

Smith, Northowram, near Halifax. CHICKENS.—First, J. Dixon, Bradford. Second, T. Smith, Northowram, near Halifax. Commended, W. Cannan.

HAMBURGH (Silver-pencilled).—First, J. Dixon, Bradford. Second, S. Shaw, Stainland, near Halifax. Commended, W. Cannan, Bradford. CHICKENS.—First, W. Cannan, Bradford. Second, S. Shaw.

POLAND.—First and Second, J. Dixon, Bradford. CHICKENS.—First, J. Dixon. Second, Miss Beldon, Bradford (White).

GAME (Black-breasted and other Reds).—First, Messrs. Noble & Ineson, Heckmondwike. Second, Miss Beldon, Bradford. CHICKENS.—First, Miss Beldon. Second, J. Rylah, Chickenley. Third, T. Vickerman, Chickenley.

GAME (Duckwings and other Greys and Blues).—First, Messrs. Noble and Ineson, Heckmondwike. Second, J. Fell, Adwalton. CHICKENS.—First, J. Fell. Second, T. Vickerman, Chickenley.

GAME (Black).—First, G. Noble, Staincliffe (Black). Second, J. Brooke, Gomersal.

GAME (White).—First and Second, H. C. Mason, Drighlington. Third, J. Vickerman, Chickenley.

BANTAMS (Gold or Silver-laced).—First, J. Dixon, Bradford. Second, T. Vickerman, Chickenley. Commended, W. Cannan, Bradford.

BANTAMS (Game).—First, T. Vickerman, Chickenley (Black Red). Second, C. A. Ridgway, Dewsbury. Third, T. Walliss, Dewsbury.

BANTAMS (any other variety).—First, T. Vickerman, Chickenley (Black). Second, J. Dixon, Bradford (White). Third, E. Holdsworth.

ANY OTHER VARIETY.—First, J. Shaw, Stainland (Black Hamburgs). Second, W. Cannan, Bradford (Black Hamburgs). CHICKENS.—First, S. Shaw, Stainland. Second, J. Dixon, Bradford.

COCK (any breed).—Prize, J. Senior, Batley Carr.

HEN (any breed).—First, A. Ridgway, Dewsbury (Duckwing Game). Second, T. Greenwood, Sand's Lane (Spanish).

DUCKS (White).—Prize, J. Dixon, Bradford.

DUCKS (Rouen).—First, J. Dixon, Bradford. Second, S. Shaw, Stainland. Commended, E. Fox, Staincliffe. (Good class.)

GEESE.—First, J. Dixon, Bradford. Second, H. C. Mason, Drighlington.

TURKEYS.—First, J. Dixon, Bradford. Second, T. M. Brooke, Dewsbury.

SINGLE GAME COCK.—First, A. Ridgway, Dewsbury. Second, G. Noble, Staincliffe. Third, H. C. Mason, Drighlington.

SWEEPSTAKES.

GAME COCKERELS (any colour).—First, W. Whiteley, Liversedge. Second, T. Vickerman, Chickenley.

GAME BANTAM COCK (any colour).—First, W. Stead, Howden Clough. Second, E. Holdsworth, Leeds. Third, T. Vickerman, Chickenley (Duckwing.)

The Judges were Mr. T. B. Stead, Leeds; and Mr. Isaac Thornton, Heckmondwike.

TRANSFERRING BEES.

ALLOW me to point out to "A. W. B.," or any one else who may attempt to transfer bees with their combs from a common to a frame-hive, the importance of fixing the middle "partition wall," as the Germans term it, of each comb exactly in the centre of the bar to which it is to be attached. In many combs some of the cells will be found elongated on one side for the purpose of storing honey, whilst those on the opposite side remain the usual length. When "paring down" projecting parts this must be particularly attended to, so as to make sure of cutting down only those cells which have been thus elongated.—A DEVONSHIRE BEE-KEEPER.

