

Texas **GAME AND FISH** October 1953

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Here they come!

Texas Game and Fish

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TEXAS GAME AND FISH is published monthly by the Texas Game and Fish Commission. Subscription price \$1.00 per year. Single copies of current issue 10 cents each.

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A MONTHLY MAGAZINE DEVOTED TO THE PROTECTION AND CONSERVATION OF OUR NATIVE GAME AND FISH; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

October, 1953

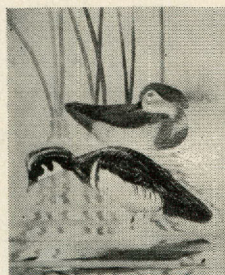
Vol. XI, No. 11

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In This Issue

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Horned Symbol of Texas	4
By WAYNE McALLISTER The horned lizard is as Texan as cowboy boots.	
Game Meat Needs Special Care	6
By DR. C. M. PATTERSON To preserve that sweet taste, game meat must be handled differently. Here's why . . . and how.	
Last Laugh	7
By HAROLD SCHERWITZ Sometimes it pays to be ignorant.	
The Red Tide of Lake Austin	8
By KENNETH C. JURGENS The deadly "red tide" made fishermen wonder.	
It Takes More Than a Warden	9
By JAY VESSELS The story of a Justice of Peace who likes hunters and fishermen . . . when they do it legally.	
Sunrise and Sunset	10
Localized tables to help you obey the game laws.	
Bass in Action	13
Action photos by CLYDE GRAHAM.	
First Aid for Dogs	14
By DR. MARTIN P. HINES Fourth in a series on the care of hunting dogs.	
Texas Ducks	16
By WALLACE HUGHES First of a series about Texas waterfowl.	
Plans for Wildlife Awards Detailed	18
When a Man Makes Up His Mind	19
By JAY VESSELS Sometimes not even a champion bass will change it.	
The Wood Duck	22
By J. R. SINGLETON The story of this month's cover subject.	
Texas Wildlife Federation Meets	23
Letters	2
Duck Report	12
Texas Tracks	20
Trophy Competition ...	27
Texas Fisherman Honored	27
Summary of Seasons ...	28
Books	30
Desert Shrimp ...	
... Inside Back Cover	



The Cover

The wood duck, painted for this month's cover by Sidney A. Wooldridge, is widely known as the most beautiful of all ducks. They nest in trees, seeking a hollow, and often roost in them. Protection has raised the wood duck population from a dangerous low; the limit now is one per day. Wood ducks often spend the year in Texas.

ROAD RUNNER A PREDATOR?

Editor:

I note the discussion in your magazine between Martha West and the Honorable J. Frank Dobie relative to the road runner as a predator.

I am not writing this letter in quest of an argument or to question Mr. Dobie's opinion on the subject, for I value his opinion as an authority on any subject he may choose to write about and I think he is one of the very best writers we have in all of America . . . but I would like to give you the benefit of more than fifty years spent in the Southwest as a hunter and observer of wildlife.

It has been my experience all the way along that road runners are predators and will tackle anything they think they can destroy, from a rattlesnake on down . . . I have found them in deadly combat with rattlesnakes. One time I found one doing his very best to kill two rattlesnakes that he had backed up against a water tank and would make a dive at first one and the other. That was one road runner I did not try to destroy!

It has been my experience that road runners are not partial to any bird, but will do away with any species that happens to be handy. Last year there were a number of sparrows, a mocking bird, and a scissortail nesting in some large elm trees in my front yard. One morning a road runner came through the yard, passed right by my wife, who was watering the grass, flew up into the tree and started tearing out the nests of the other birds. My wife called me and by the time I got

there, the nests were all torn out and the road runner was gone. Some of the sparrows had young in their nests and they were lying on the ground when I got there. The mocking bird and the scissortail had eggs in their nests and the eggs were all broken.

Three years ago one of my brothers and I had been jackrabbit hunting several miles west of Pecos and were coming back to town. As we came up to the corner of one of the large cotton farms, we saw several road runners and a pair of blue quails having a battle and we stopped to watch. We then discovered that the quail had a covey of small birds that the road runners were after. One of them made a dive and caught one of the small quail. We immediately joined in the battle with a couple of 22 automatic rifles and succeeded in killing four of the road runners, one getting away . . .

R. V. Nabers
Box 112
Pecos, Texas

Editor:

I agree with Mr. Dobie when he said, "Personally, I'd rather have one road runner and six quail than no road runners and seven quail. The people need to cultivate a sense of values."

A. G. Collin
Rockport, Texas

CICHLID LEGEND

Editor:

I have been much interested in reading the article about the Rio Grande "perch" in your August issue . . .

I have never before heard the legend that most of the Chichlidae carry near their tails the fingerprints of Simon called Peter. However, I do know that there is a somewhat similar tradition, extremely ancient and probably of either Pagan Irish or Scandinavian origin, concerning the North Atlantic haddock. This fish has on either side not far behind the gills a very distinct fingermark of black, which assertedly was left there by old Beelzebub when he tried to grab a haddock for chowder one day but had to let go when a crab bit him on the tail . . .

Henry A. Nichols
Orange County Aquarium Society
2029 South Partin Street
Santa Ana, California

MEOWING CROW

Editor:

I thought your readers might enjoy hearing of Mr. and Mrs. Leon Smith, Brownwood, and their pet crow, Buzz.

Buzz is best known for unlocking the gate and trying to pick the spots off the Smith's bird dog. He is continually chas-



The Smiths and Pets

ing and teasing the chickens and cats. He has learned to take the mail out of the box and to meow like a cat.

Buzz insists on a regular bath. Even when there is snow and ice on the ground, he will fly to the window and beg to go outside to bathe.

His latest trick is the most unbelievable. He rolls over on his back with a stick or pecan in his feet, pulls it through his toes, then throws it into the air and catches it in his beak.

Mary Ann Arnspiger
1005 Poindexter Street
Brownwood, Texas

A COLORADAN REMEMBERS

Editor:

I just ran across a column from the Wise County Messenger of 50 years ago last November. It reads:

"As soon as the weather is cool enough, our merchants will buy and ship all kinds of wild game—duck, quail, cotton tails, jack rabbits, etc. So rub up your old flintlocks, keep your dogs in trim, and be ready for the fun and the fray."

I was a boy of 13 at that time. Quail and ducks were unlimited. I sold quail to a chicken peddler at five cents each.

I have seen hunters with boat loads of ducks in the early spring . . . when the Trinity River overflowed into Goose Lake Valley above Boyd, Texas . . .

Coming nearer to the present time, I visited Wizard Wells, west of Lake Bridgeport, three years ago. I was surprised to

ARE YOU CHANGING YOUR ADDRESS?

Then please fill out the following form and send to TEXAS GAME AND FISH, Walton Bldg., Austin, Texas, so that you will continue to receive your copies of the magazine.

The magazine is sent second class mail and can not be forwarded by the post office nor remailed from this office. Allow six weeks for processing.

Name.....

Old Address.....

City....., State.....

New Address.....

City....., State.....

find the amount of wild game around there. Hundreds of 'coon, many flocks of turkey, some quail, quite a lot of white-tailed deer . . .

One night . . . a large gobbler in the road was blinded by my car lights. Trees were on each side, so he took off down the road. He first ran at 18 miles an hour, then down to 14, and after about 500 yards, he flew into a woven wire fence and got tangled up . . . I untangled him . . . he looked like an old bird of at least 30 pounds . . . I let him loose, and he sailed away.

I took out a fishing license and found fishing much improved to what it was when I was a boy. The sand bass (white bass) fishing was out of this world. I got the limit of 25 in about four hours. The last day I was out I landed 12 sand bass, four largemouth bass, 11 channel cat, about a dozen large bluegills, and two drum.

Texas is to be congratulated on the warm-water fishing they have, and I would like to thank the Game and Fish Commission for the good fishing.

Tom F. Sliger
214 West Main St.
Littleton, Colo.

NEW COVER DESIGN

AGAINST:

. . . You asked for comments on the new cover format. I prefer the old format. More professional appearance.

Ruth T. Williams
4108 Beecher St., NW
Washington 7, D. C.

NEUTRAL:

I am willing to go along with other readers who requested that TEXAS GAME AND FISH change its cover in order to frame its many wonderful pictures, but I really do like the old way better.

Richard Johnston
2848 Bristol Drive
Dallas 8, Texas

FOR:

I have read with interest TEXAS GAME AND FISH since the very first issue. I want to express my approval of the new cover design. I hope there are enough "yes" votes to continue this new cover.

Tom V. Freeman
Gatesville, Texas

. . . I approve it 100 per cent. Besides being every bit as neat and attractive as your old design, the new cover does greatly enhance its value for framing or other reuse . . .

Robert C. Cripe
2209 Texas Ave.

San Antonio 1, Texas
(Any more votes?)

POCKET GOPHERS

Editor:

Regarding C. O. Bailey's article "Unwelcome Neighbors" in your August, 1953, issue, I feel that you should be advised that the only bulletin available to the general public on pocket gophers is Wildlife Leaflet 340, prepared and issued by the U. S. Department of the Interior in May 1952.

This may be obtained by writing to the Texas Agricultural Extension Service, College Station, Texas, or to the U. S. Fish and Wildlife Service, P. O. Box 1941, San Antonio 6, Texas.

County agricultural agents and Rodent Control Service personnel are in an excellent position to provide reasonable and satisfactory information on this subject.

Milton Caroline
U. S. Fish and Wildlife Service
Branch of Predator and Rodent Control
P. O. Box 1941
San Antonio 6, Texas

BIG DEER TROPHY

Editor:

Enclosed is a snapshot of a white-tailed deer head. I have never heard of a set of antlers from a deer killed in Texas with a wider spread.

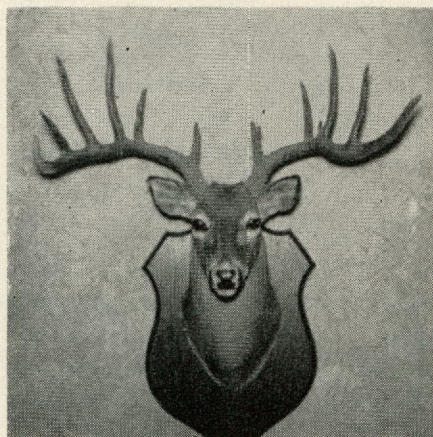
The spread is 31 and five-eighths inches wide. It measures 30 and one-half inches from tip to tip, with fourteen points.

The buck was killed by one of the old sportsmen of Texas, the late M. A. Withers of Lockhart, Dec. 14, 1920, on the Callihan Ranch in Webb County. The mounted head now is in the possession of his daughter, Miss Bertha Withers of Lockhart.

H. L. Bunch
P. O. Box 424
Lockhart, Texas

(Anyone know of deer with wider spread?)

Big Spread



Weslaco Hunters

GOOD HUNTING

Editor:

Enclosed is a photo of the first two days hunting in Kendall County near Comfort, Texas.

Lloyd Smitley, left, bagged a six-point and five-point buck and the gobbler. I got a six-point buck, and Dan Hintner, not pictured, bagged a five-pointer.

All the hunters are from Weslaco. We all think the magazine is the best—only wish it were larger.

Charles Silkwood
Weslaco, Texas

WILDLIFE BENEFACTOR

Editor:

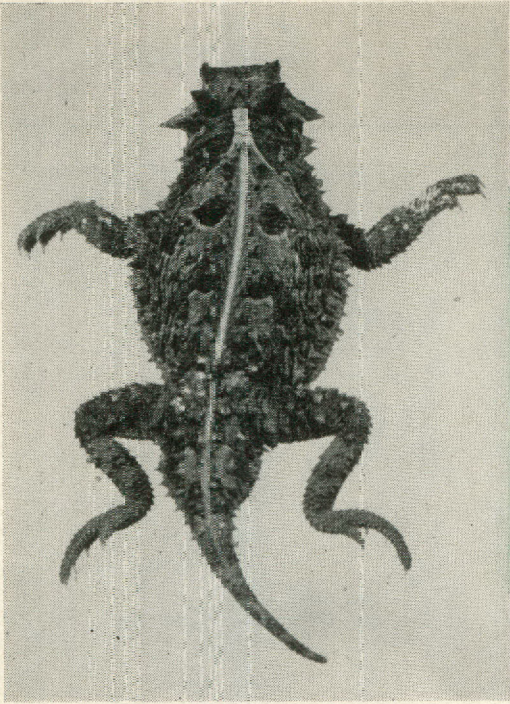
Enclosed find \$1 for a subscription to TEXAS GAME AND FISH for Capt. Fred C. Olson.

Captain Olson is a student of nature and wildlife and has done a great deal in his community in particular and Texas in general to promote the ideals of your Department. His ranch is stocked and protected by a wildlife management program and he is constantly at war with game violators and predatory animals. Many a head-lighting hunter has felt the heavy hand of the law on his shoulder in the person of Captain Olson.

We need more men of his caliber in Texas and I think that we, as sportsmen, should commend Captain Olson for his interest in wildlife.

Sincerely yours,
William H. Davis
2107 Alameda
Austin, Texas

(Perhaps you might do Captain Olson a favor by nominating him for one of the Wood Wildlife Conservation awards [see page 18 this issue].)



Texas Horned Lizard (male)
Phrynosoma cornutum

Horned Symbol of Texas

By WAYNE McALISTER

ALMOST every traveler who visits Texas returns home with a shoebox under his arm which contains an odd little creature known widely as the Texas "horned toad." For, along with the diamond back rattler and the coyote, this lively little reptile has become an animated symbol of Texas and the Southwest.

As is the case with many popular animals, a host of truth, myth, and legend has sprung up concerning it. Known locally as the horned toad, horny lizard, horny toad, or horny frog, this little reptile is one of the most familiar members of our Texas fauna.

A surprising fact about the horned toad is that it is not really a toad at all but is actually a member of the lizard family and is thus more closely related to the snakes and reptiles than to toads and other amphibians. The horned "toad" resembles toads in form only and is easily distinguished from the latter by its rough dry skin, stubby tail, and clawed toes.

A highly disputed fact about this little reptile concerns its mode of reproduction. To understand fully, it must be remembered that there are three species or "kinds" of horned lizards to be found in Texas. The most common type, the Texas horned lizard (*Phrynosoma cornutum*), is

oviparous, laying eggs. Another more western species (*P. modestum*) has not been studied as closely as others of its genus, but it, too, is considered to lay eggs and the last species (*P. douglassii hernandesi*), which is common in the Trans-Pecos section of Texas, is viviparous and bears its young alive.

IN THE common species, which is the type most frequently observed, mating occurs during the spring months. The eggs, numbering approximately twenty-five, are laid in a depression in dry or sandy soil.

The habits of the Texas horned lizard are well known. Many a picnicker or hunter has been startled when a "patch of ground" leaped from beneath his feet and scurried off through the sand and scrub brush to suddenly stop and seemingly disappear. This is a typical experience with the horned lizard, whose protective colors match his sandy and desolate surroundings.

The horned lizard is rather slow moving compared to the rest of his clan, and, like the majority of lizards, it is active only during the daytime. At night this little animal selects a suitable sandy spot and literally sinks from sight as it makes lateral scooping motions with its body until only the top of the head remains above the surface of the soil.

All of the horned lizard's time is spent on the ground and there it lives quite contentedly. The food, which is obtained with short bursts of speed and a lightning-like thrust of the tongue or by stalking, consists largely of ants, of which great quantities may be taken. The lizard's diet is not strict, however, and many small ground-loving insects are taken as they are encountered.

Among the many legends concerning the horned lizard, two are outstanding. The first, although it has never actually been proven without a doubt, is highly improbable. It is the belief that horned lizards can survive for unbelievable periods of time in sealed containers.¹ Although opposition is high on both sides, the herpetologists say "no," so their answer will have to be accepted until the matter is proven otherwise.

The second "legend" is rather unusual in that it is a perfectly true and proven fact. Horned lizards are capable of shooting a thin, rather powerful stream of blood from the corner of the eye!

Examination shows that this startling action is produced by a rather complicated process. The lizard, along with other species, is capable of clos-

¹ See "Old Rip," TEXAS GAME AND FISH, April, 1953.

ing the main carrying vessels to the head, thus cutting off the blood supply and causing the head to swell noticeably. This unusual process helps in loosening the old epidermis on the head region prior to shedding.

