

Firefly Put to Work For Scientists After Centuries of Idle Twinkling

OAK RIDGE, Tenn. (AP)—After centuries of idle twinkling and inspiring poets—and little else—the firefly has been put to work for science here. Using lightning-bug extract,

scientists at Oak Ridge national laboratories are feeling their way closer to solution of an age-old mystery: how plants turn sunlight into energy. It's called photosynthesis.

Among other things, the scientists have learned that firefly enzyme and extract from green leaves contain a common chemical—a compound with the tongue-twisting tag of adenosine-triphosphate, or ATP for short. They've also learned that light in creases the amount of ATP in green leaves, just as more ATP seems to increase the amount of light given off by firefly extract. This, say scientists on Dr. Alexander Hollaender's staff, promises answers to such questions as how light energy is transformed by green plants into chemical energy.

And since all living things, including man, ultimately make use of the light of the sun for their energy, the firefly may open endless possibilities for

science, which always is looking for the answer to life itself.

Already, Hollaender and his associates have learned to use the same chemicals the lightning bug does to produce an eerie green glow in a test tube.

And they've found that the lightning bug, as he flits around, nonchalantly mixes no less than five chemical components, including ATP, in the right proportion to make him light up.

Using the mixture, they have been able to measure very small portions of any one of the five compounds by measuring the amount of light given off by a solution of firefly enzyme when more ATP is added.

This ease with which the enzyme can be measured is one thing that makes it a valuable scientific tool—and why, in an atomic age, the little glow worm seems to glow brighter than ever.



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SHEILA CARTER

Pretty and talented young miss above is eleven-year-old daughter of Wilf Carter, famous cowboy vocalist known to millions as Montana Slim. Wilf Carter, Sheila and his youngest daughter Carol, seven, will be appearing at the Civic Centre, Monday night, sponsored by Legion Branch 27. Sheila and her sister are making their first appearance in Western Canada but last year made a 15-week record-breaking tour with their Dad, performing, getting rave notices for their singing, yodeling, tap and ballet dancing. With the world's most widely known cowboy singer will be the 1950 World Champion old time fiddler, 27-year-old Freddy Lang from Penticton and Red Garrett and his Tennessee Pioneers.

BLACKWOOD on Bridge

By EASLEY BLACKWOOD

Counting Hand Sometimes Shows "Unsafe" Lead Best

In counting a hand on the defence it sometimes becomes clear that you must lead a certain suit in order to have a chance to defeat the contract. That suit should be led in such cases, regardless of the fact that the lead is one which you would normally avoid as "unsafe."

In today's deal Mr. Champion was permitted to win the first two tricks with the jack and 10 of diamonds, Mr. Muzzy playing the nine and eight in that order.

A third diamond was led, dummy ducked again and Mr. Muzzy played the queen. Mr. Dale ruffed. Two rounds of spades were taken, clearing the suit, and Mr. Dale then led the four of hearts to dummy's nine. Mr. Muzzy won with the ace and his return at this point determined the fate of the contract.

As you see, a club lead would have put the hand down one. In spite of the fact that Mr. Muzzy couldn't see the ace in his partner's hand, the club return stands out. But unfortunately for his side, Mr. Muzzy had a "safe" lead to make—the ace of diamonds. This would drop dummy's lone king and force Mr. Dale to ruff.

That was Mr. Muzzy's choice and Mr. Dale did ruff. He then

South dealer			
Both sides vulnerable			
North			
(Miss Brash)			
S-K 9 8 4	H-9 3	D-K 7 6 5	C-K J 10
West			
(Mr. Champion)			
S-7 3	H-5 2	D-J 10 4	C-A 9 7 6 5 2
East			
(Mr. Muzzy)			
S-6 2	H-A 8 7 6	D-A Q 9 8	C-Q 8 3
South			
(Mr. Dale)			
S-A Q J 10 5	H-K Q J 10 4	D-3 2	C-4

The bidding:			
South	West	North	East
1 S	Pass	2 D	Pass
2 H	Pass	2 S	Pass
3 S	Pass	4 S	All pass

cashed the rest of his good hearts, discarding all dummy's clubs. Thus the defenders were held to two diamonds and one heart.

"As good as I am, I can't beat three other players," said Mr. Champion disgustedly. "Why didn't you lead a club when you were in with the ace of hearts, Muzzy?"

"Lead from my queen right into the king-jack-ten?" asked Mr. Muzzy in a shocked tone. "I didn't know you had the ace."

"Makes no difference," barked Mr. Champion. "You could count Dale for five spades and almost surely for five hearts. He had played two diamonds so he couldn't have more than two clubs at the most. Now if he had the ace of clubs, there was no way to beat the hand. Right?"

Mr. Muzzy would admit nothing. "All I can say," he remarked, "is that you'll never catch me leading from a queen into a king-jack on the board."

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Cars Valued at \$300 Million Line Lots on Toronto Street

TORONTO (AP)—Known as the street of 10,000 cars, it stretches through Toronto's east end for miles. The men who work on it call it "the great white way of Canadian motordom." The city street guide lists it as Danforth avenue.

They don't make automobiles on Danforth avenue, but the used car lots that line it put another car on the road every four minutes. Police statistics show more than 100 used car lots on this motorcar marketway.

And the lots are not broken, glass-dotted blots squeezed in between buildings. They are expanses of landscaped grounds with streamlined, air-conditioned offices where seller and buyer can sit in comfort and dicker. Besides the office there is usu-

ally a spacious garage where weak spots are made strong, and cars are given a complete over-haul. With an estimated \$300,000,000 cash turnover the street of cars is the biggest used car market in Canada—one of the biggest anywhere. There is no other work in the used cars sold in this market place. These mechanics are in business to stay a business that, to a large extent, depends upon return for its life. One bad bargain could mean a big loss from potential buyers.

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