[We agree with our correspondent as to the importance of the caution which he gives, and are obliged to him for the hint.]

EGGS LAID BY A QUEEN BEE NOT HATCHING.

In page 207 of this volume I described the unexpected issue, on the 4th of June, of a large swarm—so large indeed that I divided it into two, shaking one into the whilom super in which I descried several royal cells. Ten days afterwards this swarm threw off another, which left the box nearly deserted with most of the cells empty owing to the brood having arrived at maturity. It being, therefore, necessary to return the swarm, I removed the crown-board; and having caught the young queen and introduced her to a queenless stock, I shook the cluster out of the straw-hive, in which it had been temporarily lodged, on the top of the exposed bars. Between these they immediately disappeared, and the job was complete. In due time a number of eggs were deposited in the worker-cells; and when I looked at the large and very handsome Ligurian queen by which they were laid, I doubted not that I had established a strong colony which had probably a long and prosperous career before it. Weeks passed on, however, and the drones having been got rid of, the workers appeared rapidly to diminish instead of increasing in numbers, so that it became evident that something was wrong. An examination of the interior revealed the mischief. Although innumerable eggs were laid not one in fifty was hatched. Never did I see eggs deposited in greater profusion, every cell in the "brood-nest" was occupied, many by two and even three eggs; but of worms or sealed brood there were but very few indeed. Here was a puzzle! That the queen had been impregnated was evidenced by the sealed worker-cells being only of the usual length,

whilst, though few and far between, one or two recently-hatched and perfectly-developed Ligurian workers placed the fact beyond cavil. Being unwilling to destroy so beautiful a queen without giving her a fair trial, I allowed her to remain until the 20th of last month (August). By this time the population had dwindled very much, and the same state of affairs continuing I handed her over to Mr. Fox, who proposed placing her at the head of a queenless stock with the view of watching the result of so singular a phenomenon. Although I supplied the colony with a sealed royal cell, which in due time produced a handsome Ligurian queen, the bees raised several princesses from the brood left behind by their late semi-fruitful sovereign. Having no desire to perpetuate the breed, I destroyed them all after allowing them to be sealed over, and thus satisfying myself as far as convenient that they were most probably capable of being hatched into queens.

I regret to state that I learned a few days afterwards that Mr. Fox had allowed the queen to perish, not having had the opportunity he expected of placing her at the head of a queenless stock; and thus I lost, what was certainly but a very forlorn chance, the opportunity of attempting to penetrate by means of a *post mortem* microscopical examination what still appears to me a most inscrutable mystery.

I commend the foregoing narrative to the attention of Mr. Edward Fairbrother. It would certainly have figured in my reply to his query as an instance of bees dwindling away in their hives from some inexplicable and irremediable cause had it occurred at an earlier period of my career as—A DEVONSHIRE BEE-KEEPER.

DO BEES VARY?—DZIERZON'S OPINION ON THE POINT.

BEING willing to elicit the opinions of German apiarians in general, and that of Dzierzon in particular on the above subject, I forwarded Mr. Darwin's inquiry to the Editors of the German *Bee Journal*, by whom it has been inserted together with the following reply from Herr Dzierzon.—A DEVONSHIRE BEE-KEEPER.

"DO BEES VARY IN THE DIFFERENT PARTS OF GERMANY?—To the inquiry of Mr. Charles Darwin I reply with pleasure, although owing to want of time I can do so but briefly, and not so particularly as I wished and the question merited. At various times when speaking of the marks which distinguish the yellow Italian bee from our black or grey bee I have already stated that even among the native bees considerable differences are observable in colour or other qualities. The bees of some stocks are decidedly dark, whilst others are remarkable for their yellow colour, and come nearer to the Italian bee. At the meeting of bee-keepers at Vienna in 1853 I observed in the apiary of Herr Freudenthaler several hives in which a great number of the bees were marked with a yellow ring on the abdomen, as is the case with Italian bastards. This difference in colour is especially apparent in the drones. Whilst these are quite black in some stocks, in others they appear with bright rings on the abdomen, and so like Italian drones that they are scarcely distinguishable from them in a superficial examination. This may also explain why the impregnation of an Italian queen by a native drone produces such various effects. Sometimes the degeneration is soon observable, whilst in other cases queens thus impregnated produce such beautiful offspring that one is scarcely able to distinguish them from true Italians. Bees of lighter colour seem also nearer the Italians in this respect that they appear more good-tempered and diligent, whilst the darker ones seem more ill-natured and more disposed to sting.

