1200
D. S., Williamstown	40	nil
J. M. W., Moss Vale	40	1257
G. S., Springwood	(a failure) 100	1000
G. E. E., Paterson	17	1120
F. C. P., East Maitland	9 in. to 21	820
W. N., Eugowra	130	5460
W. H., Bargo	110	4920
E. E. L., Jasper's Brush	(started with one hive last spring) 3	10
H. B., Gosford	5	28
E. E. B., Cessnock	39	796
J. R. D. G., Richmond River	120	4600
P. D. P., Minto	6 in. to 30	224
G. K., Kiama	7	370
C. A. Lee, Tenterfield	7	nil
J. C., Teralba	70	11,200
J. D. W., Lawrence	(lost 18 hives in late floods) 62	1488
E. T., West Maitland	1 inc. to 4	60
A. E. P., Bowan Park	35lbs. beeswax 60	2240
J. F. O'C., Cooper's Island, Bodalla	5	100
H. F. P., Wattle Flat	average 226lbs, (spring count 122	32,000
J. S., Eugowra	50	nil.
F. W. S., Currububula	5	200
W. P., Marrar	6	0
R. R. Mountain Vale, Paterson	40	3800
G. J., Gordon	80	3500

W. H. of Kempsey, writes :—The Macleay river can only boast of 3 or 4 beekeepers, and two of them keep only the gin case hive, and for the life of them can't be induced to try the bar-frame. I have thought that if practical men knew the country about here we would have had a few settled in our district long ago. A young man came from Sydney last year and made a start, but owing to being "had" and very wet seasons he made a failure of it, but plucky to the last he is trying it again this season and including poultry in his programme. Am glad to see A.B.B. improving; will recommend to others. Wishing you every success.

Mr. Peter Riddell, the Sydney Bee Farm, St. Ives, Gordon, writes—The only crop of honey we got last season came during April, May and June—the winter. I do not find a ready sale, and will have to send some 1800lbs. to auction this week. In half the colonies of bees fresh honey is coming, and the second batch of brood is out. Some Carniolan crosses have 9 frames of brood, drone and queen cups newly formed. Pure Italians have only a frame or two of brood, and are partially dormant. All have more honey than they want for some time. If the weather will only favour, I will have an early season indeed.

HUNTER RIVER BEE-KEEPERS ASSOCIATION.

LECTURE BY MR. A. GALE.

We have utilised the columns of the *Maitland Mercury* for the following, with a few corrections by Mr. Gale himself:—Mr. A. Gale, apicultural lecturer of the Technical Education Department, delivered a lecture in the Building Society's Hall, West Maitland, on Tuesday evening, July 25th. The subject was "Fertilization." Mr. R. Scobie, M.P., President of the Association, occupied the chair. He explained the good the society had done during its existence of six years, in the spreading of knowledge about bees. One of its works had been the holding of a gathering of beekeepers in Maitland last year, and of another in Sydney the present one, at which a new Association had been formed. At both gatherings Mr. Gale had taken a leading part.

Mr. Gale, who was applauded, said his object that night was to lay down a foundation on which to commence operations against a class of persons—should he say agriculturists, horticulturists, or fruitgrowers—who had taken it into their heads that beekeepers were going to ruin the fruit industry of the colony. He, after lecturing at Bombala, met a man who lived at Monaro who said he had kept bees, but had to get rid of them because they injured his neighbour's fruit. He explained to him, as he would try to do to them, the good bees were to the fruit world, and told him instead of inducing to get rid of the bees, the fruitgrower should have given him a bag of apples a week, as it was due to his bees that he had any fruit. It was a true saying, "no bees, no flowers;" or better still, "no bees, no fruit." Insects perpetuated flowers, and flowers perpetuated insects. Each was only part of one great whole. They talked about the beauty of the floral world, and the beauty of fruit, but these were only part of one great whole. They spoke of the beauty of the Garden of Eden. It may have been beautiful; but he explained that Adam and Eve never saw the beautiful flowers that the world possessed now; and though Eve ate an apple, she had never tasted such a one as the five-crown pippin the chairman had in his orchard. Even his father had never seen some of the beautiful flowers and improved fruits that they had now. Referring to the great divisions of the world into mineral, vegetable and animal kingdoms, he said he would deal principally with the two last, and explained the difference between them; animals took their food into the stomach and were nourished from within, while the vegetable world took theirs from without. It has been said the aims and objects of animal life might be summed up in two phrases—the search for food and the reproduction of species. The same might be said of the vegetable kingdom. The object that he was considering was the

reproduction of the vegetable kingdom, and that was accomplished principally by means of the insect world, though he knew it was done in three or four different ways. The vegetable world is divided into two great portions: flowering and flowerless. By the aid of a diagram of the fuchsia, he described the different parts of a flower, distinguishing between the flower, by which name he called the ornamental part, and the blossom, the portion which produced a fruit. He pointed out how some flowers were perfect, and some grew separate flowers, and others imperfect as on the pumpkin, being described as male and female flowers. The top feathery tassel on maize, and the beard of the cob were the different parts of the flower. There were four different ways in which the plants were fertilized—first, self-fertilization; second, accomplished by the flower itself before it burst; third, that accomplished by the wind; and fourth, that produced by insects. If there had been self-fertilization only, they would have had what stockbreeders would call in-and-in breeding. Referring again to the diagram, he explained the various parts; 1, the seed cup, or ovary; 2 the calyx, that part which holds the flower together, which in most plants was green, but in the fuchsia was of different colours; 3, the corolla, or crown. Those were what he called the ornamental parts of the flower. The others were the reproductive organs. There were No. 4, the filaments, long threads which had knobs, 5, called the anthers. These anthers were in four compartments, but just before the flower opened two of them burst, and then there may be said to be two compartments. As the flower opened, the warmth of the day unclosed the little doors of the anthers and the grains of pollen, which were of different forms in different classes of flowers—and they as bee-keepers knew were different in colour—were emitted. He pointed out that the bees always collected the pollen from the same flower on the one trip, and if they cut the cells of honeycomb containing the bee bread they would find the colours all in longitudinal layers, showing that the bees had been working on one particular kind. The anthers were joined up to the corolla; but they would see that those numbers 7, 8, and 9—the style, stigma, which formed the pistil, were joined to the seed cup. The style differed from the anthers. It was hollow. The stigma was the end of the style turned inside out. It was porous like a sponge, and each hole led into the hollow of the style. It was also skinless, covered with hairs or bristles, with hooks at the end, and was adhesive. It picked up anything that touched it. If the plant was self-fertilizing, when the pollen in the anthers was ripe the cover would open and the pollen would fall down and stick to the stigma. In the 2nd class named the same process went on in the bud before the flower opened. If it was to be fertilised by the wind the breeze would catch the pollen and waft it down on some plant of the same kind close by.

