

Lore

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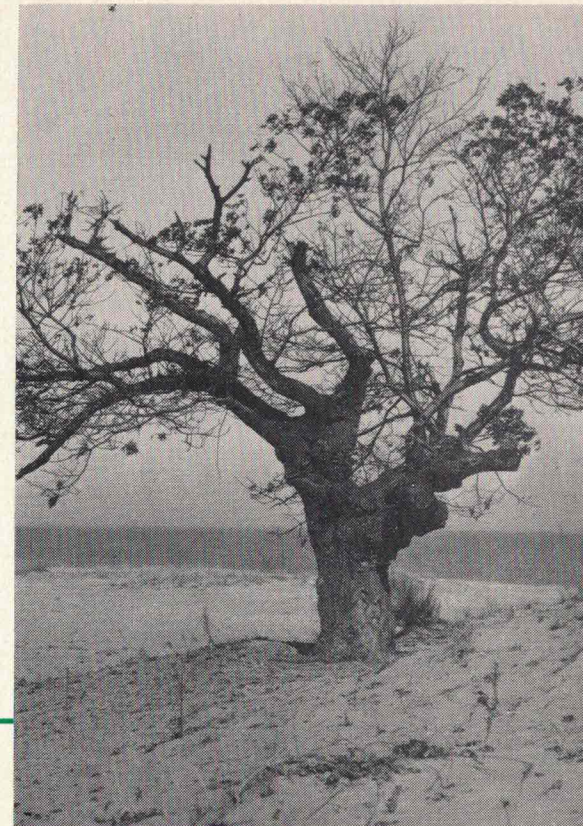
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PATTERN

A sturdy, battered, lonely tree,
Its branches thinly spread,
Delights the eyes of those who see
A pattern there instead.

A filigree not made by man.
A precious thing for those
Who comprehend in nature's plan
A work of art that grows.

—C. K. Gebhardt.

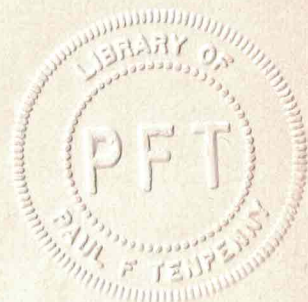




PHOTO BY EDWIN WAY TEALE

IN PROSAIC scientific language, the honeybee is an insect and belongs to the Order Hymenoptera (Hy-men-op'ter-a). Some authorities estimate that there are about 4,500 varieties of bees, if we include all the Apis. Our attention, however, is centered on the common honeybee, *Apis mellifica*, meaning "honey-maker," or *mellifera*, as it is also called, meaning "honey-bringer." It, among all its relationship, has developed the most unusual social structure.

Among the various honeybees, the Italian may be taken as one of the best examples of a social insect. Each normal colony includes one queen, a fertilized female, whose sole function is to carry on the race, namely the laying of eggs. At the height of the season this may mean as high as 2,000, 3,000, or even 4,000 eggs per day.

The drones, or males, present only during the summer months, or mating season, likewise serve but one purpose, the fertilizing of the virgin queen, a duty which perhaps but one drone out of a thousand will ever perform, only to die in the act, its entrails torn asunder. An old tradition well describes the marriage ceremony as one in which the husband becomes a corpse and the bride becomes a widow.

“. . . and the Bees”

by
ARTHUR H. MOECK

It is the workers, or undeveloped females, to whose lot falls all of the real labor of the colony. And it is here, in the well-balanced division of labor, that the uniqueness of the bee's social structure impresses itself upon us. First there are the collectors or foragers. Among these are some who gather pollen, some who carry the nectar, others who seek the propolis, a glue-like substance, and still others who obtain the water. At the entrance to the hive stand the guards, ready to challenge any stranger who dares enter their domain.

Behind this entrance is indeed a "bee-hive" of industry. The queen has her ladies of honor ever about her. The nurses care for the tiny larvae, feeding and cleansing them constantly. An army of architects and masons are ever building new structures, while the wax makers furnish them with building materials. The chemists are there, putting a tiny drop of formic acid into each cell of honey to help preserve the contents, and when all is prepared the sealers cap over the cell for future use.

But health and sanitation are not neglected. The sweepers carry out all refuse, keeping the abode spotlessly clean, with the bearers aiding them when it is necessary to remove any corpses, the bodies of those who have labored until they dropped in their tracks. And all of these might labor under terrific difficulties were it not for the fanners constantly on the job. It is these who, through a constant, rhythmic motion of the wings, furnish the ventilation for the entire structure, carrying on a complete air-conditioning setup as regards fresh air, temperature, and moisture content.

Nor have we here a mere division of labor, with an iron clad impulse of "thou shalt do this and thou that." Wherein lies the miraculous regulation of these various duties, many of them often shifted as demands vary? Maeterlinck speaks at length of the "spirit of the hive," for lack of a better term to describe that prime motivating force, whatever it may be. For the queen does not rule—she is a mere egg-laying machine. She issues no orders, but herself obeys that "spirit" meekly, as do all of her subjects. What mysterious force prompts her to regulate her egg laying, and hence the births, to correspond with the flowers out of doors—which she never sees? What force compels her to create her own rivals at one time, or her subjects to destroy the royal brood at another, as circumstances demand? What power or intuition tells the queen to lay a fertilized egg into one sized cell, and with the same body, an unfertilized egg, destined to be a drone, into another—always regulating this ratio to match the world without? Who

decrees when the noisy, clumsy, gluttonous loafers, the drones, each requiring 4 or 5 workers as caretakers—who decrees when these shall be tolerated, and when they shall be mercilessly massacred? Who would describe as a blind, primitive impulse a power that is ever and anon taking note of the constantly changing, constantly new conditions?

Who selects the scouts when the colony swarms, whose task is to seek new abodes? And when these various scouts return, each with her message, by what mysterious process, after hours of hesitation, is the choice finally made? Yea, and who decides, at the hour when the home itself is being torn asunder, who shall remain loyal to the departing queen, and who to the victorious one?

The building of the hexagonal combs has attracted much attention. Not only the six-sided cell, but the bottom of each cell with its three planes dovetailed into the bottoms of the cells on the opposite side of the comb are worthy of note. Much has been written to point out that the greatest mathematicians have not improved on the bee's engineering talent to get the most space and greatest strength out of a given unit of precious building material. Buffon, it is true, argues that the bee starts with a circular cell, and that the proximity of the neighbor cells results in the six-sided figure. Boil peas in a tightly closed pot, he reminds us, and the globular peas attain a hexagonal shape. Is this comb a reasoned process, or is the insect being carried on by an instinctive impulse? The cells are precise structures, yet the combs as a whole are very shrewdly adapted to any shaped abode, once that abode has been accepted as home.

Just what degree of intelligence is involved, or is blind instinct everything? Is the queen blindly loyal to her subjects, or are they blindly loyal to her? Maeterlinck expresses his view that these Hymenoptera "... of all the inhabitants of this globe, possess the highest degree of intellect after that of man." Yet in another instance he relates that bees placed in a glass bottle, with the lower end of the bottle towards the lighted window, persisted in flying towards the light and glass until they dropped exhausted, whereas a group of flies similarly treated found their way out by scouting about until they had discovered the entrance.

We come now to the most basic principle behind this "spirit of the hive,"—the entire submergence of the individual in the interest of the race. It becomes evident that the bee has not a loyalty towards the queen as such, but only to the future of the race as embodied in that queen. The worker is sacrificed to a perpetual chastity that only the race may live. One bee alone would perish; she lives only in the midst of a multitude, laboring ceaselessly until she drops from sheer exhaustion. Her sting, which means her life, she uses rarely in self-defense, but primarily in race defense, with little or no thought of herself.

The swarming instinct is symbolic of race above individual. The bee will not forsake her fellows in distress, or even when misfortune befalls the royal family. In a colony, which for one reason or another can not weather the

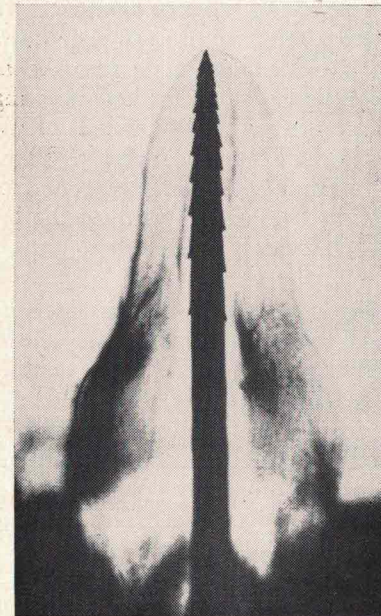
storm, we find the straggling few still clustered together in the "home" until the last one has paid with her life, an equal, indeed, of the most touching picture we can envision of a handful of shipwrecked sailors adrift on a raft, or a stranded group on a deserted isle.

In the hour of need, the bee's loyalty to the clan is supreme. And yet she swarms and gladly forsakes her home at the very height of prosperity, and seeks a new abode in a new world—all for the sake of that part of the race left behind. Says Maeterlinck in his classic, swarming is a "... well considered sacrifice of the present generation in favor of the generation to come." Again, he says that among men the social instinct "... never gives rise to sacrifices as great, as unanimous, or as complete."