"If many stocks with their offspring are more inclined to swarm whilst others are richer in honey, so that some bee-keepers even distinguish between swarming and honey-gathering bees, this is a habit which has become second nature, caused by the customary mode of keeping and the pasturage of the district. For example: What a difference in this respect one may perceive to exist between the bees of the Lüneburg heath and those of this country. There even second swarms and parent hives still in the same year make preparations for swarming again; whilst here a young queen of the current year will not lay drone-eggs even under the most favourable circumstances both of weather and pasture. Removing an old queen and substituting a young one of the current year is here an infallible mode of keeping the strongest stock from swarming, and preventing

drone-breeding; whilst the same means if adopted in Hanover would certainly be of no avail.

"With regard to size, I have never been able to perceive a constant difference either between the Italian and native bees or amongst the latter. One may easily delude oneself in this respect, and deem essential what is but casual. As with the same kind of bee, and even in the same hive large and small queens are hatched in consequence either of more plentiful or more sparing food, of a larger or a smaller cell, so may also whole generations of workers hatch either larger or smaller from the cell, according as the brood-combs are new or old, or food plentiful or scanty; and if wild bees are said to have been found smaller than others, this may be explained by the greater age of their combs.

"If the difference in colour, which cannot be denied, be ascribed by many to the influence of climate, this opinion is evidently a mistaken one. The Italian bee, which has been termed only a climatic variety, occurs as is known but in a small district, and both it and the black bee have been kept up in Italy from remote antiquity. The foreboding that this species would soon degenerate in Germany into the common black kind has not been realised. In ten years—that is, since its introduction, it has not degenerated with me. The difference in colour is, therefore, a characteristic peculiarity of the species, and no casualty produced by climatic influence.—DZIERZON, *Carlsmarkt, July 28th, 1862.*"

HONEY AND WAX AT THE INTERNATIONAL EXHIBITION.

"WELL, what of it? Who would care to waste their attention upon those common matters when so many other more important objects are there to claim attention?" I grant all that, yet there is much of less importance to demand attention also; for, when the manifold productions exhibited in the composition of which honey and wax form a great part are considered, and when the by-no-means-slight search has been made in order to discover the numerous specimens which are sent from all parts of the world, one is prone to set down honey and wax as of much more importance than a mere casual observer might choose to give them credit for. But be this as it may, the Jurors of the English class IX. do not appear to have regarded the apiarians and their products as of the least consequence whatever—in fact, they have passed them over entirely, unless, peradventure, the successful gainers of those medals and mentions are blushing to find themselves famous, and are keeping them out of our sight. It is possible, and, as public opinion goes, advisable; but the foreign exhibitors show no such squeamishness. There are the medals and mentions sure enough, showered upon them in heaps, and with an indiscrimination perfectly ludicrous. If I were to offer the majority of those products which are dubbed with honours to our London dealers, they would curtly inform me that "such stuff would not suit their customers," and not condescend even to bow me out of their shops. Knowing this, how is it that Mr. Woodbury's large and beautiful super of Ligurian honeycomb, "first of the throng and foremost of the whole," on Messrs. Neighbours' stand is passed over? The same remark may apply to his bar-and-frame hives; in fact, all the English bee-hives, both of high and low degree, are well worthy to be honourably compared with any of their foreign competitors, yet there is a complicated affair, by no means fit to be placed in our front ranks, which has been given a medal in the Zollverein court. What is fair for one ought to be fair for another. There are English hives exhibited, to which, up to the present time, equals are not to be found, and it is quite annoying to find the British bee-keepers and their inventions thus scurvily passed over.

