DEAR BEEKEEPING FRIENDS,

The Fall Meeting of the Missouri State Beekeepers will be held on Saturday, October 19, at the United Church of Christ, 118 W. Ashley, Jefferson City. (See the map on page 16 for directions.)

Dr. Flernoy Jones, our Program chairman, has put together a very fine program. The featured speaker will be Dr. Richard Taylor—the author of The Joys of Beekeeping, The How-To-Do-It Book of Beekeeping, and How To Raise Beautiful Comb Honey; the monthly "Bee Talk" columnist in Gleanings in Bee Culture; and for the past 18 months the answer man in the "Question and Answer" section of Gleanings. Dr. Taylor lives in upstate New York and has written many books and articles in metaphysics and ethics. He is a graduate of the University of Illinois and a postgraduate of Oberlin College and Brown University. He has taught at Swarthmore, Columbia University and the University of Rochester. Since the late 1930s Dr. Taylor has been an apianist. For him the craft or art of Beekeeping has stimulated "more profound woolgathering and concocting of schemes than any other pursuit".

During the morning session, our Missouri State Apiarist, Joe Francka, will bring us up to date on the killer bees, mites and other problems. Also scheduled are reports on the State Fair and our Liaison Jay Tohtz.

ATTENTION: CRAFTERS AND BEE SUPPLY DEALERS

There is still area available for the set up of displays and sales. The cost will be $10 for a cafeteria-size table. Contact Mr. John Walther, 1922 North Circle, Jefferson City, Mo. 65101.

The Fall Meeting agenda and complete information on the suggested motel, The Rodeway Inn, are found on page 15 of this newsletter. Also remember that all are invited to attend the Executive Board meeting at 7:30 pm on Friday, October 18 at the United Church of Christ. ACCORDING TO THE BY-LAWS EACH LOCAL ASSOCIATION IS SUPPOSED TO HAVE AT LEAST ONE REPRESENTATIVE AT THIS EXECUTIVE BOARD MEETING!!!
ATTENTION: LOCAL ASSOCIATIONS!!!

The State Association has purchased the following ½" VHS video tape and the 8 sets of slides with tape or script for use by the local associations free. These are in addition to the 3 films and 5 sets of slides listed in the June 1984 newsletter.

Send all requests and returns to Mr. Truman Hardin, 1829 W. Washita, Springfield, Mo. 65807.

Reservations are made on a first-come basis. The local association must request the slide set, film, or tape by title and give a first, second, and third choice date for showing. The local will be notified immediately of the date that will fit into the calendar of schedules.

The State pays the outgoing UPS charges and the local will pay the return charge. Insure each slide set for $40 and films for $250.

QUEEN REARING VIDEO TAPE with Dr. James E. Tew (75 mins. ½" VHS)

This tape carefully shows all the details of rearing queens. Subjects demonstrated include: queen behavior and biology - beginning a started colony - establishing a cell building colony - properly using a finishing colony and mating nucs - grafting - clipping, marking and caging - preparing all necessary equipment for small scale and commercial queen rearing - sequence and timing of queen rearing techniques - proper use of the many tools related to successful rearing.

LIFE HISTORY AND ACTIVITIES OF THE HONEY BEE (42 slides and notes)

A superior set of close-up photographs of key colony developmental functions by Williamson.

THE AMAZING WORLD OF THE HONEY BEE (46 slides and notes)

A continuation of the above set, with honey and pollen gathering, processing and much more by Williamson.

THE BEE TREE: NATURAL HOME OF THE HONEY BEE (20 slides and notes)

A review of the bees' home, with nest site data and bait hive information by Seeley.
THE LAST APPLE?  BEEKEEPING IN THE 1980's (60 slides, script and tape)
A comprehensive view of industry problems and threats, with "underpollination as the central issue" by Connor.

THE HONEYBEE AND POLLINATION (81 slides, script and tape)
The ideal program for classroom and general public use, reviewing key aspects of beekeeping and bee activities by Divelbiss.

HONEYBEE DISEASES AND PESTS (60 slides, notes and cassette tape)
Shows all major adult and larval hive pests, including Acarapis woodi and Varroa by Connor.

HONEY BEES AND PESTICIDES (80 slides and notes)
A complete summary by Johansen of how bees are affected by insecticides and what to do about it.