Our honeybee is not native to North America. It appears to have been introduced into the New England area in or about 1638, and into Florida about 1763. Thence it slowly spread westward, reaching Kentucky by 1780 and the west shore of the Mississippi around 1797, at so nearly the same pace

HONEYBEE STING, AS SEEN THROUGH A MICROSCOPE

(photo by C. S. Foster)



Because its defensive apparatus is barbed, the honeybee ordinarily is capable of stinging only once. The dart becomes so firmly embedded in the victim that, in freeing itself, the stinging mechanism of the bee, the adjoining poison glands, and some of the internal organs are torn from its body, resulting in the honey gatherer's untimely death. Hornets and wasps, and most other common stinging forms, have a smooth dart that allows them to use their weapon repeatedly. If attacked by a honeybee, the pulsing stinger should be scraped away with a knife blade or finger nail. If one attempts to pull it out, the pressure exerted on the accompanying poison glands very often forces additional venom into the wound.

as the early white settlers and pioneers that the Indians called it the "white man's fly." To this day there is still among beemen an old belief that a swarm never goes eastward. It is of note that when John Eliot translated the Scriptures into the language of the North American Indians, he could find no words in their tongue to express the terms "wax" and "honey."

Yet through all these centuries man has never domesticated the bee, for no bee knows its human master. The bee specialists of the United States Department of Agriculture explain it thus: The queen and the drone have no real contact with the outside world, and hence no new experiences can pass along to the offspring. The workers, on the other hand, who face man's changing conditions, have no offspring. Hence the bee's life with man for 5,000 or 10,000 years has had no "domesticating effect." A wild swarm taken from a tree today is as docile tomorrow as any other colony. Likewise a swarm escaping today is as much at home in a hollow log or a rocky ledge tomorrow as were its ancestors thousands of years ago. Man has not domesticated—he has merely manipulated; and this by his knowledge of how a bee reacts in any given environment.

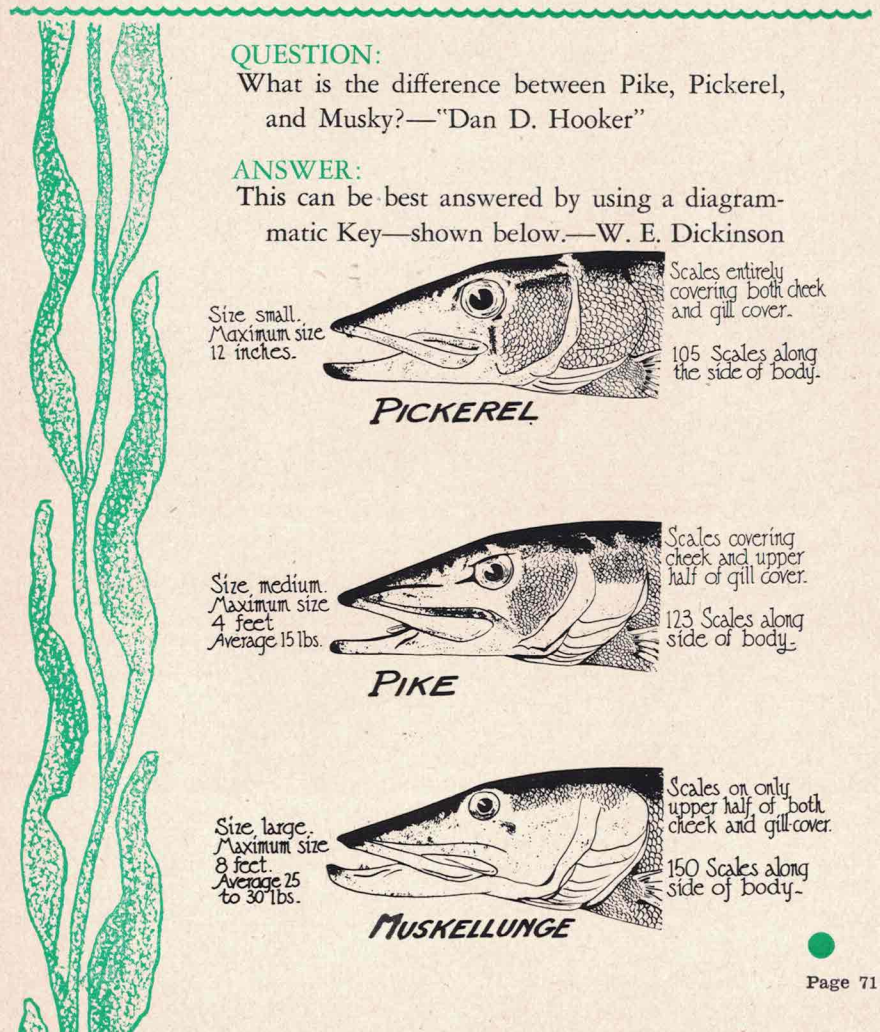
But shall it ever be thus? Can man, and will man take this insect and reshape its bodily proportions and its life habits as he has done with the horse, the cow, or the hen? Dr. Lloyd Watson, of Alfred University in up-state New York, has given this angle a decade or more of attention. The mating of the queen and the drone is indeed a selective process. The queen, who mates but once in her life, and then carries enough male germs in her body to fertilize from one to twenty-five million eggs, meets her lover high in the air. Since only the strongest and fleetest of perhaps thousands of rival drones receives this honor, vigor is assured in the offspring. Yet, Dr. Watson feels, though nature's breeding device is certainly selective, it is crude from the law of probability basis. Furthermore, the bees of Arabia meet the bees of Arabia, those of Mexico those of Mexico, but rarely one another.

Dr. Watson, hence, has been developing new strains by cross breeding. By inseminating the queens by hand, and using the semen from selected drones, he is attempting to bring together a number of desirable qualities. In these efforts he is using some 75 strains from all over the world. It is hoped that from a cross of the Carinolan, the gentlest of bees, and the Cyprian, a vigorous, hostile damsel, would develop an excellent honey-gatherer. The Saharan bee, for instance, has an unusually good strength of wing and a keen sense of smell, but is fidgety in its habits. The European Brown is less hardy, but possesses habits far more dependable in the eyes of the beekeeper. There are varieties with longer tongues—long enough to enjoy our fields of red clover, and others with greater resistance to foul brood and other bee diseases. There are numerous stingless varieties in the tropics, but creatures whose storing tendencies, because of eternal spring, have been poorly developed.

Watson has found strains with larger pollen baskets, and others with larger honey storing stomachs. He tells us of breeds with a more fuzzy body, and of a Chinese variety willing to work at temperatures 10 degrees below where our Italian bee will remain active. Likewise he has found an almost endless variety of variable traits as regards quantity of wax and honey gathered in good and in poor times, degrees of cleanliness, and tendencies to rob or to swarm.

And finally, Watson raises this point: We know that bees depend on flowers. May we not likewise say that flowers depend on bees? Could not semi-desert crops and flowers grow in abundance in places now nearly barren, if the right bee strains were available?

Here, surely, is a fertile field for a bee-loving Burbank!



QUESTION:

What is the difference between Pike, Pickerel, and Musky?—"Dan D. Hooker"

ANSWER:

This can be best answered by using a diagrammatic Key—shown below.—W. E. Dickinson

Size small.
Maximum size
12 inches.



Scales entirely covering both cheek and gill cover.

105 Scales along the side of body.

PICKEREL

Size medium.
Maximum size
4 feet
Average 15 lbs.



Scales covering cheek and upper half of gill cover.

123 Scales along side of body.

PIKE

Size large.
Maximum size
8 feet
Average 25 to 30 lbs.



Scales on only upper half of both cheek and gill cover.

150 Scales along side of body.

MUSKELLUNGE



LITTLE ORPHAN HUMMERS

by MRS. ELNA MORROW
St. Croix Falls, Wisconsin



For several weeks we had been watching a pair of Ruby Throated Hummingbirds. They nested in a red oak tree in our front yard, about ten feet from the ground. One morning I watched Mrs. Hummingbird fighting with three or four English Sparrows. She seemed to be holding her own for a time but eventually was driven off by the sparrows. She did not return to the nest. What happened to her will always remain a mystery.

When it became certain that she would not return, my son took the nest down for me, and we discovered to our amazement two very tiny, very weak little hummers. They were about the size of bees. A quarter laid over the nest completely covered both nest and birds. They couldn't have been more than three or four days old.

They were too weak to open their bills, and feeding them proved to be a problem. I made a simple syrup of 3 parts water and 1 part sugar and, by

holding an eye-dropper over their tiny bills and moving it slightly, they would rouse enough to stick out their long hollow tongues. All feedings amounted to was wetting those long hair-like tongues with warm syrup. They took so little syrup at one time that I fed them every twenty minutes. By evening the little birds were showing signs of life. They moved their heads a little, and seemed more alive than they had at first.