Let every possible pot of honey succumb to the ivory knob on the tip of my cedar pencil, and let every cake of wax, and every bee-hive, subserve to what scrutiny and justice I can give them, in order to set ourselves right amongst ourselves in this matter, and with the crinolines also. Effectually to do this, as regards the latter, one must glide—do not lift a foot from off the floor, or you come to grief, and fiery darts to a certainty. A quantum of resistance to the circumferences I find not to be disapproved of, but no stampede. I wore a thinnish easy pair of boots (I speak advisedly) during my apiarian search, and in order to escape stamping on the ladies' dresses, I soon "slithered" holes completely through the soles, the mere object of which is nothing to a rip of a skirt.

Well, as regards the catalogue and how to find out what one

wants through its agency, only those who have been making a similar scrutiny can form the least idea. According to its index I will take the nations as they come.

ENGLAND.—Class IX.—My case, No. 2112, and all that is in it, is situated almost at the extreme end of the eastern annex, near the bricks; and in Ormson's conservatory close by are Messrs. Boothman's, Pettit, Munn's, &c., bee-hives, amongst the stones. On the right and left of Mr. Ormson's conservatory, just inside the western half of the eastern annex, are Mr. Marriott's and Messrs. Neighbours' stands, both of whom exhibit hive-bees at work, with a variety of their own, and other hives and bee-implements well worth inspection. The best of the English hives exhibited have been so long and are so recently familiar to the pages of this Journal, that it would be mere repetition to recount them. Mr. Marriott's bees are working in a glass hive carefully covered over, and labelled, "Do not touch on any account." So, according to the spirit of a label I saw on a Swiss stand, I kept my "hands off."

The Ligurian bees exhibited by Messrs. Neighbour in a uni-comb-hive are very fine. They are the first of the sort I have seen, and I was rather disappointed in their colour. I expected to find them more sparkling, but they are really a beautiful sight. They had sealed over a good portion of one side of their combs, and were busily working the last time I saw them—the third week in August at half-past six. I happened to observe the queen and pointed her out to some other persons, and soon collected sufficient people to fill the steps and the rostrum. Of course, a lecture on bees naturally followed, but it was near closing time, and a piteous look from the policeman inclined me to intimate that I was not the proprietor of the stand, which at once broke up the audience. It proves hard work for the policemen in the Exhibition, and it is cruel to keep them on duty one minute longer than is absolutely necessary. Allow me here to express my thanks to them for their uniform civility and attention to my numerous wants and inquiries.

COLONIAL POSSESSIONS.—*Australia, South.*—There is part of a cake of tolerably good yellow beeswax exhibited, which gains an "honourable mention."

Nova Scotia.—Two parallelogram deal-box supers of honeycomb measuring about 1 foot 3 inches by 9 inches, from "Down Cape," very good, and a cake of wax turned out from a jelly shape. There is nothing new under the sun: I was nursing the idea that my specimens of wax would be the only ones formed by those culinary aids, and here comes one to match from the farther part of the earth.

Ceylon.—Honey is specified in the catalogue. I could find none; but I believe a number of things were lost in this court. There is an ordinary specimen of white wax, and some vegetable wax partaking much in appearance of stale preserved vegetables. There is also a bottle of cocoa-nut honey or sugar, having a combined flavour of very bitter honey and coarse brown sugar. It is like very brown liquid honey, with one-fourth sediment like whity-brown congealed honey.

Bahamas.—The Local Commissioners exhibit honey in large glass bottles, and a quantity of cakes of a peculiar brown-coloured wax. The honey is good and ought to have met with its reward. This is a very interesting court.—UPWARDS AND ONWARDS.

(To be continued.)

OUR LETTER BOX.