THE AFRICAN BEE SITUATION IN THE AMERICAS (29 slides and notes)
Covers introduction, spread and threat of African race bees in South and Central America by Caron.

* * * * * * * * * * *

SOMETHING NEW -- MISSOURI FARM MAGAZINE
"Total Concept Small Farming, Gardening & Rural Living"
"The Speciality Crop Magazine"

Positive, informative — for small farmers. We promote direct marketing of alternative crops because it puts more net dollars in farmers' pockets. We're different because small farmers have different wants and needs. Diversified agriculture provides a more stable rural community with improved quality of life.

$5 off regular rate — only $10 for six big issues per year
Missouri Farm, Dept. RM; c/o Ridge Top Ranch; Rt. 1, Clark, Mo. 65243
### 1985 Missouri State Fair HONEY BOOTH REPORT

**EXPENSES**

**Beginning inventory**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price (Each)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 - Kelley - HOW TO</td>
<td>1</td>
<td>$1.47</td>
<td>$81.95</td>
</tr>
<tr>
<td>14 - Root - STARTING RIGHT</td>
<td>1</td>
<td>$1.27</td>
<td>$17.78</td>
</tr>
<tr>
<td>5 - Dadant - FIRST LESSONS</td>
<td>1</td>
<td>$1.32</td>
<td>$6.60</td>
</tr>
<tr>
<td>54 - Cojmeric - HONEY</td>
<td>1</td>
<td>$3.00</td>
<td>$16.80</td>
</tr>
<tr>
<td>23 - Jarvis - FOLK MEDICINE</td>
<td>1</td>
<td>$1.84</td>
<td>$42.32</td>
</tr>
<tr>
<td>210 - Kelley - Honey Recipes</td>
<td>1</td>
<td>$0.17</td>
<td>$35.70</td>
</tr>
<tr>
<td>10 - Gold honey servers</td>
<td>1</td>
<td>$0.25</td>
<td>$2.50</td>
</tr>
<tr>
<td>13 - Mini honey servers</td>
<td>1</td>
<td>$0.21</td>
<td>$2.73</td>
</tr>
<tr>
<td>12 - Wood honey servers</td>
<td>1</td>
<td>$0.48</td>
<td>$5.76</td>
</tr>
<tr>
<td>18 - Bee Coloring Books</td>
<td>1</td>
<td>$0.27</td>
<td>$4.86</td>
</tr>
</tbody>
</table>

**Purchases - 1985 stock**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price (Each)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 - Kelley - Honey Recipes</td>
<td>1</td>
<td>$0.17</td>
<td>$85.00</td>
</tr>
<tr>
<td>100 - Calif. - Honey Naturally</td>
<td>1</td>
<td>$0.75</td>
<td>$75.00</td>
</tr>
<tr>
<td>240 - Gold honey servers</td>
<td>1</td>
<td>$0.25</td>
<td>$60.00</td>
</tr>
<tr>
<td>150 - Mini Honey servers</td>
<td>1</td>
<td>$0.17</td>
<td>$15.00</td>
</tr>
<tr>
<td>2736 - Honey Ice Cream, 8 oz.</td>
<td>1</td>
<td>$0.50</td>
<td>$1368.00</td>
</tr>
<tr>
<td>(Odessa Ice Cream Co.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osage Honey Farm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>324 - Bears, 12 oz.</td>
<td>1</td>
<td>$0.702</td>
<td>$227.61</td>
</tr>
<tr>
<td>360 - 1 lb. Extracted</td>
<td>1</td>
<td>$0.595</td>
<td>$322.20</td>
</tr>
<tr>
<td>180 - 2 lb.</td>
<td>1</td>
<td>$1.665</td>
<td>$299.70</td>
</tr>
<tr>
<td>60 - 4 lb.</td>
<td>1</td>
<td>$3.183</td>
<td>$190.98</td>
</tr>
<tr>
<td>10 - gals.</td>
<td>1</td>
<td>$9.29</td>
<td>$82.90</td>
</tr>
<tr>
<td>208 - Cut comb trays</td>
<td>1</td>
<td>$1.28</td>
<td>$266.25</td>
</tr>
<tr>
<td>120 - 1 Chunk</td>
<td>1</td>
<td>$1.56</td>
<td>$187.20</td>
</tr>
<tr>
<td>48 - 2</td>
<td>1</td>
<td>$3.13</td>
<td>$150.00</td>
</tr>
<tr>
<td>250 - Empty bears</td>
<td>1</td>
<td>$0.20</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