We were amazed and delighted to find the little hummers alive next morning. They eagerly opened their bills for a feeding when I touched their bills with the eye-dropper. I dropped the syrup into their throats, a drop at a time, being careful not to allow any air bubbles in the eye-dropper. They slept most of the time, but moved a little oftener than they had the previous day.

There was a noticeable increase in their appetites as the days went by, and they grew more active. Little feathers came out on the wings and tiny tails came into evidence. Soon a little green coloring made its appearance on their backs and heads. The tails were of very thin, white feathers with black tips.

I changed their formula to 1 part honey and 4 parts water, and their feeding schedule to once every hour. Nectar is their natural food, and I believed the honey might supply them with more of the food elements necessary to their development. In trying to supply them with a little protein I fed them a small amount of hard-cooked egg yolk in the honey solution, but it caused diarrhea. Perhaps they were still too young for proteins.

The little rascals loved attention; they sat in the open on a table and were not at all disturbed by the many people who came to see them. They were strengthening their wings by fluttering them rapidly. They slept less, were much livelier, and I was sure the nest wouldn't hold them much longer, they wiggled around too much. One little one, a male, had a slightly larger head and was stronger than his little sister. They began to preen their feathers and scratch their bodies with their tiny little feet. I have never seen anything as tiny and yet as perfect as their feet and claws.

One morning one of the babies, the male, was out of the nest. I made a nest in a small round box and for the first time both little birds were perching on the edge of the box.

As, day by day, they grew and developed, we decided it was time for our little charges to have names; from that time on they became Tiny and

Timothy. Timothy was my special favorite; he was so adorable in all his actions. I believe he tried to show off whenever anyone was here, just to please me. Tiny was not nearly as aggressive. She was quiet, timid, and shy.

Timothy would climb up the sides of the cheese-cloth cage which we prepared for them, using his bill and tail to balance himself. He looked for all the world like a little monkey as he climbed up the cheesecloth sides, hand over hand.

A dark band of feathers began to show just below Timothy's throat. The buff feathers along his flanks were quite pronounced now. Both birds perched on the edge of the box and were quite content all day, but about 8 o'clock each evening they both fluttered onto the nest, settling down to roost for the night.

Such appetites! I fixed stationary feeders (novocaine tubes painted bright red) in the cage; both little birds, very timidly at first, helped themselves.

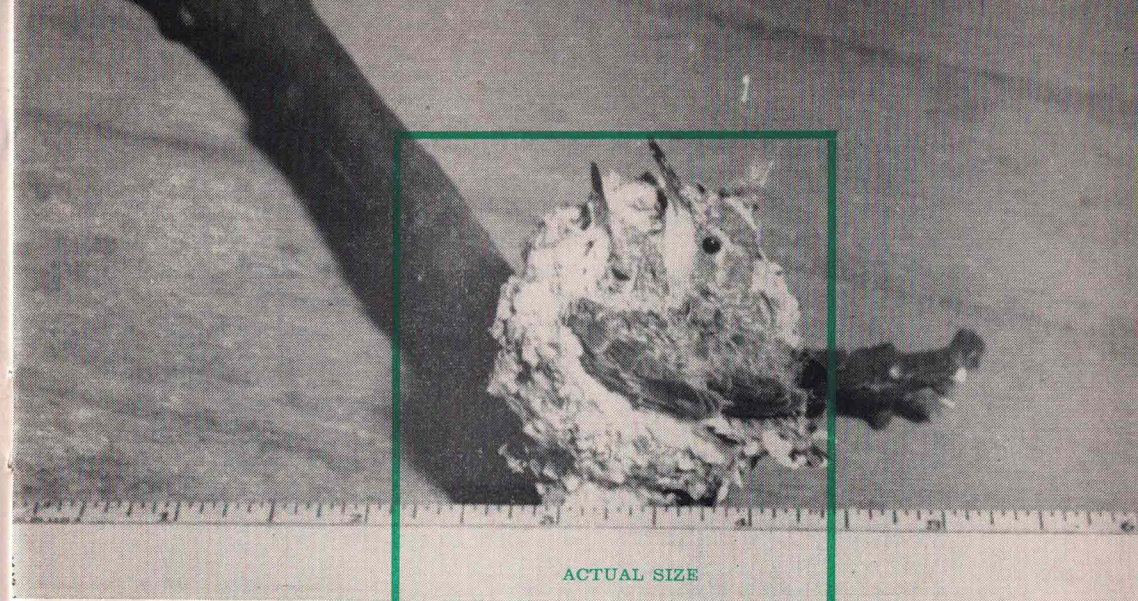
Our little charges soon became quite a community project. One morning they received a lovely bouquet of sweet peas, and a pink geranium. They didn't show very good training, for they looked the plant over for bugs before they discovered its blossom. That gave me the idea that perhaps they felt the need of bugs in their diet, and I became on the lookout for a "buggy plant." Tiny Tim edged his way up the geranium stem, to the blossom, and dozed in the center of it. Tiny had found a new perch much to her liking, too, for she spent most of the day sitting in the center of a minute vase of deep-pink sweet peas.

Then, one day, we had quite a scare; the cage was left open and Tiny got out. In trying to perch on the little cup her honey was kept in, she lost her balance and fell in. Fortunately we discovered her plight and rescued her before she became too wet and chilled. I had to wash that sticky stuff from her feathers and she was a very frightened, tiny, wet, cold, little bird. I dried her as best I could and put her on the electric heating pad until she was warm, then she finished drying herself by flapping her wings and shaking her feathers. Apparently she was none the worse for her experience.

I put a shallow dish of water in the cage, and both little birds soon discovered it and splashed about in the water. This was their first bath, and they sat in the sun and preened their feathers just as any old bird would. They were using the stationary feeders more each day. When the babes got hungry and wanted to be fed, they "peeped" at me with a high-pitched, incessant "peep" until I came to them.

Then my little hummers began to exhibit broken wing feathers; it looked as if they were losing them. I didn't know if this was a natural evolution, if it was due to a dietary deficiency, or to some external factor. They seemed normal in every other way; appetites were good, and they were as active as ever.

The next morning six more little wing feathers had fallen out. I didn't understand why they should be losing these feathers, but I was not too



worried because they seemed so contented and happy.

One day I put a potted petunia in the cage, and the little birds went for the nectar and the pollen in the blossom. This was the first time they had shown any interest in flowers other than as a place to sit.

About supper time one night, a tragedy occurred that upset our entire family. I left the cage open after tourists from Sheboygan were here to see the little hummers. They hadn't been moving about much and hadn't tried to leave the cage for many days so I didn't think about their getting out. I was getting supper; Timothy evidently heard my voice and left the cage, coming toward the kitchen, and our puppy picked him up.

I have never before realized how very attached one can become to such helpless little creatures. My husband was as sick as I, but he has better control of his emotions. The boys felt so badly they couldn't eat, and when our boys can't eat they are really upset.

On a morning five days later, I could not arouse Tiny; no amount of poking or rolling about would wake her. I was quite alarmed at first, but she seemed to be breathing naturally so I put her in the sun and let her sleep. About ten o'clock she woke up and "peeped" for her breakfast. Tiny had her weekly dose of egg; she had come to love it. The egg-and-honey solution was thick, and after sipping it she stretched her neck and tried to reach the feeder. I suppose the thick egg mixture stuck to her bill and throat, and she liked to wash it down with clear honey and water.

Tiny certainly loved her petunia blossoms. She buried her little head deep in the flowers, and her long bill came out white with pollen. She cleaned her bill by wiping it off on my hand. Each day I took her out on the porch and let her move about at will for exercise; needless to say, I watched her every minute. Her feathers were no longer dropping out, but neither were they coming in again as far as I could tell. I offered her many different

varieties of flowers to feed from, but the petunias have the type of nectar she preferred.

In the sun Tiny's back glistened; she had taken on more color lately, her back was a beautiful bronze-green. She should have been developing and growing, judging from her eating habits. I refilled her feeders at least five times a day, and fed her from flowers twice, besides her two feedings from the eye-dropper. When she'd had enough, she knew it, and no amount of coaxing would induce her to eat more.

Tiny was pert and saucy that morning. She fed from a petunia about ten o'clock. I put her on the table and let her exercise, but she seemed to be breathing hard. That afternoon, she wasn't interested in her feeding for the first time. She seemed to be breathing faster than normally.

By evening, Tiny was listless and refused to eat. That was the first time she had acted like this; I wished that I knew what to do for her. Frankly, I was worried. The petunias she had fed from that morning came from a filling station; they use fly spray around the place, and I wondered if something like that could have contaminated the blossoms and caused Tiny's distress.

I couldn't sleep that night, and at 2 A.M. I got up to see how she was, and found her dead. For eight weeks I had done my best for the little orphan hummers, but it just wasn't enough.