SPANISH AND BRAHMA POOTRA HENS LAYING (*S. T. V.*).—Neither of these varieties are such good layers as the Hamburgs, but they lay larger eggs; We should think they ought to lay a hundred eggs in the year if they are well fed and have a good run. This is perhaps more than the highest bred Dorkings will lay, but Hamburgs will almost double that number. In a general way we have found the Spanish hens good layers, and endure confinement better than any other kind. Brahma Pootras are less patient in that respect, and their laying qualities are more enhanced by a good run than often feeding. With plenty of scope to ramble about in, they will assuredly lay the number of eggs you speak of.

HENS BREATHING NOISILY (*S.*).—Give each of them a tablespoonful of castor oil, less hard corn, no rice, and more boiled potatoes. It may be that they are too fat, and if so omit the hard corn altogether for a week or two, and mix a little barley meal with the potatoes.

DISEASE IN LINNETS AND GOLDFINCHES (*Q. T. L.*).—Your birds are most likely suffering from obstruction of the oil gland. If you had pressed out the matter, and anointed the inflamed gland with a little butter, it would have helped the sufferer. The bath is very useful in keeping the birds in health.—B. P. B.

TURTLE DOVES.—*Fantail Doves* are evidently the Collared Turtles (*Columba risoria*); the white ones are a variety of the same species. They might be matched in London without much difficulty. I know of no mark to distinguish the sex; but the cock may be known by his coo and gestures.—B. P. BRENT.

he knew that it was impossible for judges going round to detect fraud in the articles exhibited. This and other societies of the same kind were entirely in the hands of the contributors as to whether they honestly brought forward their articles. Indeed such Societies must depend on the honour of their members. The beans were exhibited by Mr. Dickson in a sort of sheaf, for the purpose of exposing them the better; and in this way the pods appeared very numerous, upon which the awarding of the prizes depended. The Judges went round, never suspecting that the pods upon which they looked had been put on by the competitor's own hands. There were a good deal of articles exhibited by this Mr. Dickson, and by the way in which they were put up depended the prizes. In the course of the day an objection was put forward which called the attention of the Judges to the beans. Upon examining them, they found one of the most ingenious devices that could be contrived for the purpose of showing more pods on the stalk than really belonged to it. The pods, as his Worship could see, could not drop off when the stalk was green. Holes had been cut in the stalk, and beans which had never grown upon it were fixed in; and the Judges found this so fraudulently and so disgracefully made up that they said, "We withdraw this prize," and reported it to the Committee. They were very indignant. That fraud disentitled him to a place in the Downpatrick or any other Society. The Committee met, and said, very properly, "We shall not give the prize to this Mr. Dickson. He is guilty of a gross fraud; and, having been detected, we shall give him no prize." In the vetches there was also a kind of fraud perpetrated. The whole stalk should have been shown; but the bare parts had been cut off. Now, it had been called a disreputable Society for not giving Mr. Dickson all the prizes. If the plaintiff himself did not fix the pods on the stalks, he was liable for the fraud. The Judges at once told the Committee that he was not entitled to any prizes. Mr. Murland read a portion of the Society's rules as to all disputes being referred to the Committee, and concluded—Mr. Dickson, as a member of this Society, is bound by, and a party to, the making of these rules. Now I would say that there was a dispute in this instance whether the cup should be awarded to a member of the Society or not; and it was the unanimous opinion of the Judges and Committee—a very large one—that the cup should not be awarded to him. No punishment that the Society could inflict upon this man would be sufficient for the offence, because it strikes at the root of all honesty. If this be allowed to go unpunished, a man can take his beans in this way and endeavour by means of fraud to make his farm produce far better than his neighbours'. Nobody can tell whether the good produce has got the prize or not. If ever there was a case in which there was a breach of good faith, this is one of them.

His Worship—Do the Judges concur in the views of the Committee?

Mr. Murland—Perfectly. Mr. Murland also read extracts from "Addison's Law of Contracts."