He referred to large sheets of water being found covered with a coloured scum which was found to be pollen from forests. Their maize was fertilised chiefly by the wind. He instanced a man he had seen on the Clarence River cutting the tassel off his corn and feeding it to his cows, and his telling him that he would get no corn, but could not make him believe it, and of his acknowledging it on his return visit; the only crop he got was from the part close to his neighbour's corn. The bees and other insects had to do with the fertilising of fruit. One of their bee journals mentioned a case in the Northern States of America where there were large cherry orchards. The bees being very busy among the blossom were thought to injure it, and all the bees in the neighborhood were destroyed. Then the people began to find the fruit fail. The trees blossomed and promised well, but the fruit did not set. One of these people who was told the reason was that there were no bees there imported a colony of them, and the next spring had a fair crop of cherries which he had not expected. He then increased his colony to five, and then had the same heavy crops as before, while five miles away there was the same loss of crop. The reason soon leaked out, the growers obtained bees and had a return of their good harvests. Taking an apple blossom they found they came in bunches. The outer whorls opened first, they withered and died, then the next followed, and so on, till the centre ones came. When the blossoms stood up it formed a cup. The first reproductive organs which appeared were the anthers. These contained the pollen; but the stigma was not yet unfurled. The pollen became ripe and was discharged but could not be placed on the same blossom, so that the stigma could not be fertilized by pollen from the same blossom. They would notice that there were five stigmas in the apple blossom. Remembering the description given of the stigma, a bee entering the blossom with pollen covering the fur on its breast, a little grain of pollen adhered to each knob of the stigma. That grain of pollen threw out a tube which grew longer and longer within the hollow of the style till it reached the seed cup, where it grew into a little bag, was shut in, and that gave them the apple. One time if he went into an apple orchard and saw the little fruit the size of duck shot lying on the ground, he said, as many still said, a terrible blight had fallen on them during the night and cut the apples down. He knew different now. It might be that when the anthers were discharging the pollen and the stigma receptive, that there had been a high wind and dust had been blown over them, and the dust stuck there so that the bees could not place the pollen on them. Or it may have been a heavy rain washed it away; or a heavy wind had blown the branches about and bruised the pistil. There was another thing he would like them to know. Suppose in an orchard they had a solitary apple tree

among a great many oranges. A bee going there and failing to get a full load of pollen from the apple would not go to the orange blossom but away it would go to some other orchard to make up its load. The same thing would occur if there was one orange and the rest apples. Nature had taught the bee better than to take part from one kind of tree and part from another of a different description. Taking up a nicely-formed apple by the stem and cutting it through they would find five radiations, on each a core containing the pips. Look around the orchard and find a lop-sided fruit. If they cut that they would find only four radiations. The reason was that one of the stigma had been injured, or the bee had missed it—one of the knobs had not been able to take the pollen from the bee. Another remarkable thing was that particular insects were created for particular flowers. In particular districts they found particular flowers. It was noticed that the English cowslip did not grow all over England, but that in the parts where it grew there the nightingale sang. One man more enquiring than another discovered that the particular insects on which the nightingale fed lived on the cowslips, and that explained it. There was a particular orchid in England that had a long quill 11 inches long, with $1\frac{1}{2}$ inch of honey at the bottom of it and Darwin had ventured the opinion that in the particular part of the world of which the orchid was a native there must be an insect capable of fertilizing it, and in Madagascar, of which place the orchid was a native, a moth was discovered with a tongue $11\frac{1}{2}$ inches long. Take another look at the flowers, and they would find those fertilized by the wind never closed. They remained open all day and all night, and always straight up, so as to catch the first grain of pollen. Another kind opened at twilight when the moths came out to feed. Another kind only in fine weather when the bees were out. Instances were given of each kind. He illustrated the similarity there was between the fertilization of vegetable and animal life, using fish as an illustration. The reasons of their being so many drones in a hive of bees was clear to him from the same cause of the quantity of pollen in plants so as to make certain of fertilization. Then again as to the use of their insects, he was told in confidence a few weeks ago that some orchardists intended to spray their trees with a poison sweetened with saccharine matter in order to kill the bees. He told his informant to advise them not to do it for their own sake, as the beekeepers would not be the only sufferers. They would suffer most themselves if they were so mean, cruel and vindictive, as to destroy bees with the idea that they injured the fruit crop. They must educate them and show them that their crop would be a failure without bees. He illustrated the fertilization of a peach blossom by bee or other insect, showing that the insect was the cause of their getting the peach, and said if he

had not made everything plain he would try to do so by answering any question.

In answer to Mr. Munday, the lecturer said a bee could bite through the quill of a flower to get the honey out. He had seen them enlarge the entrance of a soft wooden box. But they did not bite the stem of flowers, and would not the skin of fruit, which was still harder. What might happen was that a bird might make a hole in a fruit and a bee then go and take what it would find there. But it would not do that if there was honey about. In answer to Mr. Patton as to the best time of spraying fruit trees, the lecturer said it was governed by what it was for. If to destroy codlin moth little good would come of doing it while the trees were in blossom, as the moth did not attack till the fruit set. Asked as to whether a spray of the sweetened solution would not itself destroy the blossom by interfering with the adhesive or sticking qualities of the stigma, the lecturer said he had already said the same thing in other words. They would injure themselves more than the beekeepers.

On the motion of Mr. Long, seconded by Mr. Patton, and supported by Mr. Munday,—who condemned the public of the town, and especially teachers and pupil teachers, for not attending such a lecture,—a hearty vote of thanks was accorded the lecturer.

Mr. GALE, in responding, referring to some remarks of the chairman as to the topping of maize, and said he knew that if the tassel was cut off after it had fertilized the beard of the cob it had a tendency to make the crop heavier; but if done before the pollen was discharged it prevented a crop at all.