However, in the horned lizards, the nictitating (blinking) membrane of the eye is thin and sometimes bursts, causing the blood to shoot out under the pressure which is applied. This unique effect seems to be of no value to its owner unless as a poor protective device.

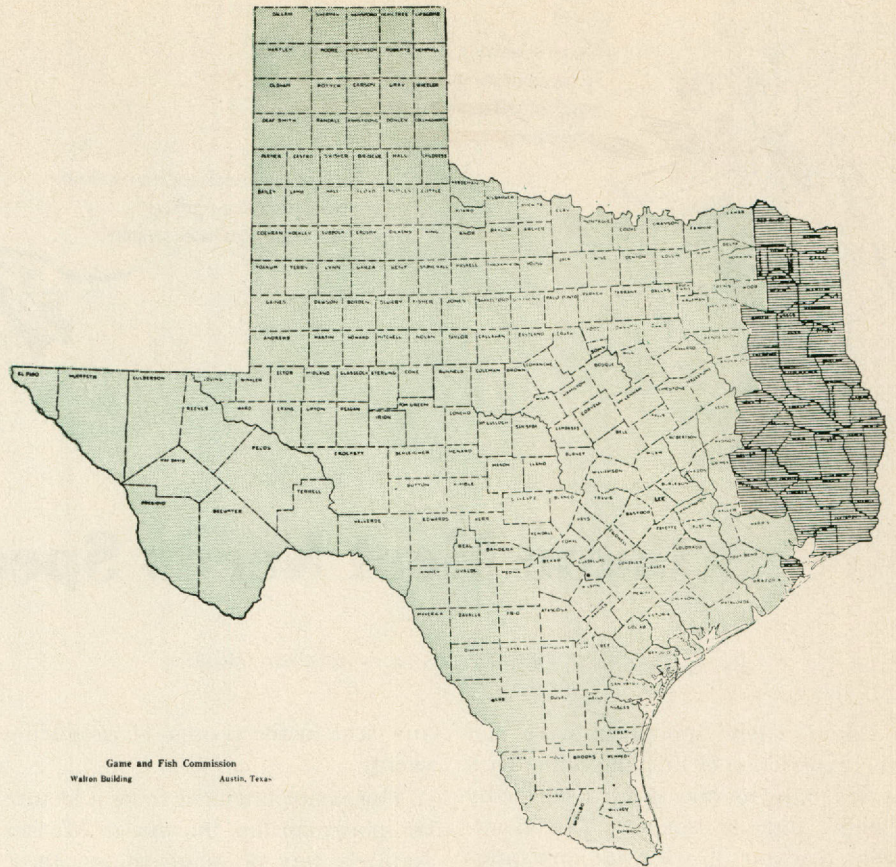
Because of its popularity and the ease with which it may be captured, the horned lizard is often kept in captivity by many travelers and other interested persons. Unfortunately, many people are ignorant of the little animal's necessities and their pets often die from various avoidable causes.

HORNED lizards live rather well in captivity if they are given the proper attention. A necessity in keeping these little reptiles successfully is a roomy cage with a few inches of dry sand on the bottom and several objects under which the pet may crawl. Sunshine should be available, but *some shade must always be on hand.*

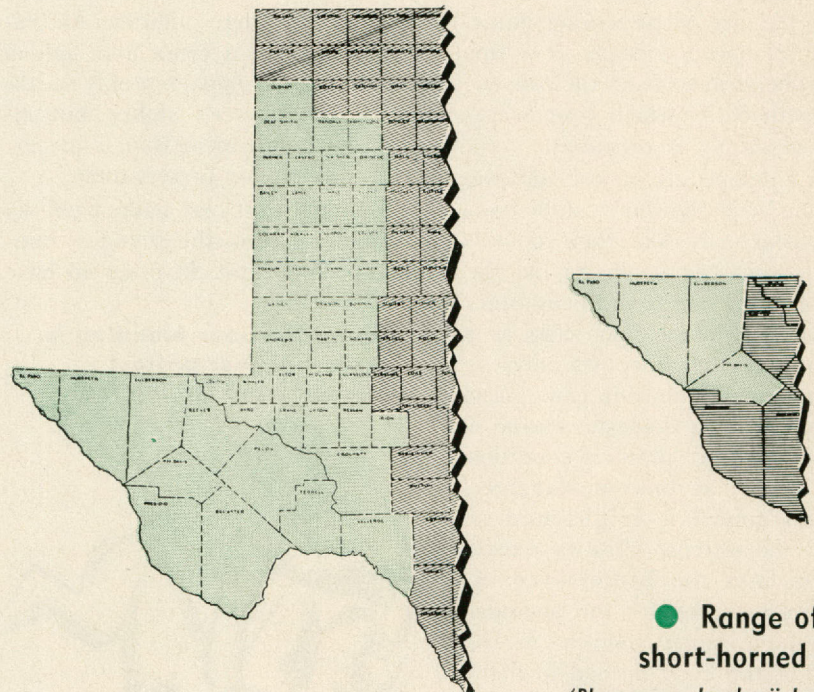
Mealworms, ants, and other live insects may be offered for food. Occasionally the interior of the cage should be finely sprinkled with water. Of course, warm temperature should be provided.

Three types of horned lizards are found in Texas, and all but the eastern quarter of the state is inhabited by one or the other of these lively little animals. The Texas horned lizard (*Phrynosoma cornutum*) occurs over much of the state including all of west and central Texas from border to border and into the eastern portion on a vertical concave line from Lamar County to Brazoria County. The bleached horned lizard (*P. modestum*) inhabits western Texas as far as a vertical line from Armstrong and Hall Counties to Val Verde County. The third, the short-horned lizard (*P. douglassii hernandesi*) occurs in Texas only in the Trans-Pecos section, where it has been reported from El Paso, Culberson, Hudspeth, and Jeff Davis Counties.

● Concluded on Page 25



● Range of the Texas horned lizard
(*Phrynosoma cornutum*)



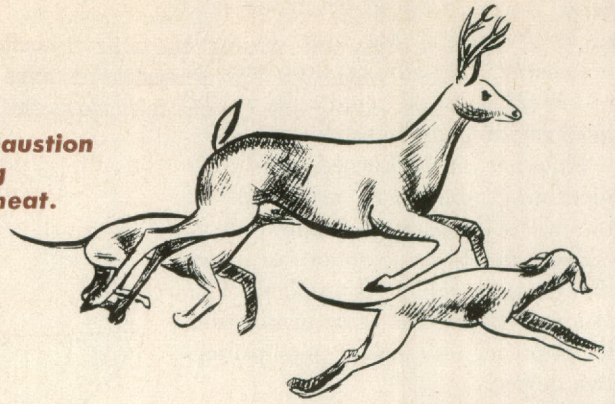
● Range of the short-horned lizard
(*Phrynosoma douglassii hernandesi*)

● Range of the bleached horned lizard
(*Phrynosoma modestum*)



Game meat brought in fresh is excellent to serve and a pleasure to prepare . . .

. . . but fear and exhaustion may reduce keeping qualities of game meat.



Illustrated by Thomas R. Bishop

Game Meat Needs Special Care

By C. M. PATTERSON *Doctor of Veterinary Medicine*

Many fellow sportsmen have had the experience of arriving home with a kill only to find it in a decidedly "high" state of ripeness. The inevitable reaction of the wife only adds to the woe.

Now that shooters from canplunkers to bear-busters are attempting to make a science of gunnery, it shouldn't be objectionable to add a little applied bacteriology and chemistry to the art of preserving game. Nothing elaborate—just a few tips that can be gleaned from the conventional methods by which your everyday meat supply is prepared.

Dear, antelope, elk, moose, and the rest of the "cud-chewers" can be handled satisfactorily like their domesticated cousin, the cow. As for the bear, his eating habits and body functions put him in the same class as a hog (for slaughter purposes only).

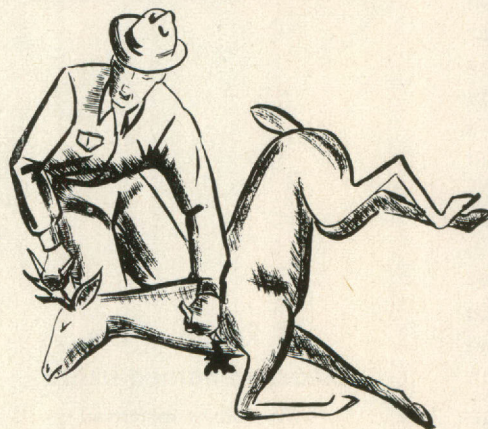
The major difference in game meat and meat from a domestic source is the emotional and physical condition of the animal at time of slaughter. When an animal is frightened or angered the adrenal glands release adrenalin into the blood stream, which, in turn, causes the assimilation of large sugar reserves in the muscles of the body needed in flight or fight. When this condition exists, the body temperature rises instead of falling following death. The heat rise is brought about by the reserve sugar being broken down into lactic acid

and heat in the process of producing energy.

This is not intended to be a lecture on sportsmanship, but due to Mother Nature's way of doing things, there are certain ways game must be taken to insure its keeping qualities. Game animals that are taken in drives, with hounds, or run down with horses are in a high stage of excitement and exhaustion, both of which materially lower its keeping qualities. An expert stalk, with a clean and sudden dropping of the game, not only speaks well of the hunter's ability, but rewards him with meat that is in perfect condition for preservation.

Assuming that we have fired an immobilizing shot, the next few minutes are important. In order to have

Prompt, proper bleeding is important, but protect yourself from flailing feet.

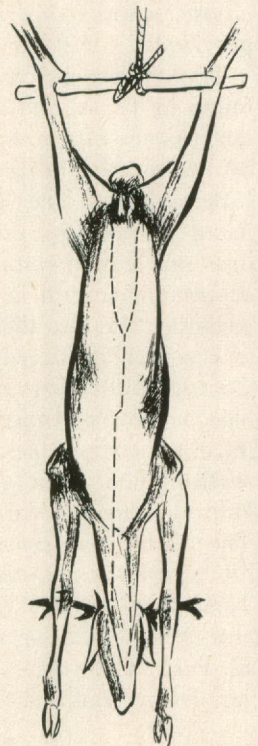


meat of good appearance and flavor the animal must be bled out well. This can only be accomplished while the heart is still beating. Fortunately, the old ticker is a good bit slower about "giving up the ghost" than most of us realize. It usually continues to pump for two or three minutes after respiration has ceased.

The carcass should be turned head

● *Concluded on Page 31*

Remove throat parts and sex organs along with body cavity contents.



LAST LAUGH

When the cub reporter wrote that Texas hunters were looking for ducks "in the trees" . . . well, there's never been such laughter before or since.

From a column in
The San Antonio Light
By HAROLD SCHERWITZ

WE NOTE with a sigh in glancing over the migratory waterfowl laws just announced by the secretary of the interior that there still will be no open season in Texas on the black-bellied tree duck.

This is discouraging but we shall bear up under the blow. We have been waiting many years, so we suppose we can wait another one to realize our ambition of shooting a duck out of a tree.

This strange yen, we hasten to explain, has not been a selfish desire to lessen the obviously depleted tree duck population. It has been a desire nurtured unflinchingly over the long seasons in the hope that we could some day vindicate an old friend—and we blush slightly here at the smiles and nods of approval.

It was back in the dirty thirties. Good gracious, no! It must have been back in the scently twenties. Sam Lucchese—who pronounced it Lou Casey, and still does as he rides herd over his department in the editorial offices of the Atlanta Constitution—was a starry-eyed (two r's in there, Mr. Printer) youngster on the staff of the *San Antonio Light*. The duck-hunting season loomed, and young Mr. Lucchese was assigned—as cubs were then and often are now—the task of writing a suitable ode heralding the impending excitement. And, as cubs did then and do now, he sought to stun his readers with a "lead" that was absolutely new and,

if he managed to get the proper inspiration, one that would bug out their eyes and cause them to look twice at his by-line over the "story."

Little did he realize how he succeeded in stunning them until an equally naive editor let his duck season sizeup get through and into print.

It started out something like this:

"Texas nimrods this week are looking carefully in the trees along the lakes and ponds getting an idea of the numbers of ducks they can expect to line up in the sights of their shotguns when the season opens next week."

Well, sir, his mail the next few days set something of a record. When he got so he could open a letter without locking himself in the gentlemen's powder room, he began to get a big kick out of the funny letters, derisive

letters, technical letters. They even sent him poems such as the takeoff on Joyce Kilmer's classic that went:

"I hope that I shall never see

"A duck perched high upon a tree."

There were photographs of the webbed feet of our quacking friends with requests to explain how they wrapped 'em around a branch, or did they have to find a flat branch to stand on?

And was it true that they could roost only in thorn bushes where they hooked themselves on by those little holes in their bills?

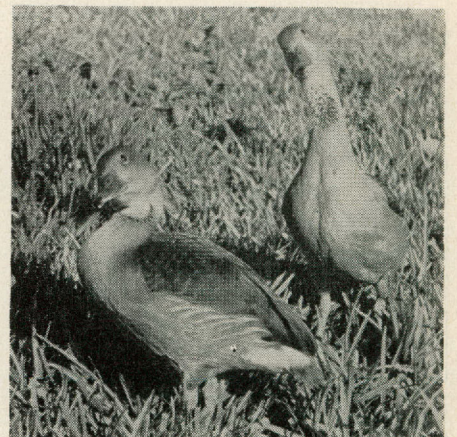
The sports page readers had great fun at the expense of a good fellow, who got so he could laugh at it with the rest.

Whereupon his friends vowed they would find ducks roosting in trees if

● Concluded on Page 32

THE PROOF . . .

. . . young Texas black-bellied tree ducks, left, and fulvous tree ducks, right.



The

RED TIDE

of Lake Austin

The first "Red Tide" ever scientifically recorded in fresh water invaded Lake Austin recently. Fishermen wondered if it would prove as destructive as the more famous "Red Tides" of the Florida Coast.

By KENNETH C. JURGENS
Aquatic Biologist

LAKE Austin was the scene of a recent mystery which caused great alarm among the local fishermen and created interest over the state. Fish by the thousands were dying and fishermen feared the Lake Austin fish population was threatened with extermination.

Furthermore, the surface of the water where the dead fish were floating was mysteriously colored a blood red. These areas were at times extensive, covering acres, and at other times limited to small patches along the shore. Also, the red water was restricted to the middle portions of the lake and could not be found in either the extreme upper or lower parts.

Reports came in that the red water would appear and disappear in a "now you see it, now you don't" way which seemed to indicate the presence of something evil and alive.

Investigations by Game and Fish Commission biologists, searching for the cause of the plague affecting Lake Austin fish, led to the examination of samples of the red water by Dr. Austin Phelps, Associate Professor of Zoology, of the University of Texas.

Dr. Phelps, a well known protozoologist, found, as was suspected, the presence of millions of microscopic organisms tentatively identified as a species of the dinoflagellate genus *Gymnodinium*. These are one celled animals characterized by a whip-like tail.

These organisms have been recognized for years as the cause of red water the world over, and caused the terrible "Red Tide" off the west coast of Florida during 1946 and 1947, when great masses of dead fish covered the surface of the water and littered the beaches.

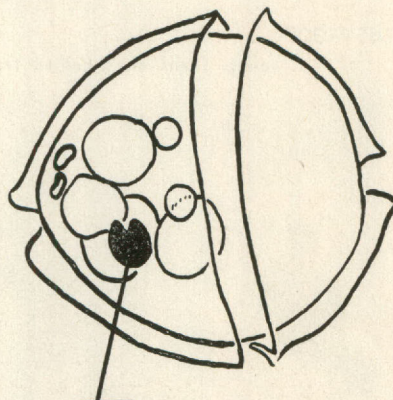
Because of the "Red Tide," the U. S. Fish and Wildlife Service has been conducting research into the causes of red water for a number of years. They have found that dinoflagellates are present in most natural waters but they "bloom" only under certain conditions which are as yet not fully known. To "bloom" in this case means the occurrence of an abnormally high rate of reproduction when certain favorable conditions develop in the water. The result is the

presence of millions of dinoflagellates per quart of water where under normal conditions only a few hundreds or thousands would be found.