His Worship thought the Committee had a perfect right to investigate the matter, as, by their rules, all disputes were to be referred to them. That was his view of the case, and, if he were correct, it would put Mr. Dinnen out of court.

Mr. Dinnen—If the Judges have rescinded all the awards they have made, then, your Worship, you would be right; but they have not done so.

His Worship considered that the Judges were subject to the Committee; and he did not think it necessary to go into what the Judges had done.

Thomas Taylor examined by Mr. Murland—I was one of the Judges at the late Show in Downpatrick, and my attention was drawn to the beans on the day of the Show. Under the place where the pods grew from the stalk a hole had been put in, and pods were attached with wire where pods never grew. It was a complete fraud. When inspecting, we first look at the stalk generally. They were very artistically put up. I told the Judges the beans were fraudulently made up. Mr. Dickson came up and told us to examine the stalk, and said there was not a solitary pod on it which had not grown on it. He persisted so strongly that I was about to give him into custody. We also examined the vetches, and found that they, too, were fraudulently put up. I directed the Secretary to withhold the cup till such time as the case would be inquired into.

Cross-examined by Mr. Dinnen—Are you not ashamed of yourself now?—No. Are you not ashamed of passing over these, and giving them the prize?—I am not, they were so artistically

put up. I will swear that the pods could not have belonged to the stalk—there were more pods than belonged to the stalk.

His Worship—Were there any places which might have had pods, and had been broken off? Witness—No, I believe not.

Mr. Dinnen—Do you happen to know that the wires would present the beans to the Judges in a better position? Witness—I don't know. We don't grow beans here with wires in them.

Mr. Dinnen—Were you at Newtownards Agricultural Show? Witness—I was not.

Mr. Dinnen—Well, you should have gone to it, for it was a better Show than at Downpatrick. Would you be surprised if the same vetches got the prize at Newtownards? Witness—I would not. I don't know if the plaintiff had the majority of prizes. He had a great many. This card [a prize card produced] was put on some of the articles.

His Worship said—I am still of opinion that we have no right to go into the grounds of the Judges' decision. If they say to the Committee, "Withhold the prize from this man" we cannot go beyond it. In deciding in this way, I could, of course, go on and fortify my decision, because there would be another point—if this is not a case of contract—and we do not want to go into that. The whole matter is an entire contract, and one party coming into this court in this way to sue another would need to do so with clean hands.

Mr. Dinnen—Well, sir, I do not wish to press this case further; but, when the Judges do not withdraw the other prizes, I think they have no control over this challenge cup.

His Worship—I believe, if the Judges think it right to withhold the cup, we have nothing more to do with them.

The case was dismissed.—(*Northern Whig*.)

DO BEES VARY?

THE insertion of Mr. Darwin's inquiry in the German *Bee Journal* has elicited the following reply from Herr Kleine, pastor of Lüethorst, in Hanover, and one of the ablest apiarians in Germany.—A DEVONSHIRE BEE-KEEPER.

"DO BEES VARY IN THE DIFFERENT PARTS OF GERMANY?"

"As Mr. Charles Darwin desires the apiarian experiences of German bee-keepers on deviations of bees amongst each other, this must induce them not to withhold their observations on this point. I fear, however, that these will not give any particular aid to his known theory. For although we possess in the one species, *Apis mellifica*, two different races* the distinctions of which have proved constant from antiquity, yet amongst these no essential deviations have appeared.

"No animal has drawn the undivided and continual attention of mankind to itself in the same degree as the bee; on no animal have observations been preserved to us from such antiquity, long before our era, more carefully and extensively than on her; but yet we find no change in her. We find that in every climate and under all circumstances she has always remained the same; has kept shape, character, manners, and customs unaltered; so that it is, therefore, impossible for us to be able even to follow the traces of her extension by degrees over the old world; and although man has brought bees into his own neighbourhood from time out of mind, yet has domestication had no influence on their way of life. In the wild as well as in the so-called tame state, in the garden, forest, and wander-bee-keeping have they remained faithful to their original manners and customs, and departed not one tittle from the way pointed to them by instinct.