SOUTH AUSTRALIA.

From the *Garden and Field* we extract the following from a paper read by Mr. John Darley before the South Australian Beekeepers' Association:—

In stating the figures representing the quantity of honey exported during the past five years I will first take those of our own colony, which so far as the export of honey is concerned, can, and evidently does, hold its own in comparison with other colonies. For instance, the quantity exported from South Australia for five years is 638,352 lbs., or say 285 tons, the value of which is declared to be £9,763, or an average price per lb. of 3·67d., while the next highest exporting colony is New Zealand, with 86,257 lbs. for three years by which it may be assumed that this colony is better adapted for the business of an apiarist than any of them. The following tables (B) show the actual quantities exported by the different centres of Australia, but excepting so far as South Australia is concerned, I have not at-

tempted to show in detail the different places the honey has been shipped to. So far, however, as our own exports are concerned, and these are of the first consequence to us at present, the exports are to New South Wales (C).

IMPORTS.

During the five years under review, the imports of honey into our colony has been very insignificant compared with those of the other provinces, the total imports of South Australia being only 8,675 lbs., and of this quantity only 607 lbs. were cleared for home consumption, the balance (8,068 lbs.) being simply in transit through this colony, customs duties being paid on 607 lbs. only. Comparing these figures with those, say, of New South Wales, the difference is very marked, and indicates either that the bee industry is in a more thriving condition in our colony, or that their home consumption is (which is probably the case) considerably greater than our own.

The imports of honey into Great Britain during 1891 were chiefly from United States, the Spanish West Indian Isles coming next; Australasia being only one from the bottom of the list in quantity. So far as value per pound is concerned, however, the colonies occupy the second place, France only being higher at 7d., as against 4d. 4-5ths. per lb.

TRADE OUTSIDE SOUTH AUSTRALIA.

I have not been able to ascertain what possibility there is of further trade outside the colony, but that there is some considerable business done at present, or in the near past, I think it proved conclusively by the figures submitted. New South Wales has had nearly 517,000 lbs. during the past five years, especially in the year 1891, when they took upwards of 335,000 lbs. In the same year, which if I remember rightly, was a very good one, 30,500 lbs. went to the United Kingdom. The exports for last year were not nearly so large, as they dropped off to 45,000 and 4,500 lbs. respectively; but Germany made up for a little of this by increasing to nearly 26,000 lbs. as against 2,400 the previous year. The trade with West Australia is apparently improving, as it has gradually increased from 1,736 lbs in 1888 to 8,249 in 1892. The exports to Victoria also were very much greater in 1892 than during the four years previously. Trade with Queensland is quite prohibited by its Customs duty of 3d. per lb.; but in spite of this and cost of carriage, &c., 192 lbs went there last year. Our main trade has evidently been with New South Wales, but judging by the market price of honey in Sydney at the present time, 2½d. to 3d. per lb., it is not likely that it will continue so as to send it from here with profit we should require at least 1½d. per lb. more than can be got here, which is, I think, just now about 2½d. for good samples. Honey would therefore require to be at least 4½d. in Sydney to make it pay. This includes 1d. per lb. duty, but not dock charges, &c., in Sydney. The price of honey quoted in Victoria last week, as sold at the

"Queen Victoria Market," is given as from 4d. to 6d. which reads like a good price; but considering that it would cost at least 2½d. per lb. to send it there, including Customs duty of 2d. per lb. it would require a price of 5d. per lb. to make it payable. The price quoted I take as a retail item, as I find that the wholesale price at Bendigo is given at 1½d. to 3d. per lb.

The honey quotations at present at Hobart, to which colony we do not seem to have exported at all, are 4d. to 5d., presumably retail; and as the Customs duty of 2d. per lb. will bring the value here up to 4½d., there does not appear to be much opening for business.

Launceston quotations are 3½d. to 4d. wholesale, and 5d. to 6d. retail.

I have not been able to get quotations from West Australia, New Zealand, or Queensland, but the 2d. per lb. duty at New Zealand, taken with the fact that their export is fairly large, seems to shut out any chance of a profitable trade there. This narrows our trade down to the United Kingdom or Germany, unless some new opening is found, or prices advance in the other colonies or elsewhere. I am sorry that I have not been able to secure any information as to prices in Germany, but may say that they would need to be nearly a halfpenny in advance of our own, to simply cover the freight and shipping charges. Of course in all these lines no provision has been made for agency and landing charges at port of destination. In conclusion I can only hope that some plan may ultimately be effected which will secure for us a ready sale in the English market, otherwise it seems almost too clear that our production will at an early date greatly exceed the demand.

SOUTH AUSTRALIAN IMPORTS.

Year.	Quantity.	Cleared for Home Consumption.	
1888	1,186 lbs.	132 lbs.	Balance only of transit for or from other colonies.
1889	2,971 "	239 "	
1890	626 "	50 "	
1891	2,700 "	156 "	
1892	1,192 "	30 "	
5 years.	8,675 lbs.	607 lbs.	

TOTAL EXPORTS AND DECLARED VALUES.

Years.	Quantity in lbs.	Values.	Price pr. lb
1888	29,991	£ 678	5.43 d.
1889	54,912	995	4.35
1890	80,793	1,408	4.18
1891	377,640	5,245	3.33
1892	95,016	1,437	3.63
5 Years.	638,352	£9,763	3.67

IMPORTS OF HONEY INTO UNITED KINGDOM FOR 1891.

From	Cwt.	Value.	per lb
		£	d.
France	1,216	4,009	7.07
United States	8,118	14,435	3.81
Spanish West India Islands	5,385	8,365	3.32
Chili	5,099	7,708	3.20
Other Foreign Countries..	1,417	2,704	4.09
British West India Islands	1,614	2,956	3.92
Australasia	619	1,285	4.45
Other British Possessions	76	155	4.37
	23,544	41,617	3.79

IMPORTS AND EXPORTS TO THE VARIOUS COLONIES.