**LESS returns - 426.30**

**Misc. Expenses**

- Booth contract                      $350.00
- Sedalia Fruit Co-spoons, bags, stirrers $22.05
- Sedalia Gold Storage - Ice cream      $20.00
- Styro Foam - freezer                  $3.99
- Sign - 4 x 8 - Holy Cow IceCream      $135.07
- Odessa Ice Cream Co - spoons, napkins $22.47
- Honey for sampling                    $3.29
- Booth coffee, cups, rolls (cash)      $10.65
- Trailer parking and season pass       $70.00
- Honey Promotion - Demonstration       $188.57
- Sales Tax-$130.55 & 126.24 (cash)     $256.79
- Bank money order                      $5.00
- Phone calls - ordering stock          $25.22

**Total Purchases - $2900.16**
Misc. Expenses continued

Groceries - breakfast in camper (26) $39.58
Jim Thaxter
Parking, tickets, and meals-5 days 60.00
T.C. Hardin
Meals - 11 days 43.00
Craig Oliver
Parking, tickets, and meals-7 days 70.00
Chas. Wills
Mileage - stock and camper from Spfd and return - 243 @ 20c 48.60
Parking, tickets and meals- 5 days 45.10

Ending inventory
12 - Kelley - HOW TO @ $1.47 $17.64
6 - Root - STARTING RIGHT 1.27 7.62
1 - Dadant - FIRST LESSONS 1.32 1.32
31 - Gojmeric - HONEY 3.00 93.00
13 - Jarvis - FOLK MEDICINE 1.84 23.92
48 - Kelley - HONEY RECIPES 0.17 71.06
189 - Gold Honey servers .25 47.25
44 - Mini Honey servers .21 9.24
1 - Bee Coloring book .27 .27
2 - Japanese Honey pots 3.00 6.00
1/2 - case plastic spoons 3.60

Total misc. expense $1424.38

SUMMARY
Beginning inventory $362.20
Purchases 2997.16
Misc. Expenses 1424.38
Less ending inventory $4776.74
- 341.16
Total expenditure $4435.58

Income or sales
Booth sales (deposited) $4384.19
Sales to members at cost 248.14

LESS STARTING CASH $5232.32
- 110.00 $5122.32
LESS EXPENSES 4435.58
PROFIT $686.74
VOLUNTEER HELP AT STATE FAIR

August 14th - Wednesday: Booth setup and arrangement.
    Jim Thaxter, T.C. Hardin, Chas. Wills, Mike Bean,
    and Clayton and Lenise Johnson

15th - Thursday
    Same as above

16th - Friday
    Jim Thaxter, T.C. Hardin and Chas. Wills

17th - Saturday
    Jim Thaxter, T.C. Hardin, Chas. Wills, Ralph and
    Vaughn Hanline

18th - Sunday
    Same as Saturday

19th - Monday
    Jim Thaxter, T.C. Hardin, Glen Davis and Craig Oliver

20th - Tuesday
    Craig Oliver, T.C. Hardin, Walter Bigelow, Lee Sherrod
    and Chas. Peasoni

21st - Wednesday
    Craig Oliver, T.C. Hardin, Clarence Vogeler, Oscar Bubash &
    Jim Hausam

22nd - Thursday
    Craig Oliver, Jan Boss, Al Schoendamms, Vernon Reynolds,
    Goldie Reynolds and T.C. Hardin

23rd - Friday
    Craig Oliver, Jim Hausam, W.L. Thomas, John B. Walters and
    T.C. Hardin

24th - Craig Oliver, Chas. Pateyson, Jim Hausam, Chas. Wills and
    T.C. Hardin

25th - Sunday - take down the booth; inventory stock and return
    Craig Oliver, Chas. Wills, T.C. Hardin, George Vanarsdall

OBSERVATIONS AND COMMENTS

The State Fair of 1985 is now history. It will be remembered for its rain,
high winds, and extremely deep mud, and the temperature well below normal.

Fair management has indicated a record attendance. However, the traffic
through the air conditioned Agriculture Building seemed less than in years
past, and definitely not in a spending mood. Our honey sales were off about
one-third. If it had not been for the HOLY COW honey ice cream, the booth
would have wound up in the "red".