"And so it is also with their inner and outer shape. We find them at present exactly the same as Aristotle, Pliny, and Virgil, Reaumur and Swammerdam, have described them to us. I know the bees not only of almost all the provinces of Hanover, but also those of the different countries of Germany, in the east and in the west, in the south and in the north. From my own observation, however, I have not been able to perceive a specific difference in size anywhere. The inexperienced indeed are easily deluded; an empty or a full stomach, more or less hair, makes one bee appear larger or smaller than another without her really deviating in the least from her normal size.

* By this are meant *Apis mellifica* and *Apis Ligustica*, which are considered in Germany to be mere varieties of the same species.—A DEVONSHIRE BEE-KEEPER.

“Deviations in size happen occasionally, but (which is the main thing), they are not specific—not constant. The reasons thereof may be of different kinds. Sometimes old combs with cells narrowed from the remaining cocoons may prevent the full evolution of the size of the body, so that a stock may contain a whole population of smaller bees than other stocks standing near it.

“But if a swarm issues from such a stock, or if a driven swarm is made from it, the young bees reared in the new combs return beyond doubt to their normal size, although they descend from the same mother as the former generations. Then, also, it may happen that all the brood even in the new combs hatch miniature bees. I have had them of the smallness of large ants—real lilliputians. Their appearance, however, is very easily explained. It only happens in heavy stocks in which the bees were not able sufficiently to surround an inserted brood-comb with eggs and young maggots, and to feed the latter sufficiently. As the workers increase it certainly ceases; the brood hatched afterwards return to the normal size—proof enough that the remarkable deviation is caused only by accident. It is impossible to preserve and increase such a small kind of bees. The size of the mother has not the least influence upon the size of her offspring. The most decidedly dwarfed queens produce a full-sized offspring. The bees of the south of France I know as little as the so-called small Dutch one. However, I am convinced that the one as well as the other has not any difference in specific size from our common bees, that the variation in size depends only on the illusion of superficial observation. I do not doubt that those bees would accept the combs of our bees as willingly, and continue in the same size as the Ligurians have done, which one would think sometimes larger, sometimes smaller than the German bee, although there has not proved any difference whatever in size. It is quite inadmissible to make a difference between so-called domesticated and wild bees. Both are of the same kind, they do not deviate in anything from one another. If a so-called wild people is brought to its stand, every specific difference disappears even to the most careful observer. A colony living in an oak in a forest was once pointed out to me by an old bee-keeper as such a one, the bees of which would verify themselves as belonging to quite another species by their being covered with more hair. A closer examination, however, proved that they certainly had not any more hair, nor any longer than the bees in my apiary.

“In the colour of the hair also there does not exist any difference, only that of young bees is coloured differently from that of old ones. That of the young ones has for some time a light tinge of grey, which afterwards changes into brown. The inexperienced observer may easily be deceived by this, when he has seen, perhaps, the young bees playing before a hive and compared these with old bees of another stock. A difference in the colour of the abdomen may also occasionally be seen in German bees; but it is not specific nor constant, it depends only on a freak of nature, and maintains itself here as little as with the so-called bastards originated from mingling the German and Italian races.

“Differences in the temper of German bees happen at all events, but they are also only individual differences, often only temporary—at all events anything but constant.

“According to my observations, I, therefore, think myself entitled to pronounce, that amongst the common bees which are kept in different parts of Germany a perceptible and constant difference does not exist.—KLEINE, *Lüethorst*.”

HONEY HARVEST ON THE DURHAM MOORS —LONGEVITY OF WORKING BEES.