	South Australia		Victoria.		N. S. Wales.		W. Aust'lia		Queensland		Tasmania		New Z'nd	
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.
1888	1,186	29,991	2,304	24,461	78,245	10,541	—	—	24,566	866	375	—	120	26025
1889	2,971	54,312	2,752	31,024	106,262	14,719	—	—	—	—	1329	60	—	—
1890	626	80,773	409	24,804	187,726	2,800	—	—	6,321	5294	851	1300	160	37679
1891	2,700	377,640	1,000	52,070	414,161	2,381	—	—	—	—	600	30	—	27553
1892	1,192	95,016	—	—	79,360	7,543	—	—	—	—	—	—	—	—
5 ys.	8,675	638,352	6,465	132,359	866,254	37,984	—	—	30,887	6160	3155	1390	280	86257

SOUTH AUSTRALIAN EXPORTS TO

Yr.	N. South Wales.	United King'dm	Germany	Western Australia	Victoria.	North'n Territory	India.	Queens-land.	Samoan Islands.	Ceylon
1888	19,543	2,168	—	1,736	138	4,934	1,136	336	—	—
1889	44,267	3,910	—	2,975	838	2,304	90	523	—	—
1890	72,293	2,886	60	3,222	1,412	920	—	—	—	—
1891	335,383	30,548	2,400	7,643	278	1,148	—	48	—	192
1892	45,159	4,570	25,987	8,249	8,990	1,584	—	192	285	—
5 Ys.	516,645	44,082	28,447	23,825	11,656	10,890	1,226	1,104	285	192

THE CHICAGO EXHIBITION.

Mr R. Patten, who took the charge of sending the honey exhibits from the Hunter River, New South Wales, to the Chicago Exhibition, has received the following from Washington, U.S., America:—

“United States, Department Agriculture,
Division Entomology,
Washington, D.C.,
June 14, 1893.

Dear Sir,—Your letter of April 28, containing particulars regarding the exhibit of honey forwarded to the Columbian Exhibition by the Hunter River Beekeepers' Association has just been received.

On behalf of the Department, as well as personally, allow me to thank you heartily, and through you the Association, for your liberality in placing the exhibit in our possession at the close of the Fair. It will form a very acceptable addition to our museum of agricultural products.

I will endeavour to have the requests contained in your letter carried out.

Very truly yours,
E. V. RILEY,
Entomologist.

R. Patten, Esq.,
West Maitland,
New South Wales.

NATHALIA, VICTORIA.

Perhaps a line or two from this portion of your sister colony will interest your readers.

The winter here is just about over, and has been a rather severe one, a greater quantity of rain having fallen and more continuously than last winter. Notwithstanding this, the bees have wintered well, all of my bees taking advantage of every fine day, and they have kept themselves in stores throughout. The chief source of honey is the red gum and yellow and gray box. Of course they raid all the gardens in their reach too. I noticed some bees very busy on peppertrees in a garden one day. Peppertrees have a bad smell, and stock of all sorts avoid them. Box hives are dying out here, and I have some hives with 4½ in. deep frames, same length as Langstroth, with room for 2 doz. sections above. The idea was to get the honey all into the sections. Can't say yet whether it will work, as I only started last year late in the season. Wishing you success, I am, Yours truly,

H. F.

TASMANIA.

A Tasmanian beekeeper writes us—I have just received my first number of the A.B.B., and am very pleased with the journal. I am only a beginner, and I think the A.B.B. just the help I need. As I see you invite enquiries, I am using L. hives, some ten frames, others eight. I have made them from a sample hive. Which hive do you think best, and for what reasons—the eight or ten frame Langstroth. We have sharp frosts here, but no snow. Bee forage consists of acacia, eucalyptus, box, clover, and many other plants that I do not think of now. I am only using black bees at present, but intend to Italianize as soon as I gain a little more experience. I am taking beekeeping up for better or worse, so you may expect to hear from me occasionally. In reference to hives I notice Mr R. J. Cribb is advocating the Bay State Hive, he is putting a great amount of stress on the expansion and contraction of the wall timbers of L. and hives of similar make. I make my hives from thoroughly seasoned timber, walls $\frac{3}{4}$ thick, painted with three coats before exposure. If all hives are made of seasoned timber there is only expansion to overcome. And I am told that a great difficulty has always existed in regard to brace combs. If the supported frame overcomes that difficulty it should at least be worth a trial. I make all my frames 1 1-16 in. wide by $\frac{3}{4}$ thick and so far have not been much troubled by brace combs, I intend to substitute fixed distance ends, still retaining thick top bar, which I think has more to do with keeping a regular bee space than anything I have yet seen. The thick bar prevents sagging, frames are always square, I am not prejudiced in regard to any hive, I adopted the first frame hive I saw, a Langstroth. From enquiries I find there are few better allround hives made. I cannot say I like Mr. Cribb's idea of bolting the frames together. I think a lot of time would be taken up in removing queen cells, substituting new queens, or anything that required the bolting to be undone. It would I think be a difficult matter to drive all bee inside the frames to prevent them being killed by clamping up. I shall be glad of further information as I should like to adopt the best hive.

[We intend to make “points” of hives one of our special subjects. We trust we shall get a good many ideas. The Ed.]

BRAIDWOOD.

A Braidwood beekeeper writes:—The honey yield last year was so poor that I did not think it worth keeping, and the same applies to the whole of this district last season, even the bees in the bush were unable to gather anything worth speaking about. However I think from the present prospects that we will have a better time of it during the coming season. The bees here have a very hard time of it during the winter, for besides the very cold weather that we get here there is absolutely no forage of any kind just now in the bush. One might travel miles and not see a single flower of any kind, and unless

they have a pretty good supply of food in stock before the winter sets in there is nothing but starvation for them. Last year about this time I had some wall flowers in bloom and I noticed that the bees were very fond of them, so I transplanted a lot of young ones, with the result that at the present time I have a beautiful lot of flowers on which the bees are hard at work during the day while it is warm enough for them to do so, and from which they gather a good deal of pollen and I suppose some honey also. I should like to ask you Mr Editor, whether or not extracting from comb containing both brood and honey does much injury to the brood? Secondly what is the best known remedy for bee stings? I notice Mr. Editor that there is a great improvement in the *Bulletin* since I became a subscriber about 12 months ago, and I hope that subscriptions will continue to roll in so that you will be able to still make further improvements in it. I cannot understand why some beekeepers do not subscribe to it. For my own part whether I kept bees or not I should think it a profitable investment.