STAMP FACTS

by **GEORGE HERRL**
Division of History

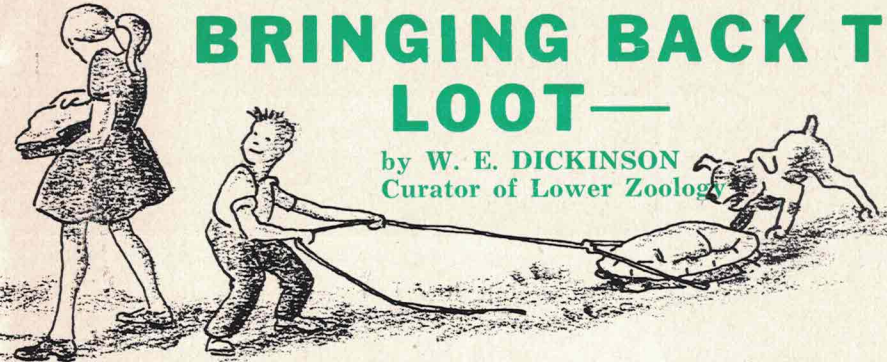
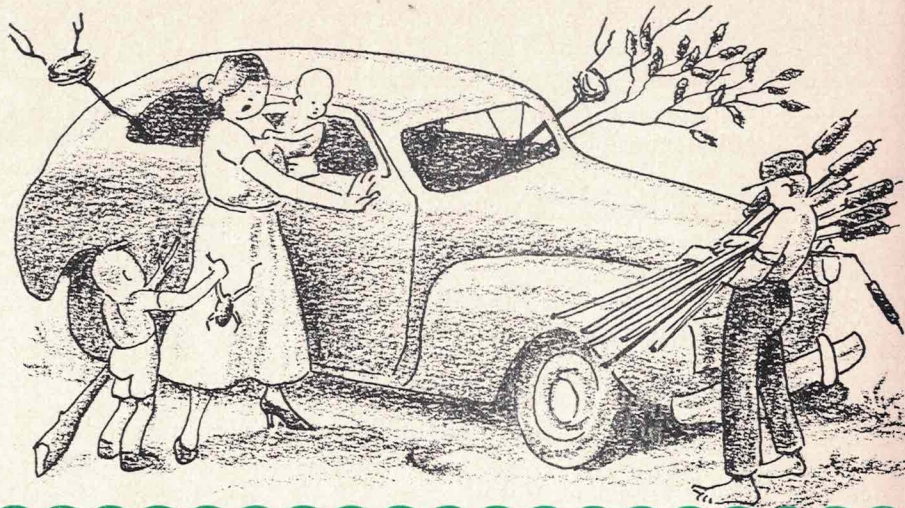
- Q. What is a Ferrophilliac Philatelist?
A. A collector of stamps depicting railroads.
- Q. When was the first postal card issued?
A. In 1873.
- Q. What is meant by a Postal Fiscal?
A. Revenue stamp used as a postage stamp.
- Q. Were United States stamps ever used as currency?
A. Yes, in 1862 they were used as a substitute for fractional silver.

- Q. What country issued stamps inscribed Van Diemen's Land?
A. Tasmania.
- Q. What is the meaning of Jack-Ass Mail?
A. This refers to Snow Shoe Thompson who carried mail, Salt Lake City to Sacramento via Hope Valley, in 1860.
- Q. What are Mission Mixtures?
A. Stamps collected by religious groups and sold by them by weight.
- Q. When were the first postage-due stamps issued?
A. In 1879.
- Q. What are known as Spifs?
A. Stamps perforated with the initials of business firms.
- Q. What is a Catapult Cover?
A. A cover by airplane launched from a ship by a catapulting device.
- Q. What are Black Jack Envelopes?
A. Envelopes issued in 1863-4 with designs in black showing President Andrew Jackson.
- Q. When were letter boxes first introduced?
A. Paris, 1853; New York and Boston, 1858.
- Q. What is the meaning of the letters H.R.R. on early U.S. covers?
A. Housatonic Rail Road.



Nope!

The beaver's tail is broad and flat.
He steers with it but does not pat
The mud upon his dwelling,
Made with the trees he's felling.



And we gather as we travel
 Bits of moss and dirty gravel,
 And we chip off little specimens of stone.
 And we carry home as prizes
 Funny bugs of handy sizes,
 Just to give the day a scientific tone.

BRINGING BACK THE LOOT—

by W. E. DICKINSON
 Curator of Lower Zoology

ANY FAMILY on vacation has brought home collections of oddities which serve as pleasant reminders of the trip, and that is a good thing, too. However, there finally comes a day when mother says: "We must get rid of these things. They are in my way and only gather dust. You've lost interest in them." There we have two conflicting viewpoints: get rid of them (mother) vs. keep them (Junior).

First of all, let's talk to mother. Junior can make good use of his collecting instincts. They develop his observation, manual skill, reading, geographical knowledge, etc., and keep him busy, too. If he goes about it in a directed way, it could lead to a lifework. Many of the museum men and science teachers started in just that way. It is true, some room will be needed, but a section of the basement or Junior's room could hold some shelves on which his specimens could be arranged in an orderly way. Even before he is ready for his lifework, collections can be of use in high school and college courses for credit. The Museum staff is always ready to help beginning collectors.

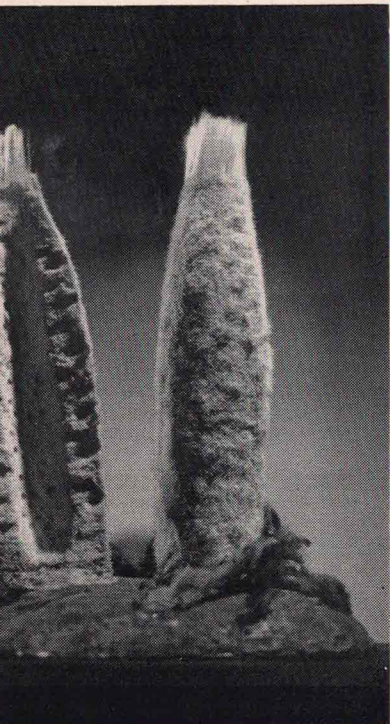
Now a word to Junior. If you want to keep your specimens, keep them in a neat way and mother will be glad to give them space. Keep all specimens labeled with the place, date, and name of collector, and then you can trade specimens with other collectors, or museums. How can you fix them up? Well, there are books in libraries to tell all about the care of specimens and collections. The Museum has books on sale to tell you how, and the men in the Museum will also help.

One of the first things to do, though, even before identifying your specimens, is to put a number on each, and enter that number in a notebook with the data (information). A specimen is valuable only if the data are complete.

Wrap rock specimens in paper to protect them while traveling. Do the same with shells. Insects can be kept in "pill envelopes" obtained from the drug store, until mounted. **BUT KEEP THE DATA WITH THE SPECIMEN** or in a notebook under an identifying number! Hard specimens like rocks, minerals, fossils, starfish, and shells can be displayed on shelves in your museum. Insects should be kept in boxes with moth crystals to keep out small destructive beetles. Some insects should be kept on regular insect pins. Others, like butterflies, look better and are better protected in "Riker Mounts."

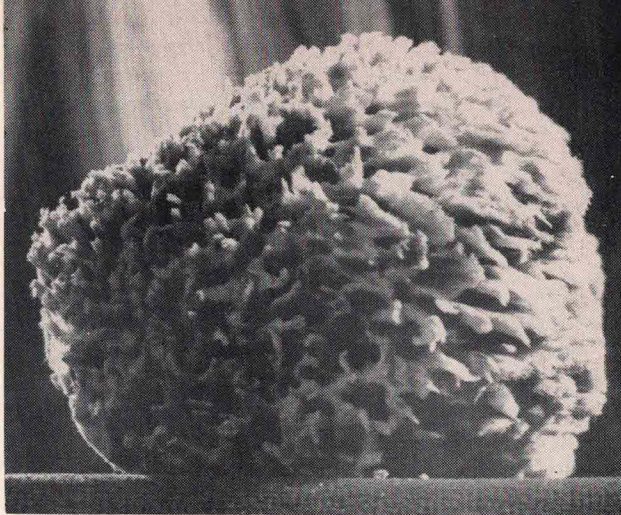
A word about shells. Don't try to scrape off the brown covering. If you want your shells cleaned, it can be done by soaking the shells in a solution of 1 pound caustic potash to a gallon of water. **USE RUBBER GLOVES**, or a stick, to reach into the solution: never reach in with your bare hands or they may be severely burned; better yet, get Dad to help. Some shells do not have the brown covering and need only a little furniture polish to make them sparkle.

If you want to label your specimens, use India ink and a Spencerian pen on stiff white paper, and write very neatly; or, better yet, print the name. The best collections in any Hobby Show are the neatest and most orderly.



GRANTIA

RED FINGER



Well, here I am, resting quietly in this store in a wire basket with some of my relatives. Boy, am I dry! It wasn't like this in the good old days. Why, I can still taste that last mouthful of good old Gulf water. When they hauled me on board Nick Opopulos' boat, I never thought I would be treated so roughly. I was a pleasingly plump specimen then, and one that the other sponges envied. My complexion was very dark, but Nick scraped it all off leaving only my skeleton. Then he took me back to Tarpon Springs, Florida, and sold me to the man who owns this store.