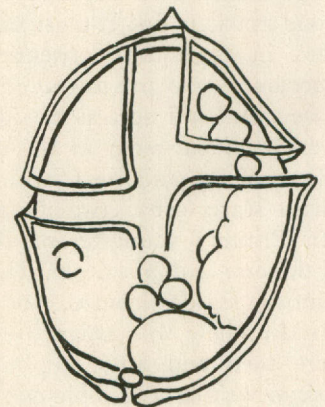
In recent conversations with Mr. William Wilson, of the Fish and Wildlife Service, who has been working with Mr. Albert Collier, a leader in the research on red water, it was learned that evidence is now on hand which indicates the need for minute quantities of certain minerals, amino acids, vitamin B₁₂, as well as other unknown factors by these organisms before it is possible for them to multiply rapidly enough to produce a "bloom." When such a bloom occurs it is often referred to as a "Red Tide."

Mr. W. B. Wilson, of the Fish and

● Concluded on Page 24



RED EYE SPOT



Order Dinoflagellata -- *Gymnodinium* sp.

From a drawing by Mrs. Austin Phillips



Judge Bell, staunch friend of wildlife and consistent foe of lawlessness, holds court in his office as Game Warden Jim Pond views the accused.

It Takes More Than a Warden

Wildlife sympathizers like Judge Bell insure proper enforcement

It was ironical that Judge P. T. Bell had to lie there in the snow white sheets in the modern, air-conditioned hospital and talk tough talk about the old days when the folks slept in their homespun clothing with rifles across their knees to shoo off marauding Indians. Besides, it was the first time the 84-year-old Justice of the Peace had ever been bedded down in a hospital. And with mere influenza at that.

Judge Bell definitely was displeased with himself and definitely got a

By JAY VESSELS

minimum of pleasure from an interview which ordinarily he would have illustrated with a bundle of personal data tracing the story of Carrizo Springs and points north and west. Another reason for the obvious discomforture was that Judge Bell usually punctuates his daily routine with old time fiddling, as everybody around the Dimmit County courthouse appreciates.

Perhaps it was just as well the Judge didn't have a fiddle or any other maneuverable instrument handy. Some of the questions were that irksome. But his long-time friend and associate, Game Warden Jim Pond, helped keep the balance with the right amount of solicitude at the right time. Finally, something like the Washington reporter who senses the correct time to terminate White House interviews with "Thanks, Mr. President." Warden Pond arose with a "Thanks, Judge Bell," and swept on out engulfing the inquisitor as he went.

It was Judge Bell's fate to be brought into the public spotlight be-

yond his own home area because of his keen cooperation with wildlife authorities in Deep South Texas, particularly concerning law enforcement. Strange twist there, too, since Judge Bell once made his living at market hunting, but now is committed to a hard-fisted policy against wildlife offenders.

Of course, while Judge Bell personally shot game for a livelihood, this custom was strictly legal. Furthermore, market hunting was not responsible for decimation of wild game. Relentless extermination of natural habitat caused that. Authorities contend that market hunters even in the bloodiest days of the open range scarcely dented the harvestable surplus of most species of wildlife, for always there was lush habitat to produce new supplies.

Judge Bell has seen the complete swing from plenty to poverty among the Animal Kingdom. His parents went to Carrizo Springs so long ago that they had to turn around and return to Nacogdoches because the Indians still were hostile. That was in 1869 when P. T. Bell was one year old. When they came back in

▷ Concluded on Page 26



Left, Judge Bell strikes a fiddlin' pose against a background of his precious instruments. He's popular around the Dimmit County courthouse where he plays old time tunes between court sessions.

SUNRISE and SUNSET

Legal shooting hours are regulated by the sun. These tables are good until 1960.

Okay, so the weather man was to blame for dry weather. He's used to being chastized for such. Here, however, is a case where the weather man's motives are obvious, even to the demented. He's trying to keep hunters within the legal shooting period.

Yes, he has furnished here the sunrise and sunset hours for the major fall game months. So take the official time for your own area from here, check on the daily shooting periods, and keep within the law.

Be precise about it, too, because game wardens are going to follow the time table in enforcing regulations.

This official composite record was prepared by nine Texas Weather Bureau stations at the suggestion of Hoye S. Dunham, meteorologist at Austin.

This time-telling routine spreads over a lot of empty hulls in far-flung Texas, since the hours differ so vastly in the different areas.

One-half hour before sunrise means quite a spread, say, as between El Paso and Amarillo. Sunrise at El Paso on October 1 was 6:00 o'clock on the nose. Sunrise at Amarillo, deep in the Panhandle, the same day was 6:41 a.m. A primary reason is that El Paso's time is one hour earlier, it being in the Mountain Standard time zone.

The difference is considerable even within the Central Zone, which encompasses most of Texas, including Amarillo. Texarkana, in far northeast Texas, had its sunrise at 6:10 a.m., thirty-one minutes earlier than the Amarillo sunrise time of 6:41.

Likewise, the sunset hours vary greatly, being in the same proportionate difference as the sunrise times. Those sunset hours also are just as vital to the gunner who wants to abide by legal hours.

Under the general law, deer, turkey and quail may be hunted until one-half hour after sunset. Migratory bird regulations, however, provide that shooting of ducks, geese and doves must end at sunset.

Certainly the figures will stand close scrutiny. If in doubt, contact your local game warden. If he is *not* available, refer to the Game Law Digest and to the supplement covering waterfowl. They are available at several agencies, including those which handle state licenses.

Might hang on to the statistical tables, too, because Dunham said the data will remain official through 1960. So paste this clip on your shell case or put it among the pinups in your den.—Jay Vessels.

All tables are Central Standard time except El Paso, which is Mountain Standard

AMARILLO

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:41	6:31	7:08	5:53	7:37	5:35
2.....	6:42	6:30	7:09	5:52	7:37	5:35
3.....	6:43	6:29	7:10	5:51	7:38	5:35
4.....	6:44	6:27	7:11	5:50	7:39	5:35
5.....	6:45	6:26	7:12	5:49	7:40	5:35
6.....	6:45	6:25	7:13	5:49	7:41	5:35
7.....	6:46	6:23	7:13	5:48	7:42	5:35
8.....	6:47	6:22	7:14	5:47	7:42	5:35
9.....	6:48	6:20	7:15	5:46	7:43	5:35
10.....	6:49	6:19	7:16	5:45	7:45	5:35
11.....	6:49	6:18	7:17	5:44	7:46	5:35
12.....	6:50	6:16	7:18	5:44	7:46	5:35
13.....	6:51	6:15	7:19	5:43	7:47	5:36
14.....	6:52	6:14	7:20	5:42	7:48	5:36
15.....	6:53	6:13	7:21	5:42	7:48	5:36
16.....	6:54	6:11	7:22	5:41	7:48	5:36
17.....	6:54	6:10	7:24	5:40	7:49	5:37
18.....	6:55	6:09	7:24	5:40	7:49	5:37
19.....	6:56	6:08	7:25	5:39	7:50	5:38
20.....	6:57	6:06	7:26	5:39	7:51	5:38
21.....	6:58	6:05	7:27	5:38	7:52	5:38
22.....	6:59	6:04	7:28	5:38	7:52	5:38
23.....	7:00	6:03	7:30	5:37	7:53	5:39
24.....	7:00	6:02	7:30	5:37	7:54	5:40
25.....	7:01	6:01	7:31	5:37	7:54	5:41
26.....	7:02	5:59	7:33	5:36	7:54	5:41
27.....	7:03	5:58	7:33	5:36	7:55	5:42
28.....	7:04	5:57	7:34	5:36	7:55	5:43
29.....	7:05	5:56	7:36	5:35	7:55	5:43
30.....	7:06	5:55	7:37	5:35	7:56	5:44
31.....	7:07	5:54			7:55	5:45

AUSTIN

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:24	6:17	6:45	5:44	7:10	5:30
2.....	6:25	6:16	6:45	5:43	7:11	5:30
3.....	6:25	6:14	6:47	5:42	7:12	5:30
4.....	6:26	6:13	6:48	5:41	7:12	5:30
5.....	6:26	6:12	6:48	5:41	7:13	5:30
6.....	6:27	6:11	6:50	5:40	7:14	5:30
7.....	6:28	6:10	6:50	5:39	7:15	5:30
8.....	6:28	6:09	6:50	5:39	7:15	5:30
9.....	6:29	6:07	6:52	5:38	7:16	5:30
10.....	6:30	6:06	6:53	5:37	7:17	5:31
11.....	6:30	6:05	6:53	5:37	7:18	5:31
12.....	6:31	6:04	6:54	5:36	7:18	5:31
13.....	6:31	6:03	6:55	5:35	7:19	5:31
14.....	6:32	6:02	6:56	5:35	7:20	5:32
15.....	6:33	6:01	6:57	5:34	7:20	5:32
16.....	6:33	6:00	6:58	5:34	7:21	5:32
17.....	6:34	5:59	6:59	5:33	7:21	5:32
18.....	6:35	5:57	6:59	5:33	7:22	5:33
19.....	6:35	5:56	6:59	5:33	7:23	5:34
20.....	6:36	5:55	7:01	5:32	7:23	5:34
21.....	6:37	5:54	7:02	5:32	7:24	5:34
22.....	6:37	5:53	7:03	5:31	7:24	5:34
23.....	6:38	5:52	7:04	5:31	7:25	5:36
24.....	6:39	5:51	7:04	5:31	7:25	5:36
25.....	6:39	5:50	7:05	5:31	7:26	5:37
26.....	6:41	5:49	7:06	5:30	7:26	5:37
27.....	6:42	5:48	7:07	5:30	7:26	5:38
28.....	6:43	5:47	7:08	5:30	7:27	5:39
29.....	6:43	5:46	7:08	5:30	7:27	5:39
30.....	6:43	5:46	7:09	5:30	7:27	5:40
31.....	6:44	5:45			7:27	5:40

BEAUMONT

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:09	6:02	6:30	5:29	6:54	5:16
2.....	6:10	6:01	6:30	5:28	6:55	5:16
3.....	6:10	5:59	6:31	5:28	6:56	5:16
4.....	6:11	5:58	6:32	5:27	6:56	5:16
5.....	6:11	5:57	6:33	5:26	6:57	5:16
6.....	6:12	5:56	6:34	5:26	6:58	5:16
7.....	6:13	5:55	6:34	5:25	6:59	5:16
8.....	6:13	5:54	6:35	5:24	6:59	5:16
9.....	6:14	5:52	6:36	5:24	7:00	5:16
10.....	6:15	5:51	6:37	5:23	7:01	5:17
11.....	6:15	5:50	6:38	5:22	7:02	5:17
12.....	6:16	5:49	6:38	5:22	7:02	5:17
13.....	6:16	5:48	6:39	5:21	7:03	5:17
14.....	6:17	5:47	6:40	5:21	7:04	5:18
15.....	6:18	5:46	6:41	5:20	7:04	5:18
16.....	6:18	5:45	6:42	5:20	7:05	5:18
17.....	6:19	5:44	6:43	5:19	7:06	5:19
18.....	6:20	5:42	6:43	5:19	7:06	5:19
19.....	6:20	5:41	6:44	5:18	7:07	5:20
20.....	6:21	5:40	6:45	5:18	7:07	5:20
21.....	6:22	5:39	6:46	5:18	7:08	5:20
22.....	6:22	5:38	6:47	5:17	7:08	5:20
23.....	6:23	5:37	6:48	5:17	7:09	5:22
24.....	6:24	5:36	6:48	5:17	7:09	5:22
25.....	6:24	5:35	6:49	5:17	7:10	5:23
26.....	6:25	5:35	6:50	5:16	7:10	5:23
27.....	6:26	5:34	6:51	5:16	7:10	5:24
28.....	6:27	5:33	6:52	5:16	7:11	5:25
29.....	6:27	5:32	6:52	5:16	7:11	5:25
30.....	6:28	5:31	6:53	5:16	7:11	5:26
31.....	6:29	5:30			7:12	5:27

BROWNSVILLE

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:22	6:17	6:39	5:48	7:00	5:38
2.....	6:23	6:16	6:39	5:48	7:01	5:38
3.....	6:23	6:15	6:40	5:47	7:01	5:38
4.....	6:23	6:14	6:40	5:47	7:02	5:38
5.....	6:24	6:13	6:41	5:46	7:03	5:39
6.....	6:24	6:12	6:42	5:45	7:03	5:39
7.....	6:25	6:11	6:42	5:45	7:04	5:39
8.....	6:25	6:10	6:43	5:44	7:05	5:39
9.....	6:26	6:08	6:44	5:44	7:05	5:39
10.....	6:26	6:08	6:45	5:43	7:06	5:39
11.....	6:27	6:07	6:45	5:43	7:07	5:40
12.....	6:27	6:06	6:46	5:42	7:07	5:40
13.....	6:28	6:05	6:47	5:42	7:08	5:40
14.....	6:28	6:04	6:47	5:41	7:09	5:41
15.....	6:29	6:03	6:48	5:41	7:09	5:41
16.....	6:29	6:02	6:49	5:41	7:10	5:41
17.....	6:30	6:01	6:50	5:40	7:11	5:42
18.....	6:30	6:00	6:50	5:40	7:11	5:42
19.....	6:31	5:59	6:51	5:40	7:12	5:43
20.....	6:31	5:58	6:52	5:39	7:12	5:43
21.....	6:32	5:57	6:52	5:39	7:13	5:43
22.....	6:33	5:56	6:53	5:39	7:13	5:43
23.....	6:33	5:55	6:54	5:39	7:14	5:44
24.....	6:34	5:55	6:55	5:39	7:14	5:45
25.....	6:34	5:54	6:55	5:38	7:15	5:46
26.....	6:35	5:53	6:56	5:38	7:15	5:46
27.....	6:35	5:52	6:57	5:38	7:16	5:47
28.....	6:36	5:51	6:58	5:38	7:16	5:47
29.....	6:37	5:51	6:58	5:38	7:16	5:48
30.....	6:37	5:50	6:59	5:38	7:17	5:49
31.....	6:38	5:49			7:17	5:49

DALLAS

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:21	6:12	6:44	5:36	7:12	5:20
2.....	6:21	6:11	6:46	5:35	7:12	5:20
3.....	6:23	6:10	6:47	5:34	7:13	5:20
4.....	6:23	6:08	6:48	5:33	7:14	5:20
5.....	6:23	6:07	6:48	5:33	7:15	5:20
6.....	6:25	6:05	6:49	5:32	7:15	5:20
7.....	6:26	6:04	6:51	5:31	7:16	5:21
8.....	6:26	6:03	6:51	5:30	7:17	5:21
9.....	6:26	6:02	6:51	5:30	7:18	5:21
10.....	6:28	6:00	6:53	5:29	7:19	5:21
11.....	6:28	5:59	6:54	5:28	7:19	5:21
12.....	6:29	5:58	6:55	5:27	7:20	5:21
13.....	6:29	5:57	6:56	5:27	7:21	5:22
14.....	6:31	5:55	6:57	5:26	7:21	5:22
15.....	6:31	5:54	6:58	5:26	7:22	5:22
16.....	6:32	5:53	6:58	5:25	7:23	5:23
17.....	6:33	5:52	6:58	5:25	7:23	5:23
18.....	6:33	5:51	7:00	5:24	7:23	5:23
19.....	6:34	5:50	7:01	5:24	7:24	5:24
20.....	6:35	5:48	7:02	5:23	7:25	5:24
21.....	6:36	5:47	7:03	5:23	7:25	5:24
22.....	6:37	5:46	7:04	5:22	7:25	5:24
23.....	6:37	5:45	7:05	5:22	7:27	5:26
24.....	6:38	5:44	7:05	5:22	7:27	5:26
25.....	6:39	5:43	7:06	5:22	7:27	5:27
26.....	6:40	5:42	7:07	5:21	7:27	5:27
27.....	6:40	5:41	7:08	5:21	7:28	5:28
28.....	6:41	5:40	7:09	5:21	7:28	5:29
29.....	6:42	5:39	7:10	5:21	7:28	5:29
30.....	6:43	5:38	7:11	5:21	7:29	5:30
31.....	6:44	5:37			7:29	5:31