[We should certainly not recommend extracting from frames containing unsealed brood. It must injure them to some extent. As to the best remedy for bee stings, Cheshire recommends methyl salicylate, or oil of winter green. Some recommend the barrel of a key pressed into the wound; others carbonate of soda mixed with water. But the best remedy is to handle your bees carefully; if you get stung do not rub it, or in extracting the sting squeeze more poison into the puncture, but brush it off as it were, and in time you will get inured to a sting or two, and take little notice of them.—Ed.]

IMPORTS.

Extract from *Gleanings in Bee Culture*, March 15th, page 232, Published by A. I. Root, Medina, Ohio, America.

CARLOAD SHIPMENTS.

Since our last issue we have received orders for three more carloads of supplies. One comes from HEBBLEWHITE & Co., our representatives in SYDNEY, N.S.W., Australia. This firm is the largest foreign buyer of our goods, though we have quite a large trade in different countries.

COWAN'S EXTRACTORS.

In the order for Sydney, N.S.W., Australia, are ten complete two frame Cowan Machines, and five more without the cans, besides a sample four and six frames, twenty-five Novice and two Stanley Machines.

WHAT THE BEES ARE DOING.

Mr. W. Abram, Beecroft, writes—To all appearance we shall have an early spring this year. The weather of late has been splendid, and the bees are very busy gathering nectar and pollen from the various blossoms of native scrub, which abounds around here. I have been able to make the first revision after winter, and I find that all stocks have a large quantity of brood already, and young bees hatching. Nearly every stock has as much honey now as I left them before winter; some have even stored more, and I have to extract to give room for brood. My bees left off breeding rather early last autumn on account of the continuous wet weather. It is therefore very fortunate that they began to breed so early now. Under these conditions, and if the weather continues, there is every prospect for a good season, as there will be an abundance of bloom here the coming season. I am busy making hives to order, of which one party takes 25, and orders for queens and stocks arrive daily.

A NEW CHUM'S EXPERIENCE.

BY A NEW CHUM.

I have seen in a recent issue of the A.B.B. where you required more working bees in your hive to make it a success. We do not doubt for one minute that you will do the queen business as far as the management, and seeing the money, not honey, is properly stored. But to make the paper interesting to subscribers, of course they want to read about how other people have got along for the past month, also any new idea that has sprung up and proved a success. Well, when people like to read about others' success, or vice versa, they should not be backward in giving their own. Perhaps if they have been going along an incline there is always an old veteran ready and willing to try and put them on the right track. My past six months' experience of beekeeping on the latest principles tell me that there is a lot to learn, also that bees have a great many enemies. When a boy I was very fond of bees, and I was also very fond of my gun. Now the bees gave me just the sport I wanted. A bird here called the martin used to come in hundreds and catch the bees on the wing and eat them. I may be contradicted here saying that they eat them—that they only kill them

for the honey; but, Mr. Editor, I have seen dozens of those bird's craws cut open, and they were literally full of stings sticking in the flesh. Father thought if I were to shoot all those birds there would be nothing left to destroy his bees, but some other thing came along and wiped out over 100 colonies in one year, all other beekeepers suffering similarly. Beekeeping, even on the gin case principle has been going astern in this district ever since. One gentleman went to a lot of expense here a few years ago for Italian bees, giving as high as five pounds for one hive, and in the course of a few years all his bees had gone wild in the bush. Very bad management on his part, I should think. Well, when I got the bee fever—I got a slight attack—I bought the A.B.C. book, also a simplicity hive of A. I. Root's. It is a blessing, Mr. Editor, that such a man as A. I. Root can give to the world such a book; such plain language a child can both read and understand it. After overhauling the hive I came to the conclusion it was no use fussing with the bottom board, for the timber in it next the ground in our climate would not last very long, so I made my bottom boards out of 2 x 2, with $\frac{3}{4}$ board nailed on to make it a solid bottom; fixed up my hive, and run in my bees. All this was no trouble, but my little excitement brought my trouble on. I think I had about six looks at them the first day; second day had another look about 10 a.m., only in at the top, and carried the enamel cloth away from the hive. A short time after I found out my mistake. Of course I just went straight back to the hive, and lifting the cover I put on the cloth, closed the hive, and went away to my work. Bees being the uppermost idea in my mind, at dinner time I had another look, and if ever you saw a picnic there it was—not one bee working, clustered all over the hive wherever you looked. I began to think if I had taken my friend Duncan's advice I would have had nothing to do with them, for he said all bees went mad, and would not stop in patent hives; but I soon found out it

was me, not the bees. I had closed the queen between the enamel cloth and the cover—hence my trouble. Then I made another start to put about 60 colonies into patent hives, but my trouble soon began in earnest. First one swarm that I thought properly hived cleared straight into another box. In a few minutes I would see one of my queens lugged out dead in front. The only pity I got from my neighbours was, "Never mind, old man, you have not lost the bees, they are all in the yard." But one day, to crown the lot, the bees got the swarming fever in earnest, and swarm after swarm poured out of their hives, and all bunched till I had nine all in one heap. I thought if that bundle of bees took to me I would be done for in a very few minutes. After getting my bees all settled to work I wound up with 35, and I think got off lucky with that. My next trouble began with moths. Such heaps I used to turn out twice every week. Once in going over my hives I counted very carefully where the grub had spun his cocoon over the young brood. The least young bees I found destroyed was twelve, and the most fifty-five, with one grub; so I came to the conclusion it was no use—black bees were a failure where moths were so bad as they are here. If the colony got the least weak the moths did for them. Next I tried Italians, and I trust all would-be bee-keepers will give over the idea of trying to keep out moths with the point of a jack-knife. Just send to one of my friends, Mr. Mansfield, of Largs, or Mr. Munday, of Woodville, and get one Italian queen, and watch the wonders she will work with moths. Well, Mr. Editor, I thought my troubles were all over, but I next got hold of a plague that are very fond of honey. Some call them earwigs, but my impression is that the first man who made a pitchfork had one for a pattern; and the worst of it is the Italian bees take no notice of them, and let them run through the hive where they like, unless some old veteran can come to the rescue. I am afraid they will give me a sorry time of it. The latest thing I have got to trouble me is

the mice. Just fancy a mouse going in a hole hardly $\frac{3}{4}$ of an inch deep and destroying part of the combs and tasting of the sweets.

A JEREMIAD FROM THE RICHMOND.

This communication was unavoidably held over from the July issue.)