Of course, I have people around me now and it is much brighter here, but it would be nice to see some of the rest of the family. I remember Cliona, one of the most boring of the whole bunch, always making holes in oyster shells, and getting in bad with oyster fishermen. She's up near Cape Cod now, I understand. Really not a bad sort, though, if you stop to think of the enormous number of shells she breaks up into sand.

Then there's little Grantia; he's gone to Harvard now to teach biology. He was such a little squirt when he was back home in his tide-pool on Rhode Island. I hear that he is a regular cut-up there with the girls that come over from Radcliffe College to the Harvard classes.

MEDITATIONS BY A. SPONGE

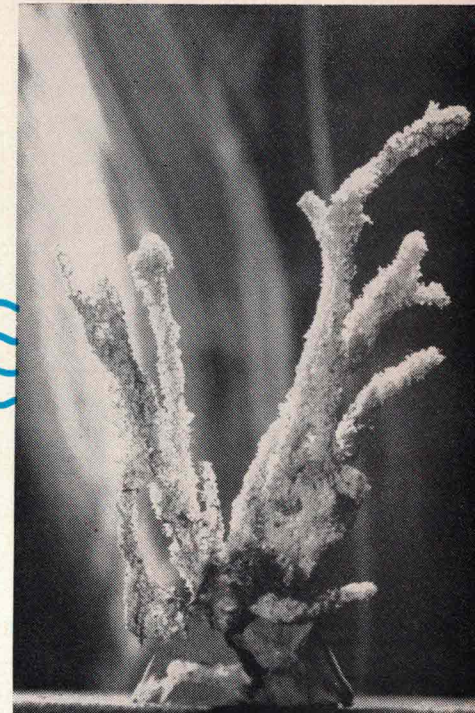
Translated from the original
by W. E. DICKINSON
Curator of Lower Zoology

Skinny old Chalinopsilla; he was always called "Red Finger" because of his shape and coloring. He came up from near Labrador and was always a useless fellow. Instead of trying to accomplish something solid, he was always branching out, like Irma's friend Al, and never seemed to really get anywhere.

Yes, the family is certainly spread all over the place. Spongilla is up in Wisconsin now—let me see, some place called Minocqua. He has a large family, too. They live in several rivers and lakes around there. The only one of the family to really take to fresh water. Most of us stick to the old stand-by, sea water.

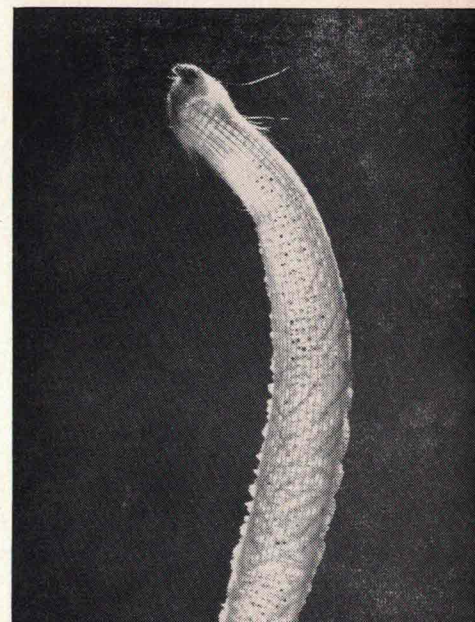
To look at me, you'd never think that any of the family were beauties, but you ought to see cousin Venus F. Flowerbasket. Wowie! There was a sponge with a chassis! I don't think there is a museum in the world that isn't proud of her. She really stops the show. I remember at Milwaukee they say she has a special pedestal in a case on the third floor.

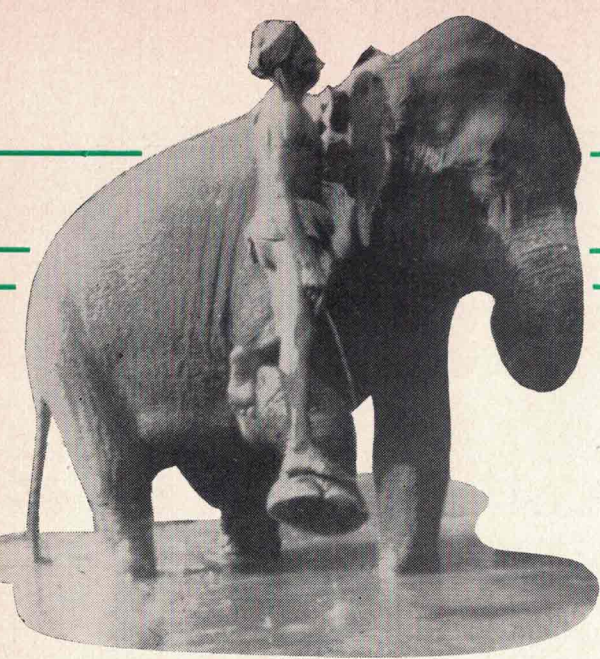
I've heard people mention Viscose, but that subject hasn't been really spoken of in family circles since Aristotle decided 'way back that we sponges were animals and not vegetables.



SPONGILLA

VENUS FLOWER BASKET





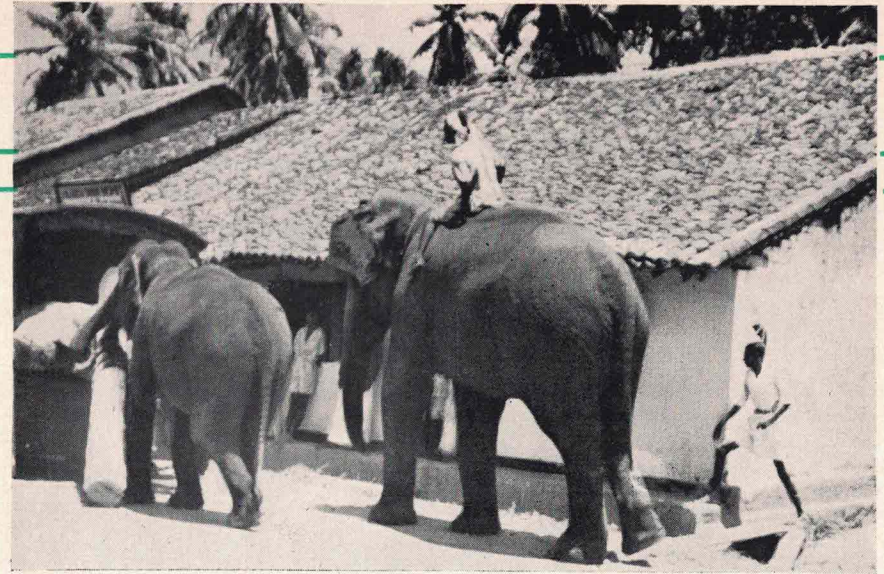
ELEPHANTS *of* CEYLON

by **GEORGE SIEKER**
Assistant Attorney General,
Madison, Wisconsin

THE "Elephant People," as they are sometimes called in Singhalese lore, are to outward appearances as contented as the proverbial Wisconsin cow. The domesticated elephant plays a conspicuous part in the life and economy of the Island Dominion, being a necessary part of certain agricultural and forestry enterprises, including the rubber plantations.

In the illustration on the opposite page, a younger elephant, still in training, is loading logs onto a truck under the guidance of a trained work animal on which the mahout (elephant boy) rides. After the log is lifted onto the truck platform, the forehead and trunk are used to push it forward into place. The elephant serves at various times as a tractor, a bulldozer, and an irreplaceable part of a temple parade. It was once—and in certain other lands still is—an important symbol of royalty, power, and position.

Formerly administered as part of British India, the island of Ceylon attained independence in 1946, becoming a self-governing dominion within the British Commonwealth. Because of its small size (less than half the area of Wisconsin with about double Wisconsin's population), it is known as "the Baby Dominion." With its relatively small area and its relatively dense population, Ceylon, the civilization of which goes far back in history, has at times, we are told, come dangerously close to wiping out its wild elephant herds, which are the ultimate source of the domestic animals. Fortunately, however, due perhaps in part to conservation measures and in part to the existence of the monsoon climate which has enabled the forests to hold their own against man, this species has survived in a wild state. In China, by contrast, the elephant has completely disappeared over the cen-



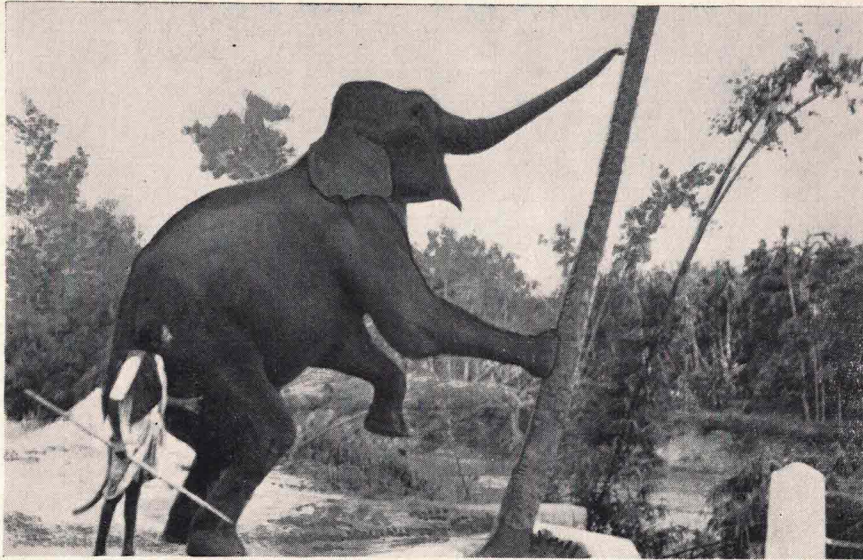
tures and is remembered only through folklore and works of art. Ceylon now has a well developed and extensive system of wild-life refuges which should preserve for all time all or substantially all of its surviving species of wild animals, birds, and plants.