Noticing the lack of honey sales at the close of the first four days, we
attempted to determine the cause - the weather was blamed; people said they
did not want to carry the heavy jars around; they looked at the prices and
passed on. As a result, we reduced the prices somewhat and sales picked up a bit.

After returning home, I checked two super markets and found the Fair prices
were higher but not too much. With the expenses of the Honey Booth more or
less fixed - shall we reduce the price of honey to meet the average supermarket,
thereby making less profit?

Promotion of honey has been tossed about rather freely. If this is more important than profit, is the Association willing to pick up the "tab" for a selling booth that could be in the "red"?

The above listing of volunteer helpers at the Fair Booth appears to be ample but there are definitely holes and problems concerning the "manning" of the Booth. Jim Thaxter, Craig Oliver and I will bring up the question at the Executive committee meeting on Friday night before the meeting on Saturday, hoping to present a resolution or solution for a vote of the members.

The profit picture was undoubtedly affected by "we will your expenses" that was tossed about too freely. This too, will be brought up on Friday evening.

The HOLY COW honey ice cream was a "smashing" success, having sold over 2500 cups. If the weather had been warmer, we might have sold 3500 to 4000.

A hearty thanks for the members that donated their time and efforts in working the booth.

George Vanarsdall definitely went out of his way to help with the honey and specially the furnishing of a new freezer for the ice cream sales. We cannot thank him enough.

A SPECIAL APPEAL

Having been a member of the Beekeeper Association for a number of years, I seem to realize we are "drifting" with no definite program for promoting honey. This was brought out when attempting to qualify or justify a tax exempt status with the Internal Revenue Service. This status has been accomplished but we need a project or projects involving individual members and the Association as a whole for this promotion of honey use.

This suggestion and appeal came to Light after several conversations at the Fair with food service people. They say they can get all the surplus honey they want but have only a limited number of recipes for utilizing the honey. The preparation of food items for 100, 200, or 500 is quite different from the average family recipes.

Carol - our Newsletter editor - has been quietly mailing out bulk honey recipes to school food services that request it and the American Beekeeping Federation has printed several very delightful recipes for food service people utilizing honey.

Here is my proposal. Each individual member of the Association to approach the Food Service people in their school district, inquiring of their use of surplus honey in preparation of school meals. Would a free publication be useful if an accumulation of recipes could be assembled? Would they be willing to provide and share their favorite recipes for such a publication?
From what I can gather, there is a great need for such information and I know the promotion of honey would be a most valuable asset to the beekeepers of America. Such a publication would be valuable publicity for the Association - both state wide and possibly nationally.

This could be a constructive project for the Association. If the members are willing and will act before our October meeting, I will stupidly volunteer to receive the recipes from the individual members or Food Service people and then hold them for official action of the Association.

T.C. HARDIN
1829 M. Washita
Springfield, MO.
65807

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In early July the following article appeared in many newspapers around the State.

**Ashcroft makes it official: state insect is honeybee**

JEFFERSON CITY, Mo. (AP) — How sweet it was Wednesday for Missouri beekeepers, who saw Gov. John Ashcroft sign into law a 12-year-old proposal to make the honeybee the Missouri state insect.

"Now I have to say this is one honey of a bill," Ashcroft deadpanned to the small crowd gathered in his Capitol office for a bill-signing ceremony. "My staff has been buzzing about this, droning on and on."

The signing also was sweet for Rep. Sam Douit, D-Independence, who sponsored the bill to designate *Apis mellifera* as the official Missouri insect.

The proposal has been around the Missouri Legislature since 1973, but always had been rejected by either the House or the Senate. The Senate in the final week of the 1985 session had rejected the bill, but the chamber later reversed its decision at the urging of Minority Leader Richard Webster, R-Carthage, who handled the bill.

The bee won out over the lady bug, which also has been proposed over the years as the state insect, and the glow worm, which Webster humorously noted he preferred to the bee.

In signing the measure to add the honey bee to other official state symbols such as the bluebird, the hawthorn and mozzarella, Ashcroft noted Missouri ranked ninth nationally in the value of its honey and beeswax production, and the industry generated $5 million annually in the state.

Douit said there were 120,000 bee colonies in the state, and Missouri bees pollinated $6 billion worth of crops in the state each year.

Ashcroft also signed into law a bill by Douit giving the Missouri Department of Agriculture the power to quarantine diseased or infected beehives and take actions to control or eradicate bee pests.
The following article submitted by Francis Scheidegger was published in the St. Louis Post-Dispatch. It was the Clarissa Start Column for Saturday, August 3.