Following the miserable failure of the past honey season, we are now experiencing a severe winter, with a succession of heavy frosts. No plant of honey value has bloomed for the last three months, except a few garden flowers, such as Buddlea and Mignonette. Nine tenths of the queens have stopped laying, and bee paralysis is thinning the enfeebled ranks of the little workers. From this combination of unfortunate conditions, many colonies have dwindled to the size of a man's fist, others have absconded, and others have starved, so that even apart from the general bankruptcy and utter helplessness of this district, immediately brought about by a repetition of devastating floods and the bank crashes, the bee-keepers' outlook for next season is not very encouraging. In writing the above, I am speaking of Italian bees, carefully and scientifically managed. The great majority of black bees in the district have been swept off, either by the floods, or by the terrible honey famine of the past twelve months.

About the coastal district, however, bees have held their own a degree better than up the river and round Lismore, owing to the season in the former places being later, and a comparatively small though precious supply of nectar coming in, when the bees were all but at starvation point.

This difference cannot certainly be justly attributed to a more skilful management, as the bee-keepers about Lismore and Casino are for the most part energetic men, alert to adopt every new advance in the art, while, of some others further away, possessing a large number of bee boxes, have only top bars for their bees to build their combs on. Of course they cannot use the extractor, though there are some they tried it years ago, but was forced to give it up, as it "started foul brood," among the bees, so, to express the honey, they are obliged to adopt the process of which every old lady, as far back as the epoch of the Patriarch Methuselah was aware, viz.: the smashing and squeezing and squashing of combs, bees, and brood juice, etc.

One of these enlightened apiarists has the "Berlephs" pattern, but his bee management consists simply in throwing every swarm he may catch into the lower story of a hive, which storey, as soon as they begin work in it, is nailed up for ever, or at least until the box falls to pieces, he paying no attention to it, but regarding it as the brood chamber, and therefore the unprofitable division of the hive, and he contents himself with just extracting from the top story once or twice in the season,

The most advanced, do not go quite so far as to hermetically seal the brood chambers of the hives, but yet does no queen-rearing, considering that department of bee culture far too troublesome, and quite an unnecessary waste of time, as he has queen reservoirs to his hand, for he has discovered some trees with bees nests in them, and whenever a colony chances to become queenless, he calmly fells one of these monarchs of the forest or swamp, secures the queen, and introduces her dusky, (not Italian) Majesty, to the queenless swarm in a cage of his own design and construction, a good sized box made from perforated zinc, antiquated looking indeed, and suggesting the idea of a rather clumsy rat trap. If a specimen were sent to the Convention itself, without having an explanatory label attached, I am afraid that the primitive object would puzzle some of the assembled quid-nuncs.

Apropos of the Convention, the most important, by far, of all the subjects for its consideration, should be the adulteration question. I hope this powerful Congress of Bee-keepers will decide on a definite, a bold and determined course, against the most fraudulent and infamous glucose traffic. It is an evil, which, if not speedily crushed, will be likely in the near future to seriously paralyse bee culture, if it does not seal its doom.

In the *Bulletin* some time since Mr. Major Shallard stated that nine out of every ten of the jars labelled, "Pure Honey," which are sold in Sydney, were adulterated with, or consisted wholly of this vile compound of fuming vitriol, and old petticoats, that can, it is said, be concocted at a rate of less than a penny per pound. Its consumption is increasing fast, as the manifests of cargoes arriving at Port Jackson testify. This explains clearly, why, in spite of the duty imposed on all foreign honey, despite the fact that, on account of the past bad season, the colony's production of honey has been lessened to perhaps quarter of an ordinary year's crop, the price has been steadily falling, and the commission men's sales are always reported as dull.

A SHIPMENT OF QUEENS.

Mr. Mansfield, of the Hunter River Apiary, Largs—we are pleased to report—has received per steamship Victoria, a shipment of queens of the Ligurian or leather coloured strain from the noted queen-breeding apiary of Messrs Lucien Paglia and Co. in Italy. Out of twelve sent out four arrived alive. They were safely introduced on the 8th inst. and had commenced laying by the 12th.

KIND OF HIVE.

Replies to R. J. Cribb by W. Niven, Sweet Home Apiary, Eugowra:—

Question I. (a) Langstroth Frame, 18 in. by $9\frac{1}{4}$ in., on side. (b) $19\frac{1}{2}$ in. over all; width of top bar $1\frac{1}{2}$ inch; thickness of top bar $\frac{1}{2}$ inch.

Question II. (a) Langstroth Hive, 8-frame plain edges. (b) Sides $\frac{1}{2}$ inch.

S. G. S., Binnaway, says:—I am going to cross all my bees this summer, and I intend trying J. L. Davis' plan by removing the young larvae and placing it in the queen cells, which I will have prepared. Would you advise me to adopt this plan or not? What do you think would be the best? [We do not quite understand what you mean by crossing your bees, possibly it is to introduce the Italian to produce Hybrids. Very good queens can be reared by the grafting process, which is what you apparently refer to. Your best and most simple plan is to send to one of the Italian queen breeders advertised in our columns, and replace your blacks by them, unless you wish to experiment on ground others have gone over before.—Ed.]

A correspondent from Bibbenluke says—We are having very cold, frosty and wet weather this month, with an occasional fall of snow, yet despite that fact, whenever the days are at all fine and warm, my bees, especially those with a good supply of honey to winter on, may be seen flying busily in and out of the hive.—28th July.

J. A. S., Jenera Vale, says:—Enclosed please find 5s in stamps for *Bee Bulletin* subscription. The paper deserves the practical support of every bee-keeper in Australia. There is a perceptible improvement in almost every issue, and the subscription is very moderate considering the information afforded.

J. J. H., of Leichardt, writes—This is a very poor district for bees. I started with one box four years ago, and in two years increased to six; then got disease, which would have destroyed them all, only that I kept on trying to remedy it, first with the Cheshire treatment, which did not eradicate, but only kept it in check. Finally I resorted to the "starvation cure," together with the Phenol, by which means I saved one, which has come through winter in health and fair strength. I have now two hives, one I got late last summer, so with better management I hope to do better in future.