I have found no statistics on the number of elephants in Ceylon, either wild or domestic, nor on the ownership of the domestic ones, but from casual observation it would appear that the domestic elephant, though fairly common in certain areas, is not as common as its Wisconsin counterpart, the tractor. It is an expensive animal and can repay its purchase price to the owner only where there is heavy work to be done.

The most prized beasts seem to become temple elephants. That is, they are owned by a temple and used for parades and other ceremonial occasions, which might occur only once or twice a year. In between times they are rented out for their labor, keeping their same mahouts. Because a temple elephant must remain calm and controlled under parade conditions, which might try the nerves of a less than completely trained or adjusted animal, and because a temple elephant getting out of control would create an unusual hazard, only the most even-tempered and well trained animals attain this status. The parade elephant with a gaily decorated howdah, carrying a VIP, tusks painted with gold, etc., so familiarly pictured as characteristic of the princely states of India, does exist in Ceylon but is a most unusual rather than a typical sight.

While the climate of Ceylon is not excessive, it is tropical and is both warm and humid even at moderate altitudes. Consequently it has become customary for both elephants and mahouts to work in the morning and then spend the afternoon in "siesta." At the end of the morning the working

elephant normally goes to the closest good spot in a stream for a bath and a nap. Yes, the nap is taken lying in the water—what luxury! At one favorite watering place near Katugastata, a small town not far from Kandy, the ancient seat of the Kings of Ceylon, one can usually spot about a hundred of these animals during the early part of any afternoon, lolling in the pools, lying on their sides, showering, or sometimes romping around.



Elephants enjoy play during off-duty hours and will do "tricks" with very little urging. This one expected to get paid in cuts of sugar cane for this performance—and did. Under the guidance of the mahout, it was very gentle and very good about giving rides to strangers.

Elephants are not supposed to be left unattended, but frequently one mahout will watch several elephants while his friends repair to a shady spot or a local tea house. Most of the mahouts are Singhalese, natives of Ceylon, but Tamils, a group of people native to Southern India who are prominent in plantation work in India, Ceylon, and Malaya, also take up this occupation.

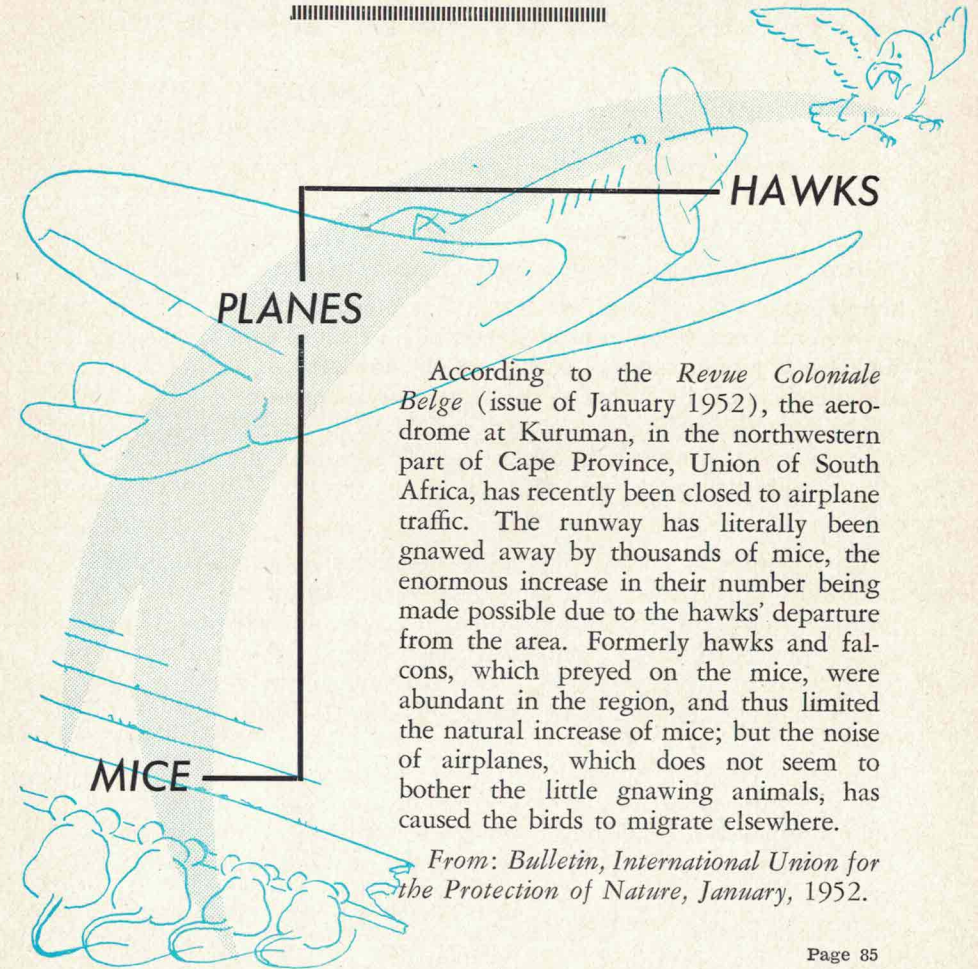
From casual observation there appears to be a very heavy preponderance of females among the working elephant population. This is due in part to the nature of the species—there are more females in nature—and in part to the greater tractability of the female. When you hear of a rogue (an outlaw or a troublesome individual), it is usually a male.

While domestic elephants can be seen throughout a good part of Ceylon, particularly in the interior, the wild ones are now confined to refuges and sanctuaries, and one large, wild area in the southeastern quarter of the island.

The Flora and Fauna protective ordinance divides refuges into Strict Natural Areas (entry only by permission and for scientific purposes), Na-

tional Parks, Intermediate Zones, and Sanctuaries, offering varying degrees of protection and isolation of wild life. Many species of both plants and animals have probably been saved from extinction by this elaborate system of protection. Elephants, with certain limited exceptions, may not be taken or shot without a special permit. A permit is also required to export live animals or tusks. Separate regulations cover tuskers and tuskless elephants. The systematic capturing and training of these animals is regulated by the Elephant Kraal Control Ordinance.

The Ceylonese elephant is described as one of four subspecies of the Asiatic elephant. It is slightly larger than the Malayan subspecies, and averages slightly smaller than the subspecies on the Indian subcontinent. It is noticeably browner than the elephants which we commonly see in zoos and circuses. This subspecies is not given to albinism, at least to the extent to which that condition is found in Siam and Cambodia, where white elephants are prized and reserved for royalty.



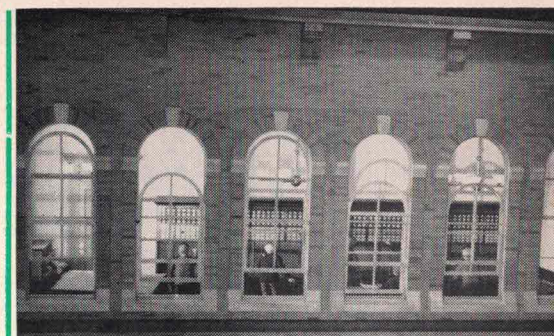
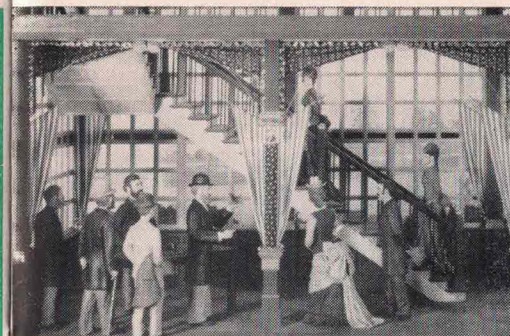
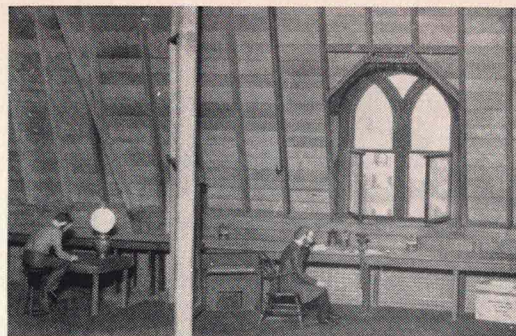
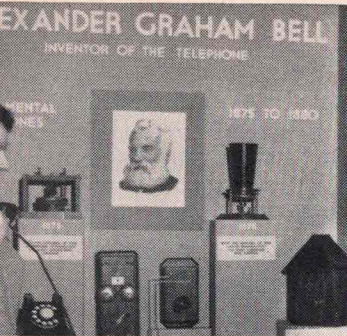
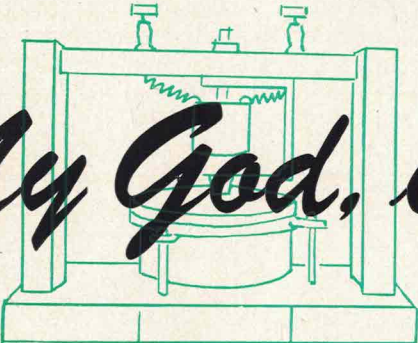
HAWKS

PLANES

MICE

According to the *Revue Coloniale Belge* (issue of January 1952), the aerodrome at Kuruman, in the northwestern part of Cape Province, Union of South Africa, has recently been closed to airplane traffic. The runway has literally been gnawed away by thousands of mice, the enormous increase in their number being made possible due to the hawks' departure from the area. Formerly hawks and falcons, which preyed on the mice, were abundant in the region, and thus limited the natural increase of mice; but the noise of airplanes, which does not seem to bother the little gnawing animals, has caused the birds to migrate elsewhere.