DEL RIO

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	06:37	18:30	06:57	17:58	07:21	17:45
2.....	06:38	18:29	06:58	17:57	07:22	17:45
3.....	06:38	18:28	06:58	17:57	07:23	17:45
4.....	06:39	18:27	06:59	17:56	07:23	17:45
5.....	06:39	18:25	07:00	17:55	07:24	17:45
6.....	06:40	18:24	07:00	17:55	07:25	17:45
7.....	06:40	18:23	07:01	17:54	07:26	17:45
8.....	06:41	18:22	07:02	17:53	07:26	17:45
9.....	06:41	18:21	07:03	17:53	07:27	17:46
10.....	06:42	18:20	07:04	17:52	07:28	17:46
11.....	06:43	18:19	07:05	17:51	07:28	17:46
12.....	06:43	18:18	07:05	17:51	07:29	17:46
13.....	06:44	18:17	07:06	17:50	07:30	17:47
14.....	06:44	18:15	07:07	17:50	07:30	17:47
15.....	06:45	18:14	07:08	17:49	07:31	17:47
16.....	06:46	18:13	07:08	17:49	07:32	17:48
17.....	06:46	18:12	07:10	17:48	07:32	17:48
18.....	06:47	18:11	07:11	17:48	07:32	17:48
19.....	06:48	18:10	07:11	17:47	07:33	17:49
20.....	06:48	18:09	07:12	17:47	07:34	17:49
21.....	06:49	18:08	07:13	17:47	07:34	17:49
22.....	06:49	18:07	07:14	17:46	07:34	17:49
23.....	06:50	18:06	07:15	17:46	07:35	17:51
24.....	06:51	18:05	07:15	17:46	07:35	17:51
25.....	06:52	18:04	07:16	17:46	07:36	17:52
26.....	06:52	18:04	07:17	17:45	07:37	17:53
27.....	06:53	18:03	07:18	17:45	07:37	17:53
28.....	06:54	18:02	07:19	17:45	07:37	17:54
29.....	06:54	18:01	07:19	17:45	07:37	17:54
30.....	06:55	18:00	07:20	17:45	07:38	17:55
31.....	06:56	17:59			07:38	17:56

EL PASO

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:00	5:51	6:22	5:16	6:48	5:02
2.....	6:00	5:50	6:23	5:16	6:49	5:02
3.....	6:01	5:49	6:24	5:15	6:50	5:02
4.....	6:02	5:47	6:25	5:14	6:51	5:02
5.....	6:02	5:46	6:26	5:13	6:51	5:02
6.....	6:03	5:45	6:27	5:12	6:52	5:02
7.....	6:04	5:44	6:28	5:12	6:53	5:02
8.....	6:04	5:42	6:28	5:11	6:54	5:02
9.....	6:05	5:41	6:29	5:10	6:54	5:02
10.....	6:06	5:40	6:30	5:10	6:55	5:02
11.....	6:06	5:39	6:31	5:09	6:56	5:03
12.....	6:07	5:38	6:32	5:08	6:57	5:03
13.....	6:08	5:36	6:33	5:08	6:57	5:03
14.....	6:09	5:35	6:34	5:07	6:58	5:03
15.....	6:09	5:34	6:35	5:07	6:59	5:04
16.....	6:10	5:33	6:35	5:06	6:59	5:04
17.....	6:11	5:32	6:36	5:05	7:00	5:04
18.....	6:11	5:31	6:37	5:05	7:00	5:04
19.....	6:12	5:30	6:38	5:05	7:01	5:05
20.....	6:13	5:28	6:39	5:04	7:01	5:05
21.....	6:14	5:27	6:40	5:04	7:02	5:06
22.....	6:15	5:26	6:41	5:03	7:02	5:06
23.....	6:15	5:25	6:42	5:03	7:03	5:07
24.....	6:16	5:24	6:42	5:03	7:04	5:08
25.....	6:17	5:23	6:43	5:03	7:04	5:08
26.....	6:18	5:22	6:44	5:02	7:04	5:08
27.....	6:18	5:21	6:45	5:02	7:05	5:09
28.....	6:19	5:20	6:46	5:02	7:05	5:10
29.....	6:20	5:19	6:47	5:02	7:05	5:10
30.....	6:21	5:18	6:47	5:02	7:06	5:11
31.....	6:22	5:17			7:06	5:12

TEXARKANA

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:10	6:01	6:34	5:25	7:02	5:08
2.....	6:11	6:00	6:35	5:24	7:03	5:08
3.....	6:11	5:58	6:36	5:23	7:03	5:08
4.....	6:12	5:57	6:36	5:22	7:04	5:08
5.....	6:13	5:56	6:38	5:21	7:05	5:08
6.....	6:13	5:54	6:39	5:20	7:06	5:08
7.....	6:14	5:53	6:40	5:19	7:07	5:08
8.....	6:15	5:52	6:40	5:19	7:07	5:08
9.....	6:16	5:51	6:42	5:18	7:08	5:08
10.....	6:16	5:49	6:43	5:17	7:09	5:09
11.....	6:17	5:48	6:44	5:16	7:10	5:09
12.....	6:18	5:47	6:44	5:16	7:10	5:09
13.....	6:19	5:46	6:46	5:15	7:11	5:09
14.....	6:19	5:44	6:46	5:14	7:12	5:10
15.....	6:20	5:43	6:47	5:14	7:12	5:10
16.....	6:21	5:42	6:48	5:13	7:13	5:10
17.....	6:22	5:41	6:49	5:13	7:14	5:11
18.....	6:22	5:40	6:50	5:12	7:14	5:11
19.....	6:23	5:39	6:51	5:12	7:15	5:11
20.....	6:24	5:37	6:52	5:11	7:15	5:12
21.....	6:25	5:36	6:53	5:11	7:16	5:12
22.....	6:26	5:35	6:54	5:10	7:16	5:12
23.....	6:26	5:34	6:55	5:10	7:17	5:13
24.....	6:27	5:33	6:56	5:10	7:17	5:14
25.....	6:28	5:32	6:56	5:09	7:18	5:14
26.....	6:29	5:31	6:57	5:09	7:18	5:15
27.....	6:30	5:30	6:58	5:09	7:19	5:16
28.....	6:31	5:29	6:59	5:09	7:19	5:16
29.....	6:31	5:28	7:00	5:08	7:19	5:17
30.....	6:32	5:27	7:01	5:08	7:20	5:18
31.....	6:33	5:26			7:20	5:18

Duck Populations Lower

An early October report from Ducks Unlimited states that pintail and blue-winged teal began large-scale migrations across the southern portion of Canada's three prairie provinces late in September. The weather and migration pattern was considered normal for that time of year.

An earlier report indicated that waterfowl populations remain at a high level this year, although down approximately 25 per cent from last season. Mallards and pintails were hardest hit due to limited nesting success. Canada geese are also fewer.

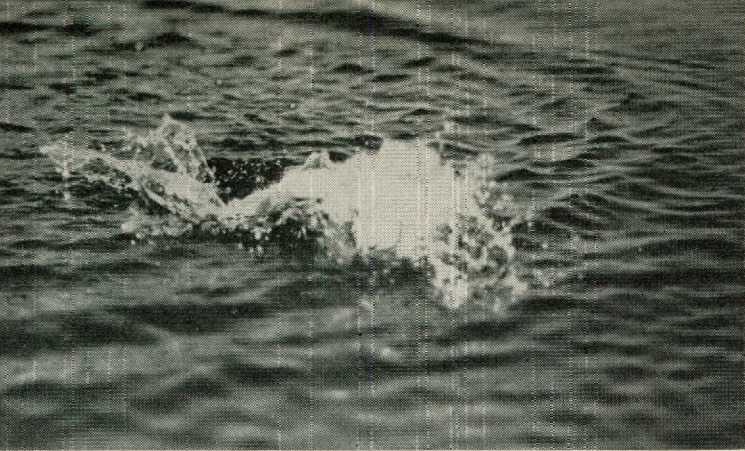
These reports were contained in late pre-season issues of the Ducks Unlimited "Duckological," prepared by Chief Naturalist Bert W. Cartwright.

The October report revealed that Mallards were gathering on larger waters in each of the three provinces, but in smaller numbers than last year. Canvasbacks were reported in large numbers, lesser scaup as numerous as last year and redhead, gadwall, and baldpate equal to or better than 1952 figures.

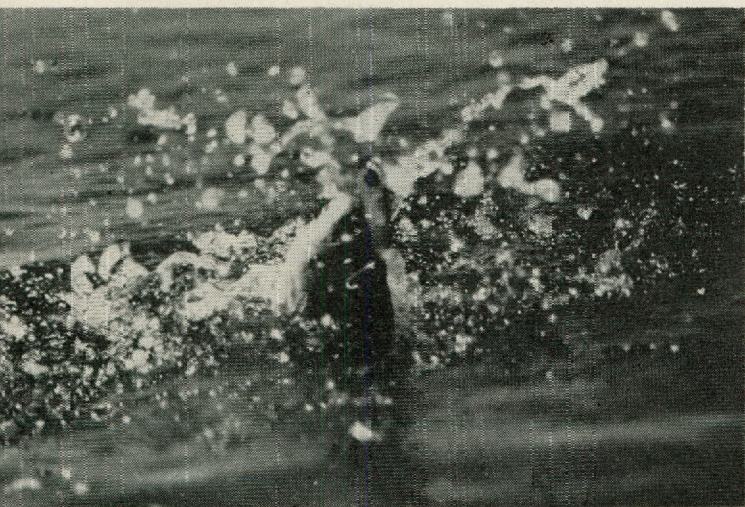
Heavy volume of the late hatch is causing some concern. It is evident from reports by northern hunters that an unusually high percentage of immature birds is being taken. Survivors will still require two or three weeks of favorable weather to become properly conditioned for the flight south.

WICHITA FALLS

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:28	6:19	6:53	5:42	7:21	5:25
2.....	6:29	6:17	6:54	5:41	7:22	5:25
3.....	6:30	6:16	6:55	5:40	7:23	5:25
4.....	6:30	6:15	6:56	5:39	7:24	5:25
5.....	6:31	6:13	6:57	5:38	7:24	5:25
6.....	6:32	6:12	6:58	5:37	7:25	5:25
7.....	6:33	6:11	6:59	5:36	7:26	5:25
8.....	6:33	6:09	7:00	5:36	7:27	5:25
9.....	6:34	6:08	7:01	5:35	7:28	5:25
10.....	6:35	6:07	7:02	5:34	7:28	5:25
11.....	6:36	6:05	7:03	5:33	7:29	5:25
12.....	6:37	6:04	7:03	5:33	7:30	5:26
13.....	6:37	6:03	7:04	5:32	7:31	5:26
14.....	6:38	6:02	7:05	5:31	7:31	5:26
15.....	6:39	6:00	7:06	5:31	7:32	5:26
16.....	6:40	5:59	7:07	5:30	7:33	5:27
17.....	6:41	5:58	7:08	5:30	7:33	5:27
18.....	6:41	5:57	7:09	5:29	7:34	5:27
19.....	6:42	5:56	7:10	5:29	7:34	5:28
20.....	6:43	5:54	7:11	5:28	7:35	5:28
21.....	6:44	5:53	7:12	5:28	7:35	5:28
22.....	6:45	5:52	7:13	5:27	7:35	5:28
23.....	6:45	5:51	7:14	5:27	7:36	5:30
24.....	6:46	5:50	7:15	5:26	7:37	5:30
25.....	6:47	5:49	7:16	5:26	7:37	5:31
26.....	6:48	5:48	7:17	5:26	7:38	5:31
27.....	6:49	5:47	7:18	5:26	7:38	5:32
28.....	6:50	5:46	7:18	5:25	7:38	5:33
29.....	6:51	5:45	7:19	5:25	7:39	5:33
30.....	6:52	5:44	7:20	5:25	7:39	5:34
31.....	6:52	5:43			7:39	5:35



THE STRIKE . . .



HE NO LIKE IT . . .

. . . SO OUT HE COMES

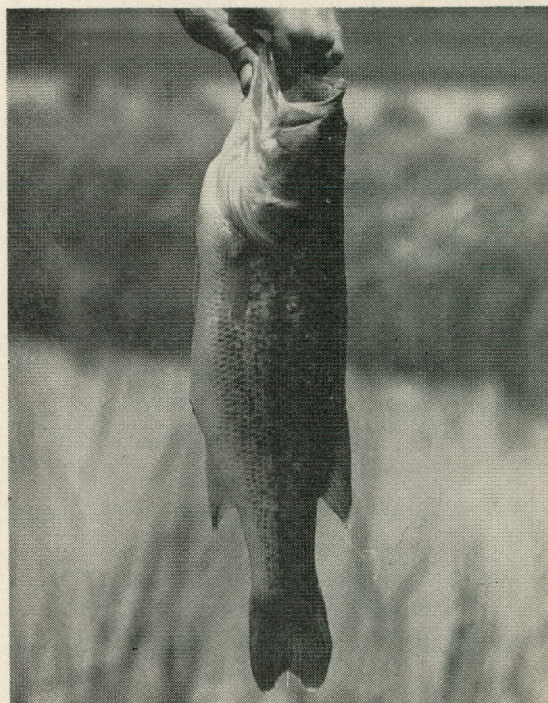


Bass

in **ACTION!**

It takes patience to get an action shot of a fast-moving bass. Staff photographer Clyde Graham stayed with this one from strike to strikeout to record an entire story of a battle at Lake Austin. Remember that last one you caught . . . ?

. . . PRIZE FOR AN ANGLER



First

Aid

**Fourth
In a Series
Concerning
Dog Care**

**By Martin P. Hines
Doctor of Veterinary Medicine**



Active, fast-moving hunting dogs are subject to many mishaps in the field. Correct and prompt administration of first aid may save the life of an injured dog.

IT IS extremely important that every dog owner be informed as to what to do in emergencies such as injuries, poisonings, fractures, snake bites, etc. A well informed dog owner can often take care of minor injuries and conserve the strength of the patient until veterinary assistance is obtained.

An injured dog should always be approached with a great deal of caution. He may be in pain and severely bite anyone attempting to move him. It may be necessary to muzzle him, which can easily be done with a piece of cloth (gauze, if available) three feet long and three inches wide. A loop is made in the middle, placed around his nose and pulled tight, tying a knot under his chin. The two ends are carried back around his head and tied back of the ears securely. If the dog is small, a blanket may be placed over him so that he can be picked up without the danger of his biting the person handling him.

Abrasions, Cuts and Bites

These injuries are quite common in hunting dogs. Such injuries should be thoroughly washed with soap and warm water to remove dirt and other foreign material from the wound. All contaminating material should be re-

moved from deep puncture wounds to prevent infection. The hair should be clipped around the injured area and antiseptics applied, such as tincture of metaphen, tincture of iodine, or mild antiseptic dusting powders. In areas where rabies exists it is advisable to regard all bite wounds as possibly from a rabid animal.

If the biting animal is known, it should be kept securely penned for at least seven days and released if well and normal at the end of this period. If the biting animal escapes or is unknown, the owner of the bitten animal should keep him well confined for at least 90 days, regardless of whether or not the dog has been previously vaccinated or is receiving antirabic treatment. If the dog cannot be kept confined, it should be destroyed when bitten by a suspected or known rabid animal.

The legs of dogs have a good blood supply and when cut, usually bleed profusely. Pressure bandages may be used to stop the hemorrhage temporarily. They should be applied firmly but not too tight until a veterinarian can ligate the artery and suture the wound.

Cut or lacerated foot pads frequently disable hunting dogs for long periods unless properly treated. Walking on the injured pad prevents its

healing. If the cut is sutured and bandaged frequently with clean bandages, the pad will heal with a few days of rest.

Dislocations, Fractures

Fractures and severe wounds are usually accompanied by shock. Every effort should be made to limit movements of the injured animal. Such movement may cause injury to surrounding tissues by the ends of the fractured bones and they could sever an artery. A broken leg may be splinted with a stick or small board before moving to immobilize the leg above and below the fracture. When transported for treatment to a veterinary hospital, he should be placed in a large, well padded box and kept warm. If there are no fractures but difficult breathing is noticed, a diaphragmatic hernia may be present and professional help should be obtained as soon as possible.