Bees As Gardeners’ Friends

Suffering from arthritis? Try having a bee sting you. While some might consider the cure worse than the disease, there is scientific proof that bee stings cause the body to produce cortisone that reduces the pain of arthritis. The closer the sting is to the joint affected, the more relief. There is a problem, of course, if you happen to be allergic to bee stings. The sting is also fatal to the bee.

This and many other fascinating facets of beekeeping were among the things we learned at the Fenton Garden Club when Mary Reed, Jefferson County beekeeper spoke to us recently.

Unlike those who live in manicured subdivisions and complain that they never see bees or butterflies, we have plenty of both in our area. Mary Reed wanted to stress to us, as gardeners, the importance of the honey bee in our orchards and flower areas.

Farmers find that bees affect the quality as well as the quantity of their produce. One farmer reported that his raspberries yielded four times the amount after Mary Reed put a bee hive on his property. While we consider bees as honey producers, honey is almost a side benefit from bees. Their really big function is pollination.

Beekeeper Reed maintains eight hives, with 50,000-75,000 bees per hive. She urged us never to swat a honey bee by mistake. Just because you do not have a hive on your premises, don’t presume that there are no honey bees around. Bees go as far as two miles away to obtain nectar.

She reviewed some of the facts about bee life that we had heard in the past but partly forgotten. We all know that every hive has a queen bee. The queen is never seen except at swarming time. Bees are likely to swarm far from home. And should you see a swarm, don’t panic. Call a beekeeper who will be happy to come and get the swarm. Mary Reed once took a swarm from the overpass of Highways 21 and 141. More often, swarms are on a tree or house wall.

The hive has, along with the queen, a few drones. The majority in the hive are worker bees who work themselves to death in about six weeks, gathering nectar, depositing it in the cone-like structure they build and fanning it with their wings to evaporate the water. It takes 80,000 trips to produce a pound of honey.

Drones don’t fare much better than the workers. The workers throw them out in the cold to freeze when winter comes.

Gardeners should be aware of the plants that attract bees. Bees are rarely attracted to red flowers, but are sensitive to blue, violet and yellow. Plants they like especially include white clover, impatiens, crown vetch, lyme grass, asters, chicory, globe thistle, the mints, Monarda (or bee balm) and butterfly weed. They won’t visit red clover, honeysuckle, mums or roses.

If you’ve just moved to a country garden, check out the beekeepers around you. They may turn out to be your best friends. And so will their bees.

Any member who sees an article on bees, beekeeping, honey, etc., which may be of interest to others, please submit the article or a xerox copy to your editor!
The following article submitted by Truman Hardin is taken from the April edition of the 1949 Reader's Digest.

THE GOLDEN WONDER OF HONEY
Condensed from Nature Magazine
by
Donald Culross Peattie

Some 15,000 years ago an artist drew on the walls of a cave in Spain a picture of his Stone Age neighbor robbing a bees' nest of its golden store. In the millennia that have since gone by, no one has ever discovered or invented a purer and sweeter food than honey.

Because of its chief ingredient levulose, or "fruit sugar," honey is almost twice as sweet as cane sugar. And what table sugar glows with the sunlight of summers past, contentedly imprisoned there? Or breathes the fragrance of clover, apple, basswood or orange blossom? Table sugar, like salt, has but one taste. Every honey has its own. It would take an epicure's lifetime to discover, sample, and enjoy all the possible vintages that bees distill from the 2000 species of nectar-bearing plants in this country.

The purity and sweetness of honey have entered symbolically into wedding ceremonies from Egyptian times to the present. Drops of honey were placed upon the new-wed Roman couple's threshold— that is why the bride was carried over it. From Hungary to Hindustan, honey—baked in cakes, drunk in wine, used in intimate rite or public act—is part of the marriage sacrament, and the first bliss is called the honeymoon in more tongues than ours.

This ancient and mysterious food is one of the wonders of the world, the product of an intricate relation between bees, the high peak of insect evolution, and flowers, the loveliest part of the green world. Nature has adapted the forms of flowers to entice bees, and the bodies of bees to fit and pollinate the flowers and to use their pollen and nectar. Some 10,000 species of flowers would be extinct but for the bees, and bees could not live without the flowers.