W.P., Marrar, asks—Will you kindly give me information re the following—1st. How far apart should frames be spaced, top bar $\frac{3}{4}$ ths wide? Some say $\frac{1}{4}$ in., some $\frac{1}{2}$ in. The reason for my asking this is—some time ago I procured from Messrs. Hebblewhite & Co. spacing strips for a ten frame hive; the spacing in this case is $\frac{1}{2}$ in. Who is right. 2. When uncapping what should be done to keep that honey knife from sticking to the wax? None of the Guide Books give any instructions to beginners re this matter, which is a very important item, and seems to have been overlooked.—[The different authorities recommend—Cheshire: 1 9-20ths to 1 10-20ths from centre to centre of frame. Dadant says 1 7-16ths in. Root's A. B. C. says 1 $\frac{1}{4}$ in. For a small space it is claimed it encourages the rearing of more worker brood, while a larger space requires more bees to keep the warmth up, and gives a chance of rearing more drone cells.—Question 1. Dip your uncapping knife in hot water occasionally.—Ed.]

J. J., of Cunningham, writes:—I am very well pleased with your paper and wish it every success. It is always full of practical information.

J. R., Mountain Vale, Paterson, writes on July 19—I have at present about 40 hives, and out of that number I have only thirty in a working condition. I have extracted this season about 3,800 lbs. of honey. I notice a few ironbark and spotted gum trees out in bloom, and the bees are still fetching in a little honey and a great deal of pollen.

J. F. O'C., Cooper's Island, Bodalla, writes—I have just received the A.B.B. for July. I am very well pleased with it indeed. I had no idea that there were so many beekeepers in N.S.W. The past season was a very good one about here for honey, as the ironbark was in bloom for months. There does not seem to be any practical beekeepers down this way. I have five hives, 10-frame Langstroth. I started beekeeping in November last year, that was when I caught my first swarm. Of course they are blacks. During the swarming time the air is alive with bees about here. There is no one in this district who knows anything about bees at all. I intend to Italianise this season all my bees. I have a neighbour who has a few boxes, but he knows just about as much as I do about bees, which is very little indeed.

W. P., Marrar, reports—As to number of bee-hives and honey obtained from the same last season—I had six colonies of black bees last season; I extracted no honey from them, as last season was one of the poorest seasons we have had for the last ten years. The honey flow stopped in November, 1892, and from that time down to winter very little honey was gathered, as bees had to be fed to keep them alive. Just before last Christmas I procured two Italian queens. After I got them installed, the honey flow of course was stopped, and then the trouble began. The bee moth was very troublesome with black bees, so I determined to do away with them instead of wintering them, I have only at present the two Italian hives, which are doing well.

Mr H. L. Jones, Redbank Plains, Queensland, writes of the Choko:—The Choko is a comparatively new introduction, and can be grown either as a climber or a ground runner. It is in suitable positions a prolific bearer, several hundred fruit from one vine being not uncommon. As an article of domestic consumption it holds a high order of merit, being especially useful as a substitute for the marrow family; or as an addition to rosella or rhubarb, considerably improving the fine flavour of these esculents. It can also be boiled after peeling similar to vegetable marrow, and is excellent served with buttered sauce. As a honey plant it is of much value, the bees working constantly on it while in bloom. It can be planted any time during spring or summer by setting the fruit into the soil level with the shoot, and slightly leaning on its side to allow shoot to root more easily. Fruit weighs about 12 oz.

T. H., Junee, writes—I have 25 boxes of bees, a few hybrid and black bees. They have a very hard time of it. Now its cold for them. They have not made any honey since last December, but at the present time when its warm enough for them to work they do better than they have since December last. I have to watch them, and when they cannot get out to work I have to feed them. My boxes are on the Langstroth style, single stories 8 and 10 slides. The white box trees are in bloom here. Re sheds for bees, I have proved that sheds are no good for black bees. The moths will quickly destroy a strong swarm of blacks under a shed. In a clear place where there's neither shed nor green trees very few moths trouble them.

F. W. S., Currabubula, writes:—I am only a beginner in bee-farming, and have only five bar frame hives of bees. I can give only the quantity of honey sold, which amounts to 200 lb. but what has been used in the household I cannot give. I did not take any honey from my bees at the end of last summer as they had only enough to carry them through the winter. I have had to give them much care ever since the fall of the year. They seem to be partly paralyzed—weak, drowsy, and unfit to search for food. I have had to watch the moth this year; they have been very destructive among the bush bees. I have been so busy in other business that I have not been able to increase the number of hives, but will this season. I am well pleased with the A.B.B., containing all the most practical subjects on apiculture.

J.C., junr., Cave Creek, in our next.

W. H., Kempsey, says:—The floods here have played havoc with bees this year, out of eighteen hives I have four left. Drowned and swept away, hope to do better next year.

HONOR WHERE HONOR IS DUE.—In our report of the Convention in last issue we alluded to a long combination hive exhibited by Mr. Allport. It should have read by Messrs W. T. Seabrook & Co. We apologise to Messrs. Seabrook for the error, and take this first opportunity of correcting same.

S. G. S., Binnaway, writes:—Having noticed in the A.B.B. that several apiarists have suffered from moths, now I will give you my way of preventing moths. Make a frame the size of the box you have your bees in, and then put fine netting on top of frame; then place your hive on the frame, and you will never be troubled any more with moths. This frame makes a capital stand also. One foot in height will do. Don't put top or bottom in frame. By using the netting all wax and rubbish that falls from the bees will fall through the netting on to the ground, and therefore the moths cannot build like on the bottom board. I will guarantee this method will not fail.—*Honey for Tarts.*—Boil the honey for about fifteen or twenty minutes, and then add a little acid to flavour it; then cook them. Tarts to be eaten while cold. They make as good a tart as I would ever wish for. I have 20 colonies of bees at present, all full. I make all my own hives, which are all on the frame principle.

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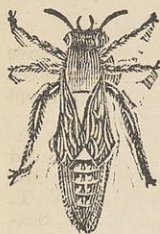
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Device. It is superior to anything used for suppressing swarming. By its aid you can secure a good honey crop, build up small colonies, make nuclei, clear a pile of cupers, in fact control your bees to any degree. No need to stay at home waiting for swarms. Fix the device—the bees do the rest. It is unique in construction, simple, and positively no parts to get out of order.

Price—2s each, 10s 6d half-dozen, 18s per dozen.