Hemorrhage

There are two types of hemorrhage in accidents: external and internal. If external, the first thing to do is to stop the bleeding. This may be done with pressure bandages applied firmly. If this does not stop the bleeding or if blood is gushing from a wound, a

tourniquet should be applied without delay above the wound if on the leg. The tightened tourniquet should be released every 15 minutes for a few seconds at a time to avoid local death of the tissues below the tourniquet because of a lack of blood. A belt, handkerchief, or a strip cut from clothing may be used. Recently, I observed a dog in a veterinary hospital that had been saved after a mowing machine had cut off his front foot. A tourniquet had been applied in the field by the farmer to stop the bleeding.

There are three things that should always be done quickly in accidents. First, *stop the bleeding*; second, *protect the wound*; and third, *prevent shock*.

In a great many accidents serious internal injuries may occur. They may not be apparent to the owner. Often, it is a ruptured lung, liver, spleen, or blood vessel inside the abdominal or thoracic cavity and there is no evidence of blood. The gums are pale, indicating an internal loss of blood. Such animals should be kept quiet and warm. Treatment should be sought as soon as possible.

Shock

Shock is present in most wounds, severe bleeding or burns. It manifests itself in the casualty by weakness, trembling, nervousness, pallor, and unconsciousness, depending upon the amount of bleeding and/or the extent of injuries. The heart beat is fast but weak. When an effort is not made to prevent the development of this condition or to treat it properly after it has appeared, the end result is frequently death.

To prevent shock, the injured dog should be made comfortable, his head should be lowered to increase the flow of blood to his brain, he should be kept warm by having covering placed over him or by being kept in a warm room. Handle him gently and do not move any more than is necessary.

A stimulant that can be given at home is coffee, provided the dog is not injured so severely that he cannot swallow. The index finger can be used to form a pocket by pulling out the corner of the jaw. The coffee may

be poured slowly in the pocket thus formed. A cupful is enough for a large dog.

Foreign Bodies in Mouth and Eyes

Dogs frequently become choked on small bones such as chicken bones, sticks, or, sometimes small children will place a rubber band around the base of the dog's tongue.

If rabies is present in your community, you should be extremely cautious before attempting to examine a dog's mouth. He may be suffering from the dumb form of rabies, in which the lower jaw drops down. Often people expose themselves to rabies by examining such dogs. It is best to give a complete history to a veterinarian and have him examine the dog.

Foreign bodies in the eye, unless imbedded, will usually be washed away by the accumulation of tears. If this fails, the lids can be lifted and the foreign body removed by a cotton swab on a match stick or with the corner of a clean handkerchief. Corneal injuries due to accidents require professional attention.

Poisoning

Dogs are poisoned mostly by accident but occasionally they are deliberately fed poisoned material. When poisoning is suspected, the animal should receive immediate veterinary attention since the administration of specific antidotes, sedatives and hypodermic injections to induce vomiting, as well as the use of the stomach pump and enemas for the elimination of the poison from the digestive tract is necessary to save its life.

In applying first aid, an attempt should be made to remove the poison from the digestive tract by inducing vomiting if it has not already occurred. Warm salt water may induce vomiting. Enemas or castor oil will produce bowel movements. Listed below are some first aid treatments for some common poisons. Specific antidotes are not listed as they are usually not found around the household.

Poison

First Aid

ARSENIC—Lime water, whites of raw eggs with milk to prevent intestinal irritation.

PHOSPHOROUS—2 teaspoonfuls of milk of magnesia. Oil purgatives should never be given.

LEAD—May occur from licking paints or from drinking or eating from old paint cans. Strong coffee is a good stimulant and Epsom salts (2 teaspoonfuls in a glass of warm water is an antidote). Raw white of eggs and milk may also be given.

STRYCHNINE—Prompt treatment is important and consists of the administration of a quick-acting emetic and sedatives.

PHENOL (carbolic acid)—Large doses of milk of magnesia may be helpful and also white of eggs and milk. Spirits of ammonia to inhale and black coffee may be given as stimulants.

GAS POISONS—Place animal in fresh air. Spirits of ammonia to inhale may be given as a stimulant and artificial respiration applied.

SEDATIVE DRUGS—Strong coffee.

It is well to remember that a great many accidental poisonings are caused in dogs by their eating rat poison. Such poisons should always be well protected from animals. The most dangerous poisons should be used only in places where it is impossible for animals to get to them.

Hunting and farm dogs frequently are bitten by rattlesnakes, copperheads, moccasins, and coral snakes. Location of the bite is usually on the legs or face where two small puncture wounds made by the fangs are seen. Such bites are accompanied by quick swelling, which spreads to the adjacent tissues. Convulsions, vomiting, and difficult breathing may be followed by collapse and death. Immediate attention is mandatory.

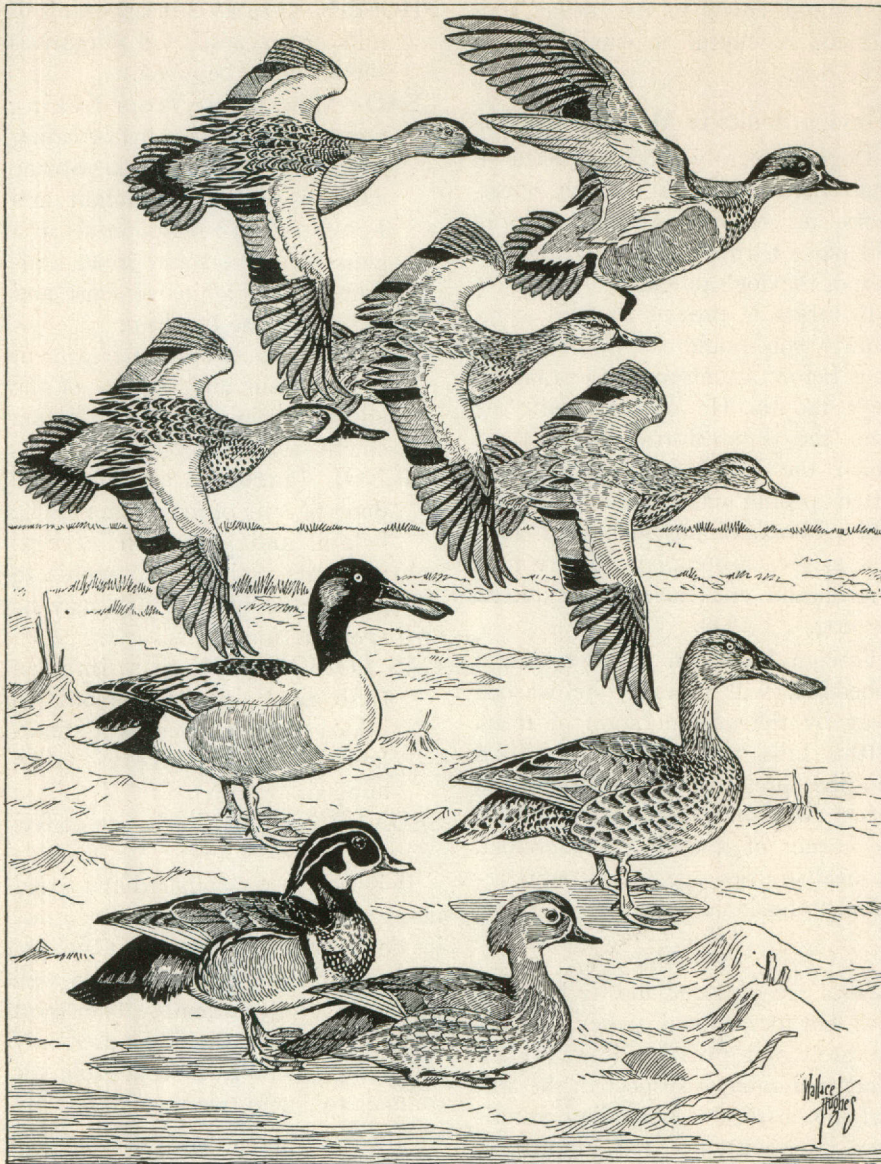
If bitten on the leg, a tourniquet should be applied between the bite and the heart to localize the poison and stop the return flow of blood to the heart. A cross, one-fourth inch deep and one-fourth inch long, should be cut at each fang mark to permit free bleeding.

If a snake bite kit is available, the suction cup may be used to draw off the poisoned blood. If not available, the cut marks may be squeezed.

● Concluded on Page 29

Beginning a
NEW SERIES

First Group of



CINNAMON TEAL

Male

Male

**GREEN-WINGED
TEAL**

Female

Female

BLUE-WINGED TEAL

Male

SHOVELLER

Male

Female

WOOD DUCK

Male

Female

Green-Winged Teal (*Anas crecca*). Fall and spring migrant and winter visitant. Last of the teal to arrive in fall, first to leave in spring. Male, gray body, brown head, green band through eye, spotted buffy breast, buffy patch below tail. Female, mottled gray-brown with bright green wing speculum. The smallest teal. Wings of both male and female uniform grayish-brown with green speculum. Average length, 14½ inches. Average wingspread, 23½ inches. Average weight, ¾ pound. Generally prefers smaller lakes, ponds and streams.

Blue-Winged Teal (*Anas discors*). Fall and spring migrant. Earliest duck to arrive in fall. Last to leave in the spring. Large light bluish patches on the wings present in both male and female. Male has white crescent-shaped patch between the eye and bill and white patch towards tail. Female, mottled grayish-brown, head and neck usually appearing lighter than body. Average length, 15½ inches. Average wingspread, 24½ inches. Average weight, 7/8 pound.

Cinnamon Teal (*Anas cyanoptera*). Fall and spring migrant. An uncommon western species. Few individuals are generally seen with other teal or shovellers. Closely related to blue-winged teal. Same size. Male, cinnamon-red body with light bluish wing patches. Red eye. Female identical to female blue-wing.

S DUCKS

Text and illustration
By WALLACE HUGHES
Oklahoma Game & Fish News

Surface Feeders

Shoveller (*Spatula clypeata*). Fall and spring migrant. Shallow water duck usually associated with teal. Large, flat spoon-shaped bill easily distinguishes both male and female. Male, black and white with cinnamon-red sides and belly. Head with green iridescence, like male mallard. Eye yellow. Feet reddish-orange. Female, mottled brownish with pale bluish patch on the forepart of wings, like the blue-winged teal. Arrive rather early in fall and leave late in spring. Frequents shallow water ponds, lakes and bar ditches. Commonly called "spoonbill." Average length, 19½ inches. Average wingspread, 30 inches. Average weight, 1½ pounds.

Wood Duck (*Aix sponsa*). Permanent resident. More common throughout the state during fall and spring migration. Frequents wooded lakes and streams and bottomland cut-offs. Male, crested head, dark body, cream-colored sides, white throat pattern, long square tail, and white belly. His beautiful iridescent colors defy description. Eye red. Bill, red, white and black. Feet yellow. Female, chiefly dark grayish-brown, lighter on sides, crested head with white patch around eye, long square tail and white belly. Eye dark. Male in summer or eclipse plumage resembles female but retains the white throat pattern, red eye, and tri-colored bill. Female's bill is gray. Average length, 18 inches. Average wingspread, 28½ inches. Average weight, 1¼ pounds.



A big flight of Texas mallards and pintails takes wing

Texas Wildlife Awards Announced

FINAL plans for the Frank M. Wood Wildlife Conservation Awards Program have been made and copies of the rules and regulations sent to school superintendents, presidents of sportsman's clubs, and executive officers of chambers of commerce in all sections of the state.

Awards are provided for two high school students and two adults. Mr. Wood, a member of the nine-man Game and Fish Commission, made the first preliminary announcement of the awards at the First Annual Texas Wildlife Conservation Conference in Wichita Falls, his home town, in April.

This program, which is designed to stimulate interest and action in the conservation of Texas wildlife, should prove of special interest to high school seniors.

Four-year college scholarships will be awarded to the two eligible seniors who write the best essays on Wildlife Conservation. Two second place cash awards of one hundred dollars each and two third place cash awards of fifty dollars will go to the runners-up in the essay competition.

The adult sportsman in Texas who, in the opinion of the program judges, has done the most for wildlife conservation in Texas will receive state-wide recognition for his efforts and be awarded an exquisite trophy.

The second adult award will go to the farmer or rancher who has made the greatest contribution to the conservation of wildlife in Texas. He also will receive a beautiful trophy and recognition for his work.

In the junior division of the program any Texas high school senior in good standing is eligible. Those seniors who live on farms or ranches and/or belong to a 4-H Club, a Future Farmers of America Chapter, or a Future Homemakers Chapter should

describe, in their essays, their activities and achievements in wildlife conservation. Individual or group projects and activities may be used as subjects for description.

Seniors who live in urban or rural areas and who are not included in the above classification should direct their essays to the theoretical side of wildlife conservation.

One scholarship award will be made in each of the categories—practical or theoretical wildlife conservation. Second and third place winners in each category will receive cash awards.

The essays will be restricted in length to not more than 1,000 words. All essays entered must be postmarked not later than January 31, 1954, and be sent to: The Frank M. Wood Wildlife Conservation Awards, P. O. Box 1860, Wichita Falls, Texas.

All essays become the property of the administrators of the awards program.

The essays will be graded by the following point system:

- Format 20 Points
(Neatness, well defined margins, and legible hand writing.)
- Content and Organization . . 50 Points
(Accuracy of information, originality of expression. Effective opening sentence, clearly stated and well developed topic sentences, smooth transition from paragraph to paragraph, and strong conclusion.)
- Mechanics 30 Points
(Correctness in sentence structure, spelling and punctuation.)

High school seniors who are interested in entering the competition should consult their school superintendents, executive officers of their local chambers of commerce, or presidents of local sportsman's clubs for complete details.

In the adult division of the awards program, one trophy will be awarded to the farmer or rancher who has been nominated for the award by one or more of the following agencies or organizations:

1. A Chamber of Commerce.
2. A Farm and/or Ranch Club.
3. A Federal or State Agricultural Agency.
4. A Soil Conservation District.
5. Any recognized farmer or rancher organization in Texas.

A written report of activities must accompany the nomination to assist the judges in their selection of the award winner.

The sportsman who has done the most for wildlife conservation in Texas will receive the other trophy to be awarded in the adult division.

The recipient of this award must be nominated by a recognized sportsman's club in Texas concerned with the wildlife resources of the state.

Persons officially connected with the Game and Fish Commission of Texas or any federal agency dealing with wildlife will not be eligible to participate in the competition.

In an open letter, Governor Allan Shivers, honorary chairman of the awards program, said, "This awards program is truly worthy of the interest and participation of the citizens of Texas." He particularly urged high school youngsters to participate.

Mr. J. W. Edgar, Commissioner of Education, congratulated Mr. Wood upon the initiation of the program and said, "You are to be highly commended for providing an opportunity for scholarships as a means for encouraging the study of wildlife conservation."

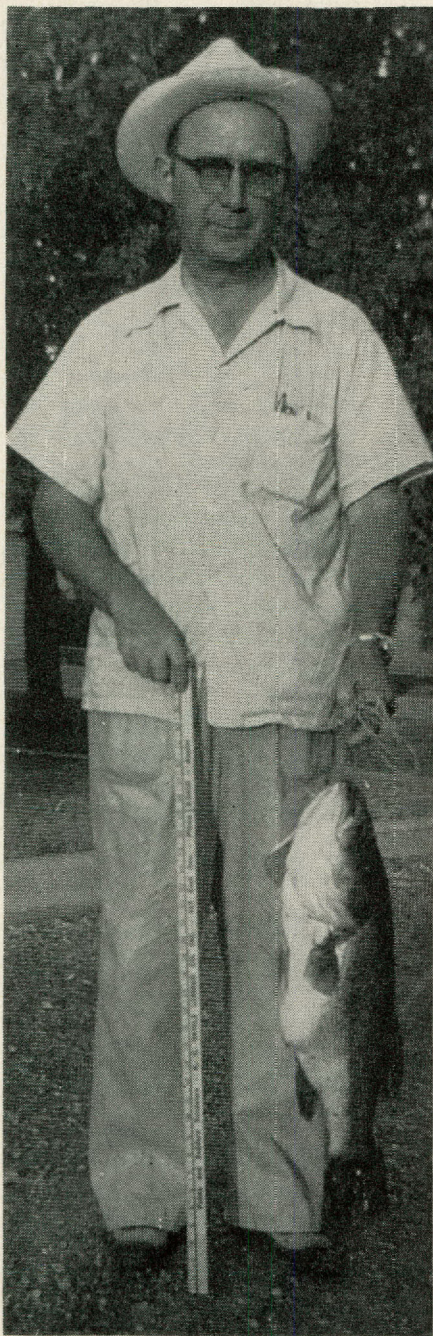
Mr. Wood is credited with the success of the first annual Texas Wildlife Conservation Conference held in Wichita Falls in the Spring of 1953. The presentation of awards will be included in the program for the Conference planned for 1954.