When I go into my garden at the height of a warm, moist day, the flow of nectar at the base of the petals in my orange blossoms is at its maximum. The air is filled with the fragrance but, though I can smell it from only a short distance, it has brought the bees from afar. There is a joyous uproar all over the tree as they embrace the flowers and revel in the sweets. Each has, perhaps, ten times her own weight in nectar to carry back to the hive before darkness. It has been calculated that a pound of honey requires 37,000 bee trips to the flower and back.

The honeybee is the most faithful and provident of the flowers' lovers. A humblebee, a butterfly, a hummingbird flits...
from blossom to blossom, mixing every sort of pollen. Only the honeybee is loyal to one sort of flower at a time - the one with the greatest nectar flow. So she brings to each bloom none but its specific pollen, and she makes but one kind of honey at a time. That is why the beekeeper can sell you pure buckwheat or pure mesquite honey, though he may choose to blend fine flavors. . . . Only certain plants with truly exquisite nectars produce a honey you would want to eat. But many other flowers yield nectar from which are made dark-colored, strong-flavored honeys that bakers and confectioners use in immense quantities; when cooked, such honeys lose their bad flavors without parting with any of their sweetness, food value or power to keep baked goods moist. Tobacco companies buy millions of pounds of low-grade honey a year for preserving, flavoring, moistening and mellowing tobacco. Such honeys also go into hand lotions, cough medicines - and golf balls.

In this country 60 percent of all honey is white clover; but each section produces a honey that holds in its amber the spirit of the place. Did you have a childhood between the Missouri and the Rockies? Then alfalfa honey is the taste to bring it back. More delicate still, and ruby-rare, is the honey from those pine-woods of the Great Lakes states, where red raspberries have taken over the clearings. Down around Uvalde, in Texas, they boast they have the best honey in the world - that's made from cat's-claw and huajillo. Or will you have your honey out of the blossoms of Missouri bluevine, Michigan milkweed, Maine blueberry, or just from the goldenrod of New York State? Some of these may be found on the market, and some are so choice that, to get a taste, you must go where the bees make them.

Here in California it's sage honey I go hunting, that essence of the purple sage, holding the rough sweetness of the West in it, the gold of our sunburnt hills, some tang of the Pacific. In the southern Appalachians not even a sign would tell me where to look for sourwood honey; but any cabin with a row of "bee gums" near it would be my goal. For this ambrosia, gathered by a humming horde from white hells high in the forest, is a collector's item among honeys, and well worth the hour's careful chattering with the shy mountain folk who so rarely sell it.

Perfect as it is as a food, honey is more: a gift from thousands of ardent and dedicated little lives. It is evidence of some marvelous integrity in a world where bee and flower live for such mutual good. It is a slow-formed, perfect drop upon a growing tip of evolution. To take that drop upon the tongue is to partake of a sacrament of nature.

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TO HONEYBEES, A PICTURE IS WORTH A THOUSAND LINE ANGLES

Honeybees are finicky foragers when it comes to searching for nectar — and for good reason. Some flowers provide a heartier meal; others are dangerous when honeybees land on them. How do honeybees distinguish nectar-bearing from non-nectar-bearing flowers and safe from dangerous flowers?

With "photographic images", says biologist James Gould at Princeton (N.J.) University. Gould's experiments, reported in the March 22 SCIENCE, show that honeybees can store flower patterns as low-resolution images, contradicting earlier studies that suggested bees remember only isolated features of flowers, such as prominent line angles or the ratio of edge to area.

"The old idea," Gould says, "is that they remember a checklist of characteristics — much like a description of a murder suspect whose hair and eye color are known, but with no photograph." Gould's data indicated that honeybees can remember how flower parts are arranged in relation to each other, a feat possible only when photographic images, not isolated features, are remembered.

In his experiments, honeybees were given a choice between two similar patterns that differed only in the spatial relationship between their parts. One of the patterns provided a sugar award, the other did not. After being reinforced on the pattern providing the sugar, the bees were offered the same patterns in another trial. This time the patterns' positions were reversed, and neither provided a reward. Yet in most cases bees chose the pattern on which they had been reinforced in the previous trial, suggesting that they had remembered the spatial relationships of the elements in the pattern.