From: *Bulletin, International Union for the Protection of Nature*, January, 1952.

"My God, it talks"

ELDON G. WOLFF
Curator of History

The history of industry is essential history in America. On January 31st the Museum's new Telephone Room was officially opened. The occasion marked the completion of a program which extended over seven years, and included a reception for Telephone Company officials, civic leaders, and life members of the Pioneers: the years-in-service group of the Telephone Company. This exhibit was made possible by the generous material and cooperative assistance of the Milwaukee Telephone Company, and its impressive grand opening was sponsored by the Greater Milwaukee Committee.

Three dioramas portray interesting highlights in telephone history. A faithfully proportioned attic illustrates the experimental workshop and Alexander Graham Bell, assisted by Thomas Watson, laying the foundations of telephony. As is so frequently the case, it takes a prominent person, often a crowned ruler, to call public attention to something which is obviously present. So it was at the Centennial Exposition at Philadelphia in 1876. Here the expression, "My God, it talks," from Dom Pedro, the Emperor of Brazil, awoke the world to the fact that the telephone really worked. The Emperor's amazement is very apparent in the diorama illustrating this dramatic moment. The third scene shows the New York switchboard in 1879 where boy operators were expected to satisfy the requirements of subscribers. The impatience of the boys created such confusion that they were soon replaced by efficient young ladies.

Seven exhibit cases illustrate the developmental progression of the telephone, beginning with the early experimental models. Thereafter follow the numerous home and business sets which were used from 1878 to the present. Behind the scene, normally unseen by subscribers, are the switchboards. The exhibits illustrate progressive types from 1877 to 1900. The latter specimen was used in Wisconsin until almost a year ago, an interesting example of a half century of continual service.

The introduction of the dial system permitted the subscriber to do his own operating; accordingly, such operating switches follow in the series. Ultimately the several examples of cables and micro-wave transmitting equipment are presented.

The exhibit illustrates the high quality of product which results from close cooperation between the several contributing divisions of the Museum: research, art preparation, case building, and painting, combined to produce a modern, interesting, and instructive exhibit.



Wisconsin's Bald Eagle

by *William L. Schultz*

This bird, in view of its distinction as our national emblem, should be familiar to most people. Unfortunately, its majestic soaring has become rather a rare sight, due mainly to man's misunderstanding of the eagle's life and habits, and consequently, man's destruction of the bird.

"These ferocious birds carry off children in some wilderness areas, wantonly destroy young livestock and prey readily upon all wild life. Shoot every one you see!" Such has been the war-cry. Judging only from the size of the bald eagle, and its ferocious look, these statements could possibly be true. However, size and appearance belie this bird's true mild temperament. There has never been an authenticated case of an eagle carrying off a child. Through experiment it was found that the greatest load an adult eagle could carry was eight or nine pounds, about equal to its own weight. Eagles have been known to take very young sheep and deer; however, birds and animals are rarely attacked unless they are wounded or weakened by disease.

Actually, an eagle's diet consists mainly of fish, and consequently he is found to a great extent on or near large waterways. The osprey, too, is found on these waterways, and being an excellent fisherman, provides for the eagle, in a rather unorthodox way, his main supply of fish. The eagle will hover nearby while the osprey is "fishing." When the osprey makes a catch, the eagle dives upon the burdened fisherman from above, forcing him to drop his catch. Then in a quick swoop, the eagle catches the fish in mid-air and makes off with it. Upon one occasion, an eagle was observed to pirate, by this method, three out of five fish caught by an osprey, the latter escaping with two while the eagle was feeding its young with the ill-gotten quarry.

The nesting season of the bald eagle is quite early in the year, usually March and early April. The nest is a bulky affair, sometimes as large as twelve feet high and nine feet across, most often built on the top of a dead pine or other coniferous tree. It is occupied year after year by the same pair of birds, and is only slightly repaired each spring before the laying of eggs. There are usually two young, and but one brood a year is reared.



Perhaps the most famous individual eagle was a fledgling taken from a nest on the shores of Island Lake near Weyerhauser, Wisconsin, in the spring of 1861. Chief Sky, an Indian of the Lac du Flambeau band of Chippewa, captured this bird and later traded him to a pioneer family for a bag of corn. In turn, the bird was sold to a group of soldiers from Camp Randall at Madison.

The soldiers named their regiment "The Eagles;" their company, the now famous "Wisconsin Eagles," and the bird, the now immortal "Old Abe." The fame of Old Abe preceded his regiment everywhere, and he was soon officially sworn into the service of the United States. During the Civil War, Old Abe seemed to sense the spirit of battle, and would scream ferociously when the company advanced. At every encounter the bird would call excitedly and occasionally soar over the battlefield, as if on a scouting trip. His presence inspired the soldiers who considered him an "omen of victory," and one Confederate general remarked that he would sooner capture the "sky-buzzard" than a whole company of men.

The fabulous Old Abe returned to Wisconsin in 1864 to be gloriously retired. He lived in the State Capitol Building until 1881, when he died from suffocation caused by a fire occurring in that legislative structure.



DEATH'S HEAD MOTH

by **KENNETH MacARTHUR**
Assoc. Curator of Lower Zoology



This swift-flying creature of the night, bearing a sinister skull-marking on its back, is capable of producing a chirping sound so similar, apparently, to that of the queen honeybee that the defenders of the hive allow the moth to pass its threshold unchallenged. The noise is produced in a manner very unusual among the insects, by the expelling of air through its hollow tongue. This appendage is unique in another respect. The tongues of other members of the family of moths to which it belongs are long and slender, a characteristic enabling them to use their extendible mouth-part for sipping up nectar, while on the wing, from the deep-throated corollas of such blossoms as the honeysuckles and petunias. The death's head moth in contrast has an extremely short, stout, bristly tongue unfit for feeding on the nectar of flowers but ideally adapted in its stoutness and rigidity for piercing the lids of the honey cells of wild and domesticated bees.

This moth unconsciously follows the adage that the (insect) world owes it a living, for it allows the worker bees to undergo the tedious and painstaking task of gathering nectar from flower to flower, bringing it back bit by bit to the hive, where it is converted gradually into a honey concentrate. Then like an unwarranted tax collector, it gains access to the bees' guarded

treasure—the honey storage depots—through its deceitful piping in imitation of their respected queen, and is thus enabled to tap the supply of stored food that represents many days and weeks of unceasing toil and cooperative effort on the part of the diligent worker bees. Unfortunately the moth sometimes lays its eggs within the hive, and the caterpillars that hatch cause considerable damage by spinning masses of silk in its interior.

The death's head, (*Acherontia atropos*) is a powerful flier, capable of traveling vast distances. Originally native to Africa and southwestern Asia, it ranges, as a result of its occasional lengthy intercontinental flights, well into northern Europe. Since its young normally feed on the leaves of plants of the nightshade family, it appears not to have become widespread in the more temperate regions until the introduction of the domestic potato.

In one instance this Old World hawk or sphinx moth alighted one night on board a ship out at sea. The moth was guided-in, no doubt, by the vessel's lights, and perhaps by certain distinctive aromas that emanated from the ship's dining room table, in which all seats were occupied at the time. With little hesitation it settled on the festive-board and began unconcernedly to partake of some jelly near the table's center, attracted apparently by the fragrant fruit odor. As a rule, however, these moths depended on their own wings rather than first-class steamship passage for long-distance transportation.

The moth with the ominous body marking has long been considered by the superstitious of many countries to be an ill-omen—a symbol foreshadowing future evil. However it evidently spells bad fortune only for members of the hive—misfortune that could easily be averted, for the honeybees, if they would, could sting to death their uninvited guest.

CAN YOU NAME IT?

Spading the garden in spring or fall, one is apt to unearth a peculiar jug-handled object such as figured above. About two and one-half inches in length, mahogany colored, and varnished in appearance, its identity is a mystery to many a gardener. When held in the hand, the end opposite the "handle" frequently wiggles and squirms, revealing that the "thing" is endowed with life.