Mr. Wood is particularly interested in seeing that Texas youngsters become more familiar with the importance of conserving the native wildlife of this state, pointing out that "game we waste today is stolen from future generations."—T. D. Carroll.

When a Man Makes Up His Mind . . .

EDITOR'S NOTE—At press-time came the word that the bass mentioned in this article won the all-species grand championship in the summer-long big fish contest of the San Antonio Express-Evening News, worth \$280 in prizes.

Spinks and big bass



By JAY VESSELS
Assistant Director of Publications

BY STANDARD measurement as to family stature, business acumen and community activity, Van Spinks meets the test. Even as fish-catching fishermen go, he excels.

Yet this stable citizen has been known to cause concern. Here's why:

Residents at Gulchport out on Lake Austin glowed with details of the big yellow cat Spinks landed with a mere trifling of equipment. Van had sunk a two-hook drop line, using a gallon jug expertly to keep the shrimp bait off the bottom, at a point off a big rock at the north end of City Park.

Spinks went back next day, ill-prepared for anything bigger than the modest tackle justified. A 35-pound "yeller" lunged at the line's lashings. Only the compensating action of that jug float kept the big cat from taking off.

Another fisherman finally came along with a gaff hook and helped Van boat the beauty. He agreed that Van's technique in setting the line had saved the day and so spread the story.

On a Sunday afternoon three years later, a Gulchport resident saw Van and his wife at their new lake place. He closed in to chide them about the expanding television business putting on that prison pallor.

Spinks pleaded guilty. Business too good. No time to drive back and forth to the lake place 15 miles from Austin. Tugging at his late style slacks, he leaned over and felt the cooling lake water, daintily.

"Yep," he said, grimly, "have to give up this place. Making myself comfortable in town; air conditioned new home and all that."

(Just about like Slugger Eddie Mathews saying he was checking out of baseball for a career in quits.)

Newspapers next day carried the

for sale advertisement.

The following Sunday, an old neighbor, out for an afternoon constitutional in his rowboat, pulled up to the Spinks' dock as Van and his wife excitedly hassled with something in the water. Finally, Spinks held up a gigantic black bass and exclaimed:

"Nine pounds even; just weighed him!" There was some of the same jubilation the big catfish had inspired three years earlier.

But the catfish had just been something *big*. This black beauty was every ounce a championship battler; nine pounds of fighting fury.

"Only had a small hook—Panfish size," resumed Spinks. "First cast. Threw it across that baited spot."

"Yes," interposed Mrs. Spinks, "he yelled right away that he had snagged."

Now Van was just like the excited angler of old. He had minnows but used a grasshopper because he happened to pick up one as he approached the dock.

They jointly described the tussle—the arch of the pole, the two times the bass cleared water, and how Mrs. Spinks, nervously lowering the landing net, had kept admonishing her husband: "Don't get excited, dear."

The neighbor figured this was the clinching event to keep the Spinks on the lake. He would enter the big bass in all the available fishing contests for them. The oarsmen began moving toward his own camp, planning to send a news photographer to meet the Spinks at their city home. That big bass had hit at just the right time.

Rounding the next bend, he heard the sound of a stake being driven. He stood up in his boat. There was Spinks, driving a sign into the sod, not thirty feet from the spot where he caught the black beauty.

The sign said: THIS LAKE PROPERTY FOR SALE.

By JAY VESSELS

HOW IT HAPPENS

It is a policy of the Commission to call on an "outsider" to do the drawing for the limited number of antelope hunting permits. This year Joe Austell Small, well-known publisher of *Western Sportsman* and his newer *True West* magazines plucked the lucky numbers. While in the process, he was reminded of a time he went antelope hunting in Texas' Trans-Pecos area. Small, who has hunted everything from crocodiles in Haiti to Arctic bear, drew a fine bead on a good buck. Just as he started to pull the trigger, the buck dropped from sight. Another hunter, shooting from a different angle, had bagged the prize. Later, however, Joe sighted another buck. He brought it down, and it tied with one shot by Jackie Petmecky, Austin sporting goods store owner, as the best trophy of the Texas season!

JUMPING JEHOSEPHAT

B. M. Collie of Austin had a jumpy experience on a dove hunt. His party was shooting successfully while posted near a tank near Marble Falls, when a rainshower scattered the birds. Collie and his colleagues bemoaned their luck. Suddenly, they noticed that the landscape was alive with frogs that were leaving the tank to feed on insects in the wake of the rain. The men laid aside their guns and went frog hunting. Collie said they got all they could take home and that the bag comprised some of the largest bullfrogs he had ever seen. Furthermore, he added, the coves they didn't get couldn't have tasted any better.

SIGN DOTTED LINE

Ken Foree, Outdoor Editor of the *Dallas Morning News*, is out to get these answers: "How much of a meat hog, heel or simply uninformed hunter are you? Or are you a true sportsman?" He said the question was

brought up by a letter from the Denton County Pointer and Setter Club. J. P. Harrison, who suggested no sportsman would shoot a dove in a tree "any more than fish in a barrel." The continuing quotations are pretty sharp, fellows: "Only the callow, the unthinking, the ignorant, the selfish, the cheap, the dumb, the heels, the meat hogs would. Only a chump would spend a 15 cent shell for one bite of meat. And if meat is the object, hamburger is more economical and lacks the wild taste."

SAVE THOSE HIDES

A hunch gesture by a public relations person opened the door to a beneficial project by the Texas Tuberculosis Association. This woman, seeking new sources of material for TB repatriates engaged in physical therapy, made a bid for unwanted deer hides. That was rather late in the season but enough hides were donated by hunters to make a substantial start on the new project. Now, the Association is making a state-wide appeal for the hides from deer harvested this fall. Hunters eager to cooperate should contact their local TB unit.

RED ALERT

Speaking of man's recklessness with concoctions that could even destroy himself; take those amateurs experimenting in precious fresh water fishing areas with deadly rotenone. Fumbling where only experts are supposed to function, these depredators killed up to thirty thousand fish. It took three days for one stretch of the Guadalupe river to overcome the poisonous substance. The raiders paid \$1100 in fines and court costs and one spent five days in jail, but the ghastly penalty was paid by the defenseless fish. The human race might take note.

THREE TIME LOSER

Warden Adolph Heep of Fredericksburg, was reciting hard luck facts about traffic hardships on deer and vice versa. "Last two cars I've had have been hit by deer," he blurted, to stress the common hazard. He went on: "Hit one while chasing suspects on the highway . . . Shucks, I collided with a buck deer in a pasture one night; not going over 15 MPH; silly buck was blinded by lights and walked smack into the car, but all it hurt was his rack."

Heep said the saddest man he believed he ever saw was a driver that killed a doe deer. "His big Cadillac was all messed up," said Heep, "but that man just stood there and wondered what would happen to the two little fawns she left."

WILDLIFE TRAGEDY

Game Warden Supervisor E. M. Sprott of Lufkin relayed a tragic report from Warden Oma Puckett of Annona. Puckett found the skeleton of an eight-point buck deer lodged in the fork of a bois d'arc tree. The horns were still in velvet, leading to the conclusion that the buck had been rubbing his itchy rack when he became trapped and died of starvation.

BREAM BONUS

Speaking of unexpected dividends: Superintendent R. P. Winn of the San Marcos Fish Hatchery says you never know what to expect around his ponds, although everything is supposed to be under controlled production. But he had no way of knowing that enough brood bream could sneak in from the outside through water pipes to produce just slightly more than a quarter million nice marketable young ones.

Press Views Game Notes

RIGHT ATTITUDE

The New Mexico Department of Game and Fish reported the case of the honest fisherman, who turned out to be a Texan. Two men running their trot lines on Elephant Butte Lake discovered that one of the lines had been cut. Then they saw a brand new trot line hanging in a tree with a note: "We accidentally cut your line. Sorry. Here is another one. New Mexico License number 163534." Evidently the line had been accidentally cut by the blade of an outboard motor. The fisherman asked a Game Warden to check the license number. It was traced to T. L. McIntyre, 2331 San Diego Street, El Paso. The two fishermen and the game warden divided the cost of a long distance call to McIntyre who had returned home, to express their gratitude and compliments.

WHAT A SHAME!

Bill Lee, newsman for the *Austin American-Statesman*, laughed so hard the other day he almost fell off the copy desk rim. He had just received a telephone call renewing an annual deer hunting invitation. "Made one stipulation," roared Lee, "have to do my hunting on the opening day." Like compelling a football fan to sit on the fifty-yard line.

FREAKY FREAK

Game Warden Supervisor John Woods reports: "The Bill Cody ranch in northern Gillespie County has a six-point 'buck' with a pair of fawns. Of course it's a doe deer with antlers. Warden Adolph Heep ran into the rare sight on a recent trip. A few antlered deer that turn out to be females are killed each year in the Hill County but rare it is that one sees an antlered doe with a pair of fawns."

DEER TRAPPING DATA

A news release about changing deer trapping locations on the Aransas National Wildlife Refuge stated merely that the animals couldn't be fooled at the old stands. W. C. Glazener, Director of Wildlife Restoration for the Game and Fish Commission, promptly straightened out that reasoning. "The basic cause of drop in the catch," he explained, "is removal of deer whose range includes trap sites. Our white-tailed deer have a very limited 'cruising radius.' Placement of traps in sites along new lines will expose a hitherto untouched population and theoretically should increase the catch."

FAMILY HITS JACKPOT

Game Warden Eugene Willmann of Edinburg, has got it made, and so has his family. They all have been elevated to life membership in the San Antonio Zoological Society. It's all because of Warden Willmann's hobby of catching snakes—the larger and the meaner the better. He has been shipping them to the zoos, with priority to the San Antonio zoo. Hence the decoration en masse for the family. If the wife and three sons forget to mention their reptilian recognition, their family trait is immediately apparent to anyone entering the living room. The hide of an eight foot rattler is stretched across the wall.

CAT-CATCHERS CAUGHT

By land, sea and air, Texas Game Wardens spy on the cheaters. Recently, an air borne detail swung for a long time over an East Texas river, looking for people reported to be using illegal fishing equipment. They were looking specifically for those using the old-fashioned telephone magneto to shock fish. Finally, the plane's occupants noticed a sharp commotion around a boat with three occupants. Swinging lower, the flying scouts saw that the trio was trying to seine a big catfish. Looking closer, they noted one of the telephone devices. The big cat although stunned by the electric current and forced to the surface, was trying gamely to escape. The fliers, using a two-way radio, summoned a game warden who made the arrests.

POSSUM PENALIZED

The *Paris News* carried this item under a Roxton dateline:

"Pickings are sort of slim for hobos around Roxton this summer. So one drifter, a half-grown possum, sneaked into the W. G. Ellis home to rake up a handout Sunday night. Everything went well until Mr. and Mrs. Ellis came home from a visit, turned on the kitchen light, and found friend possum seated comfortably on the table. He was partaking of the supper scraps. Mrs. Ellis got quite a scare. Mr. Ellis got a stick. The brazen burglar got his hide tanned."

MEXICO RULES

Texas hunters going to Mexico for a shoot have been cautioned to observe shipping regulations or risk losing their game. A United Press dispatch from Washington states that game birds shipped from Mexico must be dressed, drawn, and have the feet and heads removed. Game exported from Mexico must bear an export permit or license endorsement by a Mexican game official. All packages must show an accurate statement of the numbers and kinds of birds "clearly and conspicuously."

GULLIBLE GAR

Al Parker writes in his "Fishin'" Column in the *Wichita Falls Sunday Times* about a brand new sport that has developed in that area. He said: "A growing number of fishermen have discovered the fun of angling for the garfish that infest the lake. A treble hook and almost any kind of bait, plus a sturdy rod and reel makes up the necessary gear. Art Hobbs, pavilion operator at the lake, says many catches are being made on nothing more than a slip of white cloth for bait. And, of course, the gars are gluttons for orthodox baits."

RAIDER RACKED UP

The *San Antonio Express* carried a news report from Pettus about how a wolf stole a mess of chickens from the H. P. Sparkman farm but got caught in the getaway. The raider tried to jump a wire fence with the loot and got a foot caught for keeps. Sparkman found it dead. Chicken feathers nearby indicated another varmint had salvaged the chicken.

The Wood Duck

The Story of this Month's Cover Subject

THE wood duck, a bird correctly named, spends a lot of his time in wooded bottomlands. They nest in hollow trees and perch in trees.

They are also unusual in that they do not hesitate to nest near the dwellings or activities of man. There is a hollow tree in Sheldon Reservoir near Houston where wood ducks have nested the past few years. People fish near and around the tree. A paved road, with heavy traffic which kicks up dust and noise, run not more than 50 feet from this tree. Yet the ducks are contented to raise their young there.

The male wood duck is North America's most brilliantly colored duck and never fails to draw admiration from those who see him. The feathered head crest is iridescent green and purple, the eyes are red, the bill red and orange. The throat and belly are white, the breast is wine colored with flecks of white, the back is iridescent green, purple and blue.

The female is somewhat less brightly colored and tends to be dark brown-gray, with white belly, white around the eye, and dark feathers on the head crest. To make up for this lack of color, the female does most of the talking for the family.

The wood duck call is another way in which they differ from other species of waterfowl. It is not the well known "quack" of the mallard, but rather a high pitched shrill call or squeal for the female, and a soft plaintive "jeec" for the male. In portions of East Texas, the wood duck is frequently known as a "squealer."

The male weighs about 1.5 pounds,

By **J. R. SINGLETON**
Wildlife Biologist

half the weight of a mallard, and the female weighs slightly less.

The most important nesting range of the wood duck is in the deciduous woodlands of eastern North America. It is the most important duck nesting in Illinois, according to a recent report by Frank C. Bellrose entitled "Housing For Wood Ducks," Illinois Natural History Survey Circular 45, from which much of this information is adapted.

At one time this colorful duck was in danger of extermination from overshooting and destruction of nesting habitat. From 1918 to 1941 it was completely protected by law. Since

1941 Texas has had a limit of one wood duck in possession. However, certain other states in the Central Flyway still protect the wood duck.

The wood duck is one of the two most important nesters in the following states: Illinois, Connecticut, Maryland, New Jersey, New York, and Delaware and is of considerable importance in other eastern states such as Iowa, Missouri, Wisconsin, Indiana, Ohio, New Hampshire, Virginia, and Maine.

The nesting population in Texas is not known, but it is likely to be very small. The kill of banded wood ducks in Texas during the past six years has been as follows (by county): Harris 5, Liberty 3, Cherokee 2, and one each for the following: Austin, Bastrop, Bowie, Cass, Chambers, Colorado, Henderson, Hill, Hunt, Jackson, Leon, Marion, Morris, Polk, Shelby, Smith, Titus, and Wise. These ducks were banded in the following states: Illinois 10, Missouri 8, Wisconsin 4, Michigan 3, Ontario, Canada 2, Indiana 1, and Tennessee 1.

The population of these colorful ducks is building up again under the protection that has been given it, but it is doubtful that it will ever again be as numerous as formerly. Because of continued destruction of its nesting habitat by timber cutting in bottomlands, many states have gone into a nesting box program. Mr. Bellrose in his publication devotes considerable space to the type and construction of boxes to be used. Such work could well be considered as a possible conservation program for portions of Texas where the wood duck is known to occur.

Out-of-State Duck Hunters Can Buy New \$5 License

A new license for out-of-state hunters will be in effect this season during the duck and goose season. Non-resident hunters, shooting migratory game birds only, will be permitted to buy a special permit, costing but \$5. It will be good for five consecutive days of hunting, including day of issuance.