Honeybees' ability to distinguish different flowers and flower parts can help them avoid dangerous situations. For example, alfalfa blossoms' unusual arrangement of petals and stamen can be fatal to honeybees. The pollen-bearing stamen of an alfalfa blossom is covered by a central petal. When an insect lands on the flower, the petal releases the stamen and sweeps pollen upward to facilitate pollination. The mechanism is adaptive for large insects, but honeybees trying to pollinate unopened flowers will be jolted off or trapped inside the central petal. In a separate experiment, Gould showed that honeybees quickly learn to distinguish opened from unopened flowers, "showing that they have good pictorial memory."

The studies show that many scientists' "presumptive vertebrate-invertebrate dichotomy is false," Gould says. But in order to truly bring vertebrate bias down to size, Gould will have to show that honeybees have size constancy — the ability to remember something they first saw close up when they later see it from farther away.

-D.D. Bennett
MISSOURI BEEKEEPING TIME CAPSULE

Yesterday's Words of Wisdom

by

Mike Noling

Category: A groaner

Source: Jeffersonian Republican, 1839

"A Magisterial Pun--at one of the police offices, a few days since, a police constable pronounced a particular neighborhood as swarming with thieves; on which the magistrate remarked, "If so, why don't you hive them?"

Category: Still no fear of an endangered species

Source: Valley Farmer, 1852

"Lazy Honey Bees--The late news from Honolulu states the failure of an attempt to take a swarm of bees from Boston around the Cape to the Sandwich Islands. On entering the tropics the wax melted, and the bees perished. The introduction of honey bees into the Island has long been deemed a matter of importance. In Sydney Smith's sketches of Moral Philosophy, we remember he mentions, on the authority of Dr. Darwin, a curious instance of change of instinct in this little insect, from which it would seem, the Islanders have small cause to regret the failure of the attempt at its naturalization. He says: "The bees carried over to Barbadoes, and the Western Isles ceased to lay up any honey after the first year, as they found it not useful to them. They perceived that the weather was so fine and materials for making honey so plentiful, that they quitted their grave, prudent and mercantile character, became exceedingly profligate and debauched, ate up their capital, resolved to work no more, and amused themselves by flying about sugar-houses and stinging the negroes."

Category: What the hell chap, give it a go!

Source: Valley Farmer, 1861

"American Bee Journal--This is the title of a neatly printed octavo journal of twenty-four pages, that we find upon our table. It is printed by A. M. Spangler & Co., of Philadelphia, Pa. Terms, one dollar per annum.

The first number contains much matter of interest to the beekeeper. We have no doubt that everyone who keeps the honey bee would invest his dollar profitably by subscribing for this journal."
We hear, however, that its publication will not prove profitable. Although the interest it is intended to advance is an important one, yet most of the Agricultural journals have their Apiary Departments, and beekeepers generally will be satisfied with the information they may here obtain. We hope, however, that our contemporary may meet with abundant success, and we advise all beekeepers to send their dollar for the Journal."

Category: I can't believe he said that!
Source: Colman's Rural World, 1865

**BEES ROBBING PASTURE**

"A dairyman once remarked that he did not like the community for dairying on account of the bees which were pastured—the country keeping bees largely. This was a new thought, and opened the eyes of by-standers. But it is true, nevertheless. The saccharine principle is an important element in herbage. The white clover, which is one of the main reliances of the dairyman, is seriously robbed of its treasure by these roving thieves, at the expense of the sweetness of the milk, and the sugar generally necessary to a cow's benefit. It is a small matter and overlooked, but has its force."

Category: There isn't anything new.
Source: Colman's Rural World, 1869

**BEE TRAPS**

"A long-headed Sucker away up North, living near or in the edge of the timber, noticed that a great many runaway swarms came over his place every season, to lodge and make a home in some hollow tree. What could be done to secure these, or at least some of them? He would see! He went to work and sawed off square the tops of some of the oldest and largest trees; upon these stumps he placed box-hives, in which perhaps he placed some good comb and also some honey as a decoy. We did not learn whether the top was cut off below all the branches, but are of the opinion that some limbs were left below where the tree was cut. As a result of this ingenuity, our sucker friend has now nine fine swarms. Of course, nobody can identify any of these runaway swarms, and so he may as well own them as anybody; and that with a good conscience. Who will be the next to try the experiment, and report to the Rural World?"
MISSOURI STATE BEEKEEPERS' FALL MEETING

United Church of Christ  
Saturday, October 19  
118 W. Ashley  
Jefferson City, Mo. 65101