I CAN confirm the “DEVONSHIRE BEE-KEEPER’S” account of the miserable state of hives this autumn. I had fourteen hives at the moors and the heaviest (which by-the-by was a Ligurian that swarmed four times last May), was 34 lbs., but some were only 10 lbs. and 12 lbs., and very few bees left in them. I, therefore, joined by fumigation five hives of these to the Ligurians; and it would appear that not one of the fourteen, with the exception of the Ligurian named, have bred since last June and July, and a person that took one of his did not find any bee-bread in it: consequently if bees only live six months, I fancy all the bees in this district will have died out by next year. I also find on examination that none of the swarms have been able to fill their hives with comb. Would you, therefore, be so

good as to say how you would recommend me doing with two Ligurian swarms? One washed into one of Taylor’s dividing bar-and-frame hives, and the other into a straw skep, and neither has more than half filled their hives with comb, although one swarmed May 27th, and the other June 2nd. The straw one I have superposed and must let it take its chance, but the dividing-hive I do not mind if they will be able to exist the winter; and, therefore, shall be glad of your opinion what is best to do. I have fed it well with honey, and they have the combs filled, and I am going to put felt round the hive to keep the frost and cold out, but I am afraid they will all be dead by the spring.—A. W.

[With regard to the longevity of bees, Dzierzon says:—“Of bees bred in May or June few live longer than two months if the weather be favourable, so that they can be constantly at work;” but “bees bred in September look just as juvenile in February and March as if they had left their cells only a few days ago. If they pass their time in summer in a similar state of rest, as is the case in stocks without a queen or otherwise inactive, they may, perhaps, survive a year, or even more.” We can fully indorse the statement that the life of the worker bee is prolonged by idleness; and we do not, therefore, imagine that the stocks you refer to run any risk of extinction from the death by old age of all their inhabitants, but we very much doubt if any worker bee ever attained, much less exceeded, the age of twelve months.

As you state that the superposed stock must “take its chance,” we can offer you no counsel regarding it; and with regard to the dividing-hive, if you have fed it up to a sufficient weight, and are careful to give it efficient protection, we can see no reason why it should not survive the winter, as we have known many to do which were apparently in a far worse condition.]

CROSS STICKS IN HIVES.

IF I had rushed into bee-print seven years before I did, I should certainly have put my foot down upon a person who recommended cross sticks in a hive. Previous to that time, I had used common-sized, and Payne’s straw hives only, which ought never to have crossed support-sticks under proper management, but, for my large-sized hives, I was compelled to adopt them, not from the melting or dislodgement of the combs, for, I never had a misfortune of that sort, but through the cautious instinct of the little workers, which would know better than I what was proper for large domiciles; so they worked their combs quite down to the floor-board, and fastened them there, thus creating a sad difficulty for me when spring-feeding, and again for themselves; for when I moved the hive from off the board, then smash would go the combs more or less—a sad case in the spring, or any other time of year, costing both time and store to repair them. I have never found this to happen since my introduction of the sticks, and it really shows a power almost akin to reasoning on the part of the cunning little fellows, by their thus at once accommodating themselves to my assistance. I seldom “take” a hive until it is four years old, and then the combs are become old and tough, and through the agency of an inch protrusion of each stick laying out from the hive, as your correspondent “G. C., *Gloucester*,” mentioned last week, a twist and a pull with a pair of pincers relieves them. I do not find that the sticks incommode the bees materially in large hives, and at least, of two evils, they are quite a counterbalance of the fastening of the combs on the board. Two bars and frames would obviate both; but I write for the million.—UPWARDS AND ONWARDS.

FERTILE WORKERS.

IN compliance with Mr. Lowe’s request, in page 604, I have much pleasure in relating all I was able to ascertain with regard to the occurrence of fertile workers in the only instance which has come under my observation.

The phenomenon occurred at the commencement of July, in the inclement summer of 1860, and was described by me in THE COTTAGE GARDENER of the 10th of that month as follows:—“The queen-cells in one of my small artificial swarms having turned out abortive, owing to the inclemency of the weather, some among the working bees have taken the opportunity of usurping the functions of royalty, by depositing eggs in the