The new license was established by action of the last session of the State Legislature. Previously, non-residents had to buy the regular \$25 hunting permit in order to hunt ducks and geese.

Now Free of Debt

Texas Wildlife Federation Meets

A rejuvenated Texas Wildlife Federation, free at last of burdening debt, is launching a new era of service to Texas outdoor sportsmen following its annual banquet held at San Angelo Sept. 19.

The state organization, a confederation of local sportsmen's clubs, elected Jack Austin, Wichita Falls, president at the concluding business session and announced that the final payment had been made on the Federation's indebtedness. This debt, incurred with an unsuccessful promotion of large-scale outdoor competitions among sportsmen at a statewide meet, at one time mounted in the neighborhood of four thousand dollars and had held activities of the organization to a minimum the past few years.

Austin succeeds Dorothy King, Dallas, as president. Don Maxwell, Odessa, was elected vice-president,

succeeding Doc St. Clair, Fort Worth. C. C. Parfet, Wichita Falls, was re-elected treasurer.

Carl Shoemaker of Washington, D. C., was principal speaker for the banquet. A veteran authority on fish and wildlife management, Shoemaker now is field consultant of the National Wildlife Federation, of which the Texas Federation is a member.

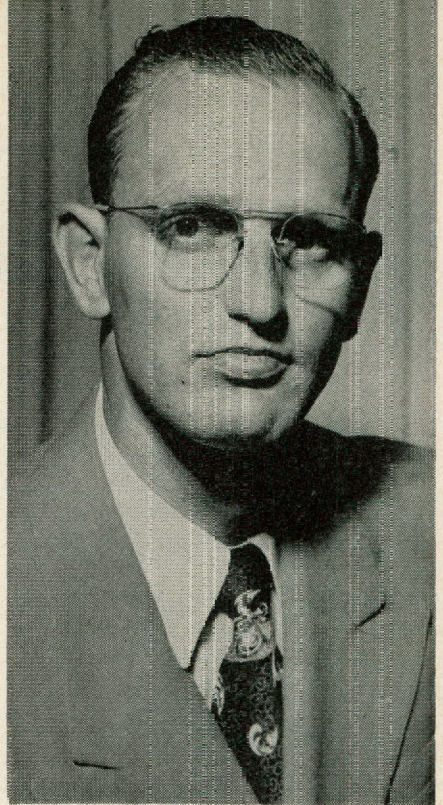
In outlining suggested activities for future Federation plans, Shoemaker urged local clubs first to back the state Federation in its continuing drive to obtain for the state game and fish department the authority to formulate game and fish laws and regulations. "This is a primary step for any state seeking progressive game and fish management," he said.

Second, he urged the Federation, through the local clubs it represents, to strive for simplified licenses for hunting and fishing. He referred, particularly, to Texas' fishing license with its complicated exemptions.

Finally, he recommended that local clubs and the Federation continue to back professional game and fish biologists. In this respect, Shoemaker pointed out that the only state in the nation which at present is not affiliated with the National Federation is one where the local clubs and the state federation have continually attacked and criticized its state game and fish department.

Officials of the Texas Wildlife Federation termed the San Angelo meeting as one of the most successful and valuable held in some time. The consensus was that enthusiasm is spreading and that with the organization's debts cleared, the way is paved for renewed activity on behalf of the state's local clubs.

The Federation represents local clubs throughout the state and acts as a focal point for work on a state-



JACK AUSTIN
New State President

wide basis. It also represents Texas in the National Wildlife Federation.

Wichita Falls was awarded the annual meeting next year, and Odessa was cited as having the largest number of representatives at the San Angelo session.

Local clubs interested in contacting the state Federation may write Jack Austin, President, P. O. Box 1860, Wichita Falls, Texas.

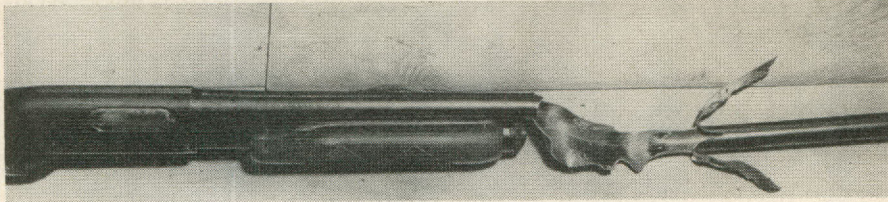


San Angelo Standard-Times photo

Dorothy King, Texas' famed "muzzle-loading mama" from Dallas, guided the state federation through a financial crisis during two terms as president. Here, Carl Shoemaker, national wildlife authority from Washington, D. C., offers congratulations

Fires Kill Wildlife, Too!





This Lucky (?) Hunter Escaped!

What happened to this gun when it was fired while the barrel was clogged is a lesson in safety, itself. The hunter luckily escaped serious injury. Others who have had the same experience have lost much more than the price of a good gun. 'Nuff said.

The Red Tide of Lake Austin

• Continued from Page 8

Wildlife Service, made a collection of specimens from Lake Austin after the red water had subsided and found numerous individuals of a species of *Glenodinium*, another dinoflagellate closely allied to the *Gymnodinidae*. Since it was not possible to make a positive identification at the time the red water was first investigated, it is very possible that the organism which caused the red water was not a *Gymnodinium* but was in reality a *Glenodinium*.

Lake Austin's bloom of red water was unique in that, so far as is known, it is the first recorded instance of such a bloom in fresh water. Though there is no doubt that red water organisms have bloomed before in fresh water, a search of pertinent literature has revealed no record to that effect to confirm this assumption.

In laboratory experiments with samples of water containing the organisms, conducted by Drs. Austin Phelps and Jack Meyers, both of the University of Texas, and by Kenneth C. Jurgens, aquatic biologist for the Game and Fish Commission, it was learned that these one celled animals are light sensitive. They were attracted to subdued light and were repelled by strong light.

Also, it was learned, that the optimum temperature range for these creatures lies between 70 and 75 degrees Fahrenheit. It was found that under crowded conditions, the dinoflagellates will die if kept at temperatures above 75 degrees Fahrenheit. It was found, too, that they will flourish for several days if kept at

temperatures near 70 degrees Fahrenheit, at least until they use up what nutrient materials were present in the water. Then the organisms die off, and when only a few are left they apparently change their form of nutrition to photosynthetic, converting sunlight into energy as is done by plants.

These laboratory experiments tend to explain, at least in part, the mysterious behavior of the red water seen by so many fishermen on Lake Austin.

That they are light sensitive explains why they were seen in certain places in the morning and at other places in the afternoon. They are attracted to light and will migrate first from the depths of the water to the surface in the shallow water where the sunlight penetrates to or near the bottom early in the day. Then in later hours, when the sun is risen to near its zenith, they are seen on the surface of the deeper water. An exception to this rule was found, however, at a point where there was a sharp temperature break at the surface.

The fact that they were found in great abundance in the middle portion of the lake and not in either the upper or lower ends of the lake can be explained by a study of the temperatures in the lake in the three regions.

The extreme upper end of the lake, where the water is supplied through the turbines of Mansfield Dam and comes from the depths of giant Lake Travis, the water temperatures range from 62 to 65 de-

grees Fahrenheit.

In the lower lake, below the City Park area, water temperatures range from 82 to nearly 90 degrees Fahrenheit near Tom Miller Dam.

However, in the middle portion of the lake, from a point approximately three miles downstream from Quinlan Park, there is a sharp rise in temperature from 64 to 71 degrees in a matter of several inches. Immediately after crossing this imaginary line in the water, into the 71 degree water, the red water organisms began to show up and were easily found on the surface from that point downstream to where the water temperatures rose to 76 degrees Fahrenheit at the surface.

Thus, the red water organisms were confined to a relatively limited portion of the lake, even though present in tremendous numbers where they were found.

Of the fish that were dying, an overwhelming percentage was composed of gizzard shad. In fact, that only a relatively few individuals of other species seemed to be affected by the red water is understandable, since of all the fish present in the lake, only the gizzard shad obtains its food primarily by straining the water and consuming the plankton organisms found in it. Therefore, it seemed reasonable to assume that individuals of other fish species that died, did so because they were feeding on the dead shad and not because they were feeding on plankton.

The way in which the shad were killed by the red water is still a mystery, but it is strongly suspected that they died because of a toxic effect of the organisms after they entered the digestive tract of the shad, rather than by suffocation caused by congestion of the gills by thousands of organisms.

The bloom of red water in Lake Austin lasted from approximately the middle of June until the end of July, a little more than six weeks. At the present time, the dinoflagellates can still be found but they must be carefully searched for with the microscope. Red water no longer exists in Lake Austin and it is doubtful that conditions favoring such a bloom as was seen in 1953 will exist again for many years to come.

Rejuvenation Seen For Rio Grande River Fish and Fishing

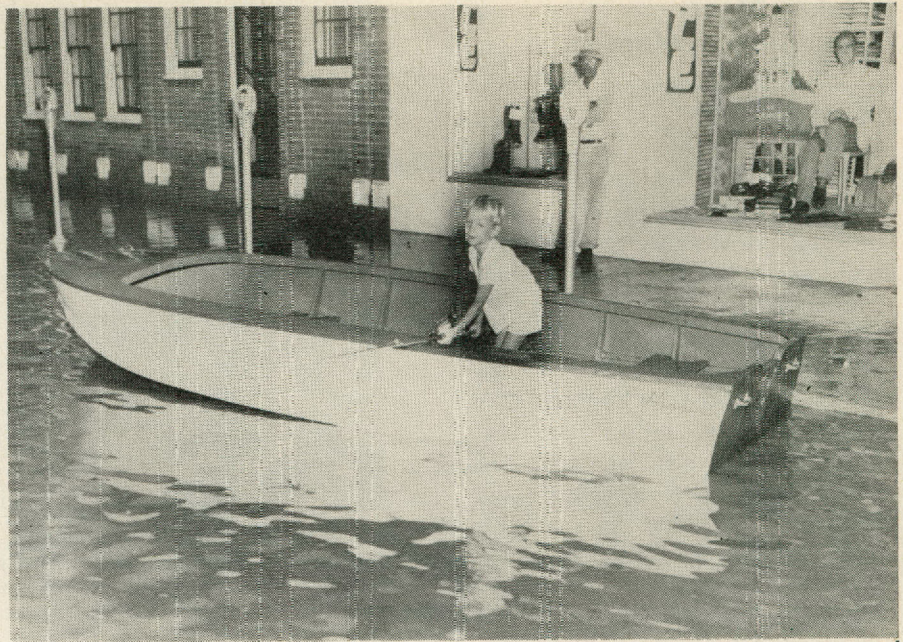
The Rio Grande River, noted for its giant catfish, can be restored to its piscatorial eminence, according to the Executive Secretary of the Game and Fish Commission.

He said the record drought, with consequent lack of flowage along great stretches of the Rio Grande, was costly to the fish population. But he explained that river observers reported many large pools, deep enough to sustain adequate brood stock.

Meanwhile, deep South Texas fishermen are looking forward to the vast lake created by the Falcon Dam below Laredo and above the rich irrigated fruit plantations in the Valley.

This lake, which filled during the early fall rains, will provide a large impoundment of water for stocking with fish as well as providing a constant flow of water in the river below the dam.

The Executive Secretary said the lake will be stocked with catfish, bass and other species which, he added, should provide unlimited sport.



Wildlife biologists and hunters had occasion to join ranchers and farmers in celebrating the end of Texas' long, long drought last month. For upwards of three years the low rainfall average had depleted food and cover for wildlife as surely as it had blighted crops and destroyed pastures. Wildlife, left to shift alone, had suffered most of all.

Pat Smith, above, chose his own method of celebrating. This young fisherman found in Raymondville's welcome downpours and on Raymondville's main thoroughfare, Hidalgo Street, a chance to fish right at home.

Horned Symbol of Texas

The most common species, the Texas horned lizard (*Phrynosoma cornutum*) has a squat, flat circular-shaped body with many scattered spines and a large head.

On the head the spines reach their greatest length, actually becoming small "horns" over each eye and forming an irregular but formidable fringe along the back of the head and lower jaw.

On the body among the many small scales, spines arise at more or less regular intervals and there is a double row of thorny, saw-toothed projections along each side between the fore and hind legs.

The tail is stumpy with a wide, fatty base which quickly comes to a rather abrupt tip. On the belly are many tiny scales, each with a small raised area or keel down its middle. The keels on the belly scales, the size of the horns, and the presence of two, rather than one or no lateral fringes, serve to distinguish the Texas horned

lizard from the other two species in the state.

In coloration the Texas species is rather regular and characteristic. The ground color is usually a varying shade of yellowish-brown or yellowish-tan. There is a conspicuous, thin, white or yellowish median stripe, beginning immediately behind the head and running down the back and through the first half of the tail, where it fades into obscurity. A large dark brown blotch appears on each side of the median stripe just behind the head. The two blotches are sharply defined and usually edged with whitish on their hind edges. There are three or four roundish brown-black spots down the back on each side of the median stripe and each encircles a raised spine and is usually bordered with whitish or yellowish on its hind edge. The remainder of the back and sides is irregularly shaded with brownish areas which encircle raised spines.

The tail is brownish with degener-

ating brown blotches. The dorsal limbs are tan, barred with blackish and the belly and other lower surfaces are usually whitish with indistinct dusky spots.

In size, the common Texas species averages from two to three inches in length with the maximum being about four inches. The tail is usually about one and one-half inches long.

The shape of the tail and the general overall coloration sometimes help the observer to determine the sex of the lizard with fair accuracy. In the male the wide heavy base of the tail is large and reduces abruptly to the thin distal portion, while in the female the tail usually tapers more slowly. A less reliable characteristic is that the male's coloring is usually paler than that of the female.

The strange appearance and harmless nature of horned lizards, coupled with the ease with which they may be captured, have made them popular pets as well as noted symbols of Texas and the wide open spaces.

Continued from Page 5

It Takes More Than a Warden

Continued from Page 9

1879, P. T. Bell was 11 years old, plenty able to shoulder a musket and to drive a prairie schooner.

Then the antelope traveled in great herds and the deer were so plentiful, according to Judge Bell, "they were a nuisance." Water bubbled from the earth in quantities commensurate with the community label—Carrizo Springs—and great catfish and bass crowded the cool, blue streams. Huge natural ponds attracted migrating ducks and geese so that, as the Judge happily recalled, "the sky seemed to darken when they swept overhead, moving in and out."

Now, the remnants of wildlife are hanging on desperately. Habitat has faded. Over-grazing has leveled once limitless feeding areas. Springs have dried up; most streams have ceased to flow. A sickening drought has accentuated distress.

Judge Bell, as he has for 17 years, now sternly administers justice to

persons failing to cooperate with modern wildlife restoration forces. He consistently punishes game law violators, always after carefully weighing judgment. He is never extreme in fixing the penalty.

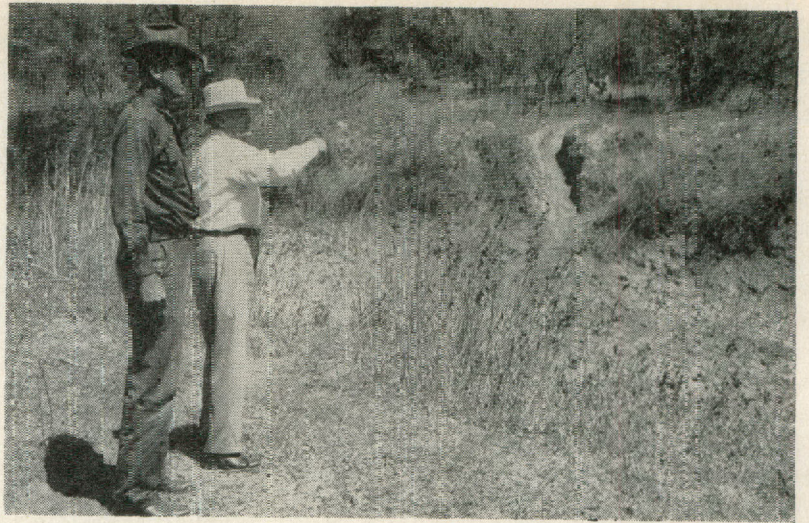
His reputation for sparing none

pointed up an incident related by Warden Pond. Pond arrested one of the Judge's relatives; caught him cold in some illegal act. "Where're you taking me?" inquired the culprit. "Before Judge Bell, of course," replied Pond. "Please," pleaded the man, "anybody but Judge Bell. Knows me too well. I'm his kinfolk."