A.M.  
8:30 - 9:00  Registration  
9:00 - 9:05  Meeting called to order by President Walther  
9:05 - 9:10  Invocation  
9:10 - 9:20  Welcome and recognition of officers and local associations  
9:20 - 10:30  HONEY MARKETING - ROADSIDE SELLING by Dr. Richard Taylor  
10:30 - 10:45  Coffee

10:45 - 11:15  LIAISON AND STATE FAIR REPORT

11:15 - 11:45  KILLER BEES, MITES AND OTHER PROBLEMS by Joe Francka

11:45 - 1:30  Lunch

1:30 - 2:30  INTENSIVE BEEKEEPING-KEEPING BEES WITH A MINIMUM OF LABOR - Dr. Richard Taylor

2:30 - 3:00  Special Auction by Dr. Taylor

3:00 - 3:45  Business Meeting with Election of Officers  
3:45 - 4:15  Attendance Prizes

All are invited to attend the Executive Board meeting at 7:30 pm on Friday, October 18, at the United Church of Christ, 118 W. Ashley, Jefferson City. See map on next page for the location and directions.

Beekeepers who wish to stay overnight are encouraged to stay at THE RODEWAY INN, 319 W. Miller, Jefferson City. The rates are $30 for single occupancy, and $4.00 for each additional person in the room up to a total of 4.

For reservations, Missouri residents call 1-800-392-3366; out-of-state residents call 1-800-426-7921. Location and directions are found on the next page.
O - indicates location of United Church of Christ at 118 W. Ashley.

X - indicates location of Rodeway Inn at 319 W. Miller
"It appears that some ingenious person has invented a method of producing bees of almost any desired size. If two cells, each of which contains an embryo bee, are knocked into one, the two bees are consolidated, and the result is a new bee double the usual size. Of course, if this can be done there is practically no limit to the size of possible bees. By knocking four cells into one, a bee four times the usual size can be made, and if an entire hive of embryo bees is subjected to this consolidating process we should have a bee about the size of a turkey—a size hitherto attained only by one species of bee, known as the Presidential bee, an insect inhabiting the bonnets of eminent statesmen and never by any chance producing honey.

Now if the honey bee after being developed into a two or three pound insect is going to imitate the laziness of the bumblebee, what shall we have gained? No one will care to have a score of big, lazy bees dawdling about his premises, upsetting furniture and children by flying against them and tripping people up by concealing themselves in the grass. We shall have to go armed with big clubs to keep off the bees, and though some sport may be obtained by shooting bees on the wing, there could be no sport whatever should the bees undertake to hunt the sportsman with stings capable of penetrating anything less than an inch of chilled steel armor.

Our bees are very well as they are. If a hive is kept on a shelf over the front door and upset on a book agent, the bees will perform as much work as is necessary. To upset a hive of four pound bees, in like manner, would be simply murder and would, in many cases, involve the trouble of a trial and acquittal in a court of law. . . ."

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NOSEMA DISEASE

The disease of adult bees known as nosema is caused by a protozoan—a one-cell organism—Nosema apis. The disease can probably be found in every colony in every location. Bees become infected primarily from the spores in fecal matter that contaminate the combs of colonies. The only sure diagnosis for nosema is a microscopic examination of samples of bees from each colony.

The best method is to treat the colonies with the antibiotic fumagillin, Fumadil-B. The ideal time to feed older established colonies is in fall when the natural level of infection is the lowest. Feed each colony 1 to 2 gallons of medicated heavy syrup after the first of September but before cold weather sets in. (Heavy Syrup means 2 parts sugar to 1 part water.)
MIXING DIRECTIONS:

To make treated syrup, plan how much you need and add the Fumidil-B to the warm water (100 to 120 degrees F) before adding the sugar. For mixing only 1 or 2 gallons, use 1 rounded measuring teaspoon or 1 1/2 level measuring teaspoons of Fumidil-B per gallon of syrup. Fumidil-B is available from any bee supply dealer or company.

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Hope you have collected a large honey crop and that the fall honey flow is bountiful. Maybe the President or Secretary of each local association could send me a bit of information on the quality and quantity of the honey harvest in your area for publication in the December newsletter.

See you at the Fall State Meeting!

Carol Boeckmann
Editor

MISSOURI STATE BEEKEEPERS' ASSN.
619 Mendelssohn Drive
Kirkwood, Missouri 63122

ADDRESS CORRECTION REQUESTED