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There is a Best in Everything ! You cannot get Better than the Best !

THE best bees are the true Ligurian or leather-coloured as found in Northern Italy. The queens of this race are of a beautiful chocolate color and very gentle in their movements, and the workers have three yellow bands of the colour of English leather. No five-banded bees are got from Italy.

A. I. Root is one of the greatest authorities. Read what he says :—"The Italians, combining as they do so many excellent traits with so few faults, have deservedly the pre-eminence over all other races, and this pre-eminence has been held ever since their introduction, early in the '60's." This notwithstanding untiring efforts to discover a better bee.

Frank Benton, apiculturist to the American Government, who spent eleven years in travelling over the world in quest of a better race, declares that "no race yet found will take the place of the Italians of Northern Italy."

All great honey producers—those who count their tons per season—achieve these results with the leather coloured bees. "There is nothing like leather." No others for me.

The Hunter River queen breeding Apiary is admirably situated for the purpose, being about 2 miles from the bush, and all the black bees kept in my neighbourhood have been destroyed by the late floods. To crown all I have regular leisure to attend to the business. I do not, nor do I intend to, compete with any one in hives or appliances. My hobby and forte is queen-breeding.

I have 8 queens to arrive from the most noted breeder in the North of Italy, this month, and 8 more to follow next month. I keep none but tested queens of this strain in the apiary to insure as far as possible pure mating.

Bees and queens from the Hunter River Apiary have been sent to all parts of the colony; and have given general satisfaction. I sent 34 queens to one customer last season, and 33 arrived safely. I fancy this is a feat with few parallels.

If you want bees that will keep the extractor going, and give you satisfaction, and at the same time not peg out, and leave you empty hives in hard times, why, send along your orders to the Hunter River Apiary.

I shall make five classes. No. 1. are queens imported from Italy direct, which you can have in rotation while they last. No. 2. are selected queens bred from these, and tested for queen progeny, as well as workers, and called for that reason, "double" tested. No. 3. are progeny of imported queens, and tested for worker progeny only. No. 4. are bred from good queens, but have not so good a pedigree as No. 3. No. 5. are young laying queens from imported and equally good mothers, but untested.

Prices of Ligurians or leather-coloured Italian Queens :—

No. 1.	Imported Queens	30/-
„ 2.	Double-tested	20/-
„ 3.	Best Quality Ligurian	12/6
„ 4.	Ordinary Quality	10/-
„ 5.	Untested	7/6

Hives of bees, with hives, combs, frames, add 15/- to above prices.

During the breeding season I am prepared to supply Queens in quantities of four or over at special rates. Write for prices. Satisfaction and safe arrival guaranteed.

C. MANSFIELD,

HUNTER RIVER APIARY, LARGS, N.S.W.

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It should be made from the purest of wax. Such is ours!

All wax should be refined and kept at a high temperature before making into foundation, to destroy all disease germs. Such is ours!

The foundation should be milled so that the bases of the cells will be very thin and the side walls heavy to prevent buckling and waste of wax. Such is ours!

Our comb foundation, going six square feet to the pound, is better than any other made in the colonies going four and five sq. ft. per lb. Which is cheapest?

We do not advertise nor make foundation from dirty wax. All pure wax can be made clean, and dirty foundation shows the want of purified wax.

Our prices are, 2/- per lb., 6 lb. at 1/10 per lb., 12 lbs. and over 1/9 per pound. Send for sample of our thin surplus foundation for sections, going about 10 sq. ft. per lb. Price, 3/- per lb., 6 lbs. at 2/10, 12 lbs. and over 2/8 per pound.

Have you seen our new Illustrated Price List & Catalogue

containing much useful information for beekeepers? You should have one. If you have not, send us a post card with your name and one will be sent by return post.

NOTE.—Having fitted a new attachment to our machines we are now able to make a reduction off catalogue price for Root-Hoffmann Frames (see advertisement).

Imported Italian Queens.

Ex S. S. Arcadia, which landed in Sydney on Saturday, 19th August, the Drumfin Apiary received a parcel of nine live queens out of ten, direct from the apiary of Lucien Paglia, near Bologna, in Italy. These queens are the famous Leather Coloured Italian or Ligurian bees, and from the centre of the neighbourhood of where all the best bees come. Orders are now booked for delivery in rotation as soon as can be bred, of daughters of these queens—price, untested 7/6 each; 4 for 20/-; tested, 10/- each, 2 for 19/-; select tested, 12/6 each, 2 for 24/-.

I can spare a few of the imported queens at 50/- each.

A new idea is being tried in the Drumfin Apiary for having queens raised from the egg to maturity in a hive having a laying queen. This, as soon as it has been thoroughly tested, will be made known to the readers of the *Bulletin* under the articles on Queen Rearing, by W. S. Pender.

Bee-keeping and Poultry.

Nearly all bee-keepers keep a few poultry. The Drumfin Poultry Farm breeds birds for useful qualities. The following breeds are kept:—

PLYMOUTH ROCKS.—The most useful of all breeds for all qualities. Birds often weigh seven to eight pounds at six months, and eleven to twelve pounds at twelve months.

INDIAN GAME.—A splendid table bird and good winter layer.

LIGHT BRAHMAS.—Large birds and winter layers.

WHITE LEGHORNS.—Wonderful egg producers.

Sittings of eggs and birds of the above breeds supplied. Prices on application.

To produce fine useful birds I have penned up birds for crosses—No. 1 Indian Game cock and Plymouth Rock hens; No. 2 White Leghorn cock and Plymouth Rock hens. Sittings of eggs from these crosses at 7/6 each; five sittings for 30/- Every egg guaranteed fertile. Orders booked for delivery in rotation by

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MY strain of ITALIAN BEES are Beautiful
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Tested Queen, posted 8/-
Nucleus (1, 2 and 3 frames) Full
Swarms, Bee Books, Section
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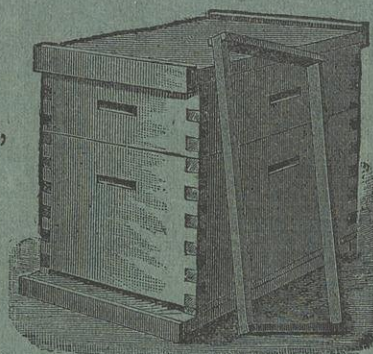
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