For the answer to this puzzler turn to the next page.





ANSWER TO QUESTION ON PAGE 91



The jug-handled object illustrated on the preceding page is the resting stage, or pupa, of a large, swift-flying insect known as the five-spotted hawk moth, illustrated here. The "jug-handle" encloses the tongue of the future moth, an extensible appendage which is coiled beneath the head of the adult insect like a watch spring when not in use. Fully extended, the hollow, tapering tongue is instrumental in sipping nectar from the deep-throated corollas of such flowers as the honeysuckles and petunias. The moths are most active at dusk. However, because of their

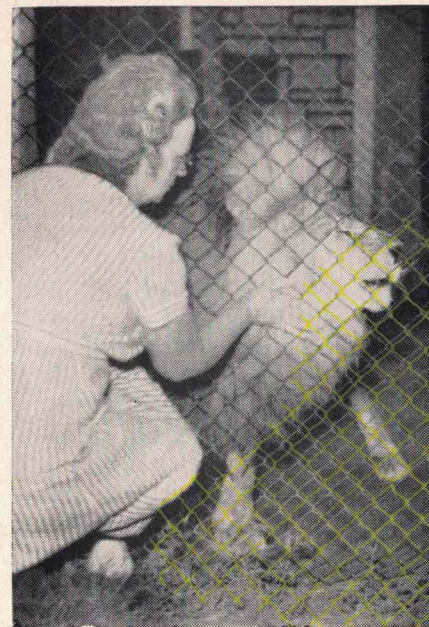
trim appearance, quick-darting flight, and ability to hover during feeding operations, they are not infrequently mistaken for hummingbirds.

The eggs of the female moth are deposited on the leaves of the tomato plant and develop into the well camouflaged hornworm shown here, which devours the foliage and developing fruit of the plant. Although believed by some to be poisonous, the spine at the rear of this caterpillar's body is entirely harmless.

K.M.

NEW PUBLICATION

Part One of a two-part bulletin on California Indians: MATERIAL ASPECTS OF POMO CULTURE, by S. A. Barrett, is now available, without cost, to members of all categories *excepting* Student and Associate Contributors. This report has 260 pages of text and 30 full-page illustrations. Address requests to A. W. Bauernfeind.



Molly and the lion

by
ALBERT M. FULLER
Curator of Botany

A traveler, walking along the County Line road in the town of Kinnickinnic, stopped in amazement. It couldn't be! There it was again—the ROAR OF A LION—in a farming community in southern St. Croix county! The traveler turned in at the nearest farm house. To his query about lions, the housewife nodded and pointed to a house a short distance down the highway. "Sure, that's Molly Jenson's Love. He's wanting Molly to pet him."

The visitor stopped at the Jenson home. Molly (Mrs. Obert Jenson) was feeding her animals. "So you heard Love? Come with me." She led the way to the lion's cage. Love greeted Mrs. Jenson with several short roars, then leaned against the fence while Mrs. Jenson scratched his neck.

"How did I get him? Well, this whole business started about fourteen years ago. One morning my husband's cousin found two young 'coons' in his milkhouse. I have always loved animals—so he called me to come and get the 'coons.' Then a pair of baby squirrels came my way. Love came



MOLLY JENSON AND "CHUCKY"

next. About twelve years ago a St. Paul tavern keeper called me by long distance to see if I wanted a lion. He had one that he had to get rid of at once. I told him that I did not have a place for a lion. He said that the lion would not require much of a cage. I told him to wait for a few days so I could think it over. That night, after supper, a car drove up. It was the tavern keeper, his wife, and a friend, all stewed to the gills, and the lion. They unloaded the lion and left, assuring me that they would be back the next day. Well, they never came back.

"Love was no problem to take care of. He had the rickets so bad that he could hardly stand. I gave him cod liver oil and nursed him. He's about twenty years old now. I may lose him at any time. I sure will hate to lose him. He's

been a wonderful pet."

The visitor looked at the other pens, and asked, "How many animals do you have now?" Molly replied, "About seventy-five." There were monkeys, woodchucks, skunks, badgers, raccoons, foxes, coyotes, a bear, owls, hawks, pheasants, doves, peacocks—Molly Jenson's zoo.

"How did I get these other animals? Once people heard that I loved animals and knew how to take care of them, I was flooded with motherless babies, ailing animals, old animals, and homeless dogs and cats. Some of these animals I got by trading with the Como Park Zoo in St. Paul, and with the State Game Farm at Poynette."

"How did I raise the motherless babies? Come here, Betty Lou!" A large black-and-white cat came at Mrs. Jenson's command. Mrs. Jenson continued, "This is Betty Lou, the finest and smartest cat that I have ever known. First she nursed six baby 'coons.' Funniest sight you ever saw; when the 'coons' got older and were outside, when they caught sight of Betty Lou, they would all run for her, knock her down, and then begin to nurse. Even when the 'coons' grew up and were in a pen, if they saw Betty Lou, they would call to her and she would go over to the cage and visit with her former charges."



GENERAL VIEW OF ZOO

"Last year, Betty Lou raised another family for me—five baby skunks."

When asked about visitors, Molly replied, "There've been more than seven hundred folk here on a Sunday. They come nearly a hundred miles to see my pets."

This, then, briefly, is the story of a big-hearted farmwife, a sick lion, and a cooperative cat. It is a fine example of how a hobby can grow when nurtured on fertile soil.



Nope!

HE CAN'T FLY

To rightly understand the score,
We know the flying squirrel can soar
But can not fly like birds and bees
To get from here to there in trees.

He parachutes on folds of hide
Which stretch twixt legs along each side,
To make a fibber out of those
Who say he flies where e'er he goes.



QUERY QUADRANT

Conducted by the Museum Staff

As you make your daily contacts with the world about you, you are confronted with questions—often regarding usual things, in instances originating from new observations or experiences, but in any case questions for which the answers are not readily available. Send your questions to LORE, and let us attempt to answer them. Be sure to sign your name.

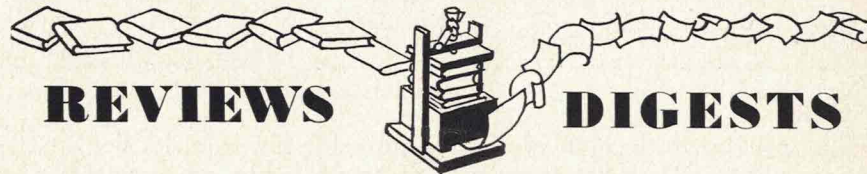
I have a budgie bird, and I would like to know where they come from and what difference there is between them and love birds.

Bird Lover.

"Budgie" is a contraction of "budgerigar," the native name for the colorful longtailed, sleek little Australian shell parakeet.

However it is at times also referred to as "love-bird," although this designation is misleading since the true love-birds are almost all native to Africa, and to all appearances are miniature parrots occurring in a variety of brightly plumaged species.

Walter C. Pelzer,
Division of Birds and Mammals.



Field Book of Nature Activities, William Hillcourt; Putnams, N. Y., 1950

This volume is divided into two parts. The first contains suggestions on spurring one's own interest in nature, and that of other people. The second part goes into more detail on such groupings as: Birds, Animals, Snakes, Lizards and Turtles, Insects, Water Life, Flowers and Flowerless Plants, Trees, and provides an index for projects as well as subjects.

Each of the sections is quite extensive, and has a general description and bibliography; names of interested organizations; suggestions on clothing and equipment; a more advanced bibliography; excellent hints on where and when to study; and how to photograph. For example, the bird section contains some 50 well illustrated pages.

Each section has been reviewed or prepared by a national authority. The author is an outstanding writer in many of the Boy Scout publications.

The book is an excellent one for the nature counselor, teacher, hobbyist, or traveler-collector who wants good information on all the nature fields. There are 500 suggestions for nature activities, and 300 projects for all stages of nature students.

W. E. Dickinson,
Curator of Lower Zoology.

LORE is the official magazine of the Milwaukee Public Museum membership: FRIENDS OF THE MUSEUM, and it cannot be purchased or subscribed to excepting through membership.

There are three classes of adult annual membership: Active Contributor, awarded for a contribution of not less than \$5.00; Sustaining Contributor, awarded for a contribution of not less than \$25.00; and Associate Contributor, awarded for a contribution of not less than \$3.00. An applicant of not more than 21 years of age may be awarded the classification of Student Contributor for a contribution of not less than \$2.00. The membership fee for libraries is \$2.00.

There are three classes of life membership: Fellow, awarded for a contribution of not less than \$100; Patron, awarded for a contribution of not less than \$1,000; and Benefactor, awarded for a contribution of not less than \$10,000.

THE EXPLORER'S CLUB is the membership for children. For \$1.00 a year, our young explorers receive 52 copies (one each week) of the Explorer's Log, a quiz-fun sheet.

Address all communications to Mr. Ambrose Bauernfeind, Milwaukee Public Museum, 818 W. Wisconsin Avenue, Milwaukee 3, Wisconsin.