The Judge is strictly on the sidelines now. He's sharp and agile for 84, but said: "Haven't killed a deer in ten years." He predicts a general reawakening of wildlife sentiment during his lifetime.

Sure, Judge Bell had a scare story or two from his memory book. There was the time when a fellow hunter leaned over to get under a tree. A rattlesnake struck, hooking its fangs inside the tongue of his belt buckle. The snake couldn't get loose. It was too close to the man for him or the other to shoot it off the belt. "There he was holding on to the snake with both hands and hollering," grinned the Judge. "Finally whipped out my knife and cut the critter in two. We pried him loose. Must have been six feet long."

HUNTING LEASE on 650 acres in Kerr County for four men, including quaint old FARM HOUSE, renovated, electricity, gas, and bath. One-fourth of a mile on the Guadalupe River. Good boating, fishing, and swimming. Price: \$1,300 per year. Mrs. George P. Walker, Center Point, Texas.



Above, Judge P. T. Bell stands on the powdered lip of a dry creek to point out to Game Warden Jim Fond where "a steady flow of water" once came from the earth to nourish a network of streams. Drought and poor land use helped convert Carrizo Springs into the present unhappy position as the epitome of aridity.

For the Birds...



Don't be like Cranston. Stray shots that hit wires can cut off important telephone calls. That's why we ask hunters not to shoot at birds on or near telephone lines. (Southwestern Bell Telephone Company)

Sixth Big Game Trophy Competition Announced

The Boone and Crockett Club, whose ratings of big game trophies for North America are recognized as official records, has announced its sixth annual competition.

Trophies taken during any year are eligible for the 1953 competition provided they have not been entered in any of the five previous competitions and if they are not listed in any edition of "Records of North American Big Game."

Deadline for the current competition is December 31. All entries since the last competition will be counted.

Charts for entering a trophy or trophies will be sent on request by

writing the Boone and Crockett Club, 5 Tudor City Place, New York 17, N. Y. The kind and number of species to be entered should be specified, so that the correct chart can be supplied.

It is not necessary that the trophy be mounted, and trophies should not be shipped to the Club unless such request is made in January 1954.

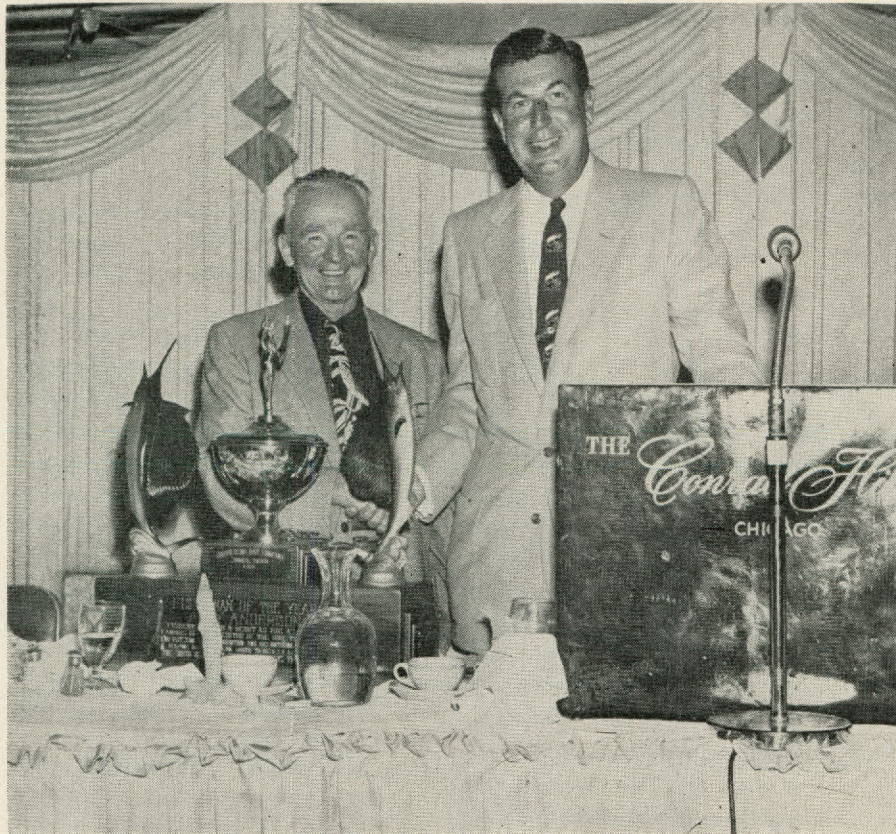
A Medal and Certificate of Award are given each winning entry provided the trophy was taken in fair chase. Tusks, skulls, horns, and antlers of animals killed by accident, pick-ups, or of unknown methods of capture are not eligible for a medal

but may qualify for a Certificate of Merit. Such trophies will be given the position in Records of North American Big Game which their individual scores indicate.

In addition to the Medals and Certificates of Award, the Sagamore Hill Award may be given if, in the opinion of the judges, there is an outstanding entry worthy of great distinction as the best trophy in the entire Competition. This award, in memory of Theodore Roosevelt, was given in the 1951 Competition to a Woodland Caribou of unusual merit.

The five previous competitions produced data on about 1,500 specimens of North American big game and uncovered a number of outstanding trophies. Tabulations of the awards of competitions held in 1949, 1950, and 1951 will be mailed on request. The year desired should be specified.

The Club's official book "Records of North American Big Game," 1952 edition, which is complete with sample scoring blanks, photos of outstanding trophies, and rankings, may be had by addressing Mrs. Grancel Fitz, secretary, at the Club headquarters. The price is \$6. Proceeds help support the competitions.

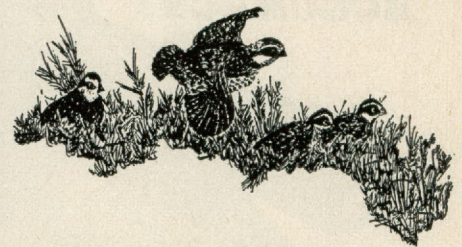


Texan Named 'Fisherman of the Year'

Andy Anderson, the little Texas fisherman whose heart has been described as being as big as his home state, brought the Fisherman of the Year award back home from the annual Sportsman's Club of America banquet held at Chicago last month. This award in fishing is equivalent to the player of the year award in baseball.

Andy, outdoor editor of the Houston Press, was also inducted into the fishing Hall of Fame. In the near future some of the tackle he uses and some of the gadgets he has devised for use by amputee veterans will be placed in the Fishing Hall of Fame Museum at Chicago.

The award was presented by Don McNeil, popular radio master of ceremonies.



Big Northern Bob White

Eggs—May, June & July—\$30.00 per 100

STARTED CHICKS, 5 weeks old

July to October: 20 chicks for \$21.00

Instructions for care, with order

YOUNG BIRDS, 8 to 10 weeks old.

$\frac{2}{3}$ grown. Ideal for restocking, August to

Nov.: 10 pair for \$25.00

Whitney Quail Farms

503 W. 30th St. Austin, Texas
G. E. WHITNEY, OWNER

Summary of Seasons

FISH - GAME - FURBEARERS

WARNING—The open seasons listed below are general state laws. Many counties, by action of the legislature, have special laws which differ from the general laws. A *Digest of Game and Fish Laws*, which notes these exceptions, may be obtained from your local game warden, from your gun and tackle dealer, or by writing the Texas Game and Fish Commission, Austin.

Game Animals and Birds

Gallinules and Rails (except coot)—Season closes at sunset Oct. 30.
Brant, Coot, Ducks and Geese—From noon on November 6 to January 4 inclusive.

Mourning Doves—North Zone: Closes at sunset October 10. South Zone closes at sunset November 9. Exceptions: Cameron, Hidalgo, Starr, Zapata, Webb, Maverick, Dimmit, LaSalle, Jim Hogg, Brooks, Kenedy and Willacy Counties closes at sunset November 6.

Squirrel—October, November, and December.

Bear, Deer, Javelina and Turkey—November 16 to December 31, both days inclusive.

Chachalaca and Quail—December 1 to January 16, both days inclusive.

Wilson Snipe or Jacksnipe—December 21 to January 4, both days inclusive.

Furbearers

All furbearers except Muskrat—December and January.

Muskrat—November 15 to March 15.

Game Fish

There are no closed seasons on game fish in Texas (except for special county laws).

Nash to Offer

\$5000 in Awards

Detroit—Creation of an annual \$5,000 awards program for professional contributions in the field of conservation of natural resources was announced today by George W. Mason, president and chairman, Nash-Kelvinator Corporation. Recognition will also be given to non-professional contributions.

The nationwide program will be known as "Nash Conservation Awards." Ten cash awards of \$500 each will be presented to ten professional conservationists, working in education, research, administration or enforcement, in any field related to soil, water, forest, fish or wildlife conservation. In addition, 10 awards consisting of plaques and citations will be given to non-professionals whose contributions to conservation have been performed as acts of good citizenship.

"The real sportsman has prize enough in his big musky or record grizzly, but there should be greater recognition for those who are devoting so much to the cause of conservation," Mason said. "We hope these awards will serve as a reminder to all of us that conservation today is a science, and without expert conservationists there would soon be no fish or game left. It is also important to stress the fact that all phases of the problem are related—including soil, water, forest, fish and wildlife conservation."

Nominations for awards are to be made by newspaper rod-and-gun and conservation editors, rod-and-gun clubs, and public and private conservation agencies. Final selections will be made by the Awards Committee, which for 1953 consists of Ed Dodd, creator of Mark Trail; Pieter Fosburgh, editor of the New York State Conservationist; Johnny Mock, outdoors editor of the Pittsburgh Press; Alastair MacBain, chief of Information Bureau, U. S. Fish & Wildlife Service, and Michael Hudoba, Washington correspondent and authority on conservation legislation.

This year's awards will be presented at a dinner in Washington, January, 1954.

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ACCURACY!



Before your eyes, in a Stith Scope, a single brilliant point-of-aim... a big, clear-cut target... to help you make vital hits at longer ranges. For a lifetime of good hunting, buy the Stith Bear Cub 2¼X, 4X or 6X. Write for FREE folders: "How to Choose a Mount," "It Pays to Own a Stith Scope."

Illustrated: Stith 4X double \$85.00
Stith Savage 99 Mount \$20.00

STITH SCOPES & MOUNTS

500-TG-10 TRANSIT TOWER
SAN ANTONIO, TEXAS



This strictly routine scene, showing a man taking a number out of a box, really provides a significant setting.

It could show the pattern for big game hunting in the future in Texas, should the worst happen and the state's vaunted wildlife resources be reduced to a minimum.

Actually, it symbolizes the opposite to that, because it is a token of progress.

The photograph shows the drawing for the annual antelope hunt West of the Pecos, whereby roughly three hundred persons were allotted individual permits to harvest one prong-horned buck apiece. An equal number will be harvested in the Panhandle. Joe Small, publisher of *True West* and *Western Sportsman* Magazines is drawing the number from a box held by Vernon Skaggs, Chief

Clerk of the Game and Fish Commission.

Before the confirmed pessimists about wildlife dismiss the ceremony as reflecting futility, let it be inserted here that, to the contrary, it mirrors progress.

Because antelope now being hunted West of the Pecos were propagated under modern game management techniques. Cooperating landowners have helped bring this fine game species back from a point which neared extinction in Texas.

There are many other current signs of teamwork involving game management specialists, landowners, and hunters. Thus, while the elements lately have combined with destruction of habitat and other wildlife deterrents, the restoration forces are making a fight of it. Yes, even though hunters' permits for this species have to be drawn from a hat.—Jay Vessels.

First Aid for Dogs

Continued from Page 15

The administration of a polyvalent antivenin is very satisfactory if given soon after the bite is received. The snake bite kit should be carried by all hunters in areas where poisonous snakes exist.

Burns

Extensive, severe burns on animals require professional treatment. Mild burns may be relieved by spraying with a five per cent tannic acid solution or by applying saturated sodium bicarbonate (baking soda). When extensive, shock must be prevented until aid is secured.

It is entirely possible that you may sometime be required to administer first aid to your dog in the field or at home. Simple first aid knowledge of what to do and how to do it may save the life of a valuable hunting dog or pet.—*Wildlife in North Carolina.*

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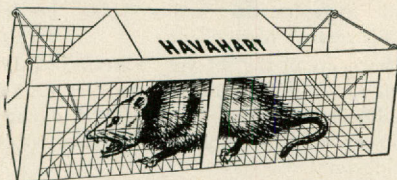
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BOOKS



CADDO GUIDE by Bob Brister. 48 pages and insert illustrated with numerous photos. Published 1953 by Bob Brister, 500 East Austin St., Marshall, Tex. \$1.

Here is a complete guidebook, written in such a lively manner it reads like a story, of weird, fascinating, age-old Caddo Lake, largest natural lake in Texas and one of the largest in the South.

Of course the emphasis is on hunting and fishing. But there are also chapters on the past history, Caddo today, a guide to camps, and even art and music of the Caddo region.

Brister is not a Caddo Lake native. But like all who visit this swampland paradise, he fell under its spell after establishing residence nearby. Today he is truly a Caddo Lake authority, and he has captured the compelling lure of old Caddo in a fine piece of writing, while covering in minute detail every facet of the lake with a superb job of research.

FISHES FOUND IN THE FRESH WATERS OF TEXAS by Frank T. Knapp. 166 and VIII pages generously illustrated with line drawings. Published 1953 by the author, c/o Ragland Studio and Litho Printing Co., Brunswick, Ga. \$2.

This handbook of the fresh-water fishes of Texas is designed primarily to meet the increasing demand for information in that field. The author, former assistant professor of fisheries at Texas A. and M. College and at present with the Georgia Game and Fish Commission, has written it in semi-scientific language for use by students, sportsmen, and the professional fisheries worker.

The book contains identification keys to the natural groupings of 16 orders, 40 families, 99 genera, and 190 species (203 forms) of fish. Most of the species are illustrated with line drawings with an emphasis on the distinguishing characteristics. Also included are an abbreviated life history for each order or family and the range of each species.

DUCK HUNTING by John G. MacKenty. 206 pages well illustrated with photos. Published 1953 by A. S. Barnes and Company, 232 Madison Ave., New York 16, N. Y. \$4.

The author has done a thorough job of covering the subject of duck hunting in every phase.

A good portion of the book tells how to shoot, how to lure ducks, and how you may expect each species of duck to act. That's the "shooting" part of the story.

But there also are equally valuable chapters concerning preparations for the hunt—the selection of correct clothes for comfort, what kind of boat to use, how to build a good blind, choosing the gun, and other useful hints.

At the close, the picture is completed with a fine chapter on preparing, cooking, and eating ducks.

DUCK DECOYS by Eugene V. Connett, III. 116 pages, well illustrated with three full color plates and numerous photos and drawings. Published 1953 by D. Van Nostrand Co., Inc., 250 Fourth Avenue, New York 3, N. Y. \$4.75.

This unusual book covers the complete field of how to make duck decoys. Actually, that is about all that need be said of the book other than to point out the excellent methods employed to show the reader how he can make his own.

There are 32 patterns, scaled in proper proportions, and many of these are reproduced in actual size, so that they can be traced right from the book. Complete directions are given for making decoys out of various materials, and color and black and white photos provide a full show of painting patterns for all the game species.

The author also offers a lot of good information on feeding habits of ducks and how to get the most out of decoy settings.

PHOTOGRAPHER AFIELD by Ormal I. Sprungman. 449 pages profusely illustrated with color and black and white photographs. Published 1951 by the Stackpole Company, Telegraph Press Building, Harrisburg, Pa. \$7.50.

"I'd give ten bucks if I'd just gotten a picture of that!" How many times have you made that remark after returning from a trip into the outdoors? Whether you use an inexpensive box camera or a professional job with all the trimmings, here is the book that will tell you how.

The book is written in non-technical language which the average hunter and fisherman can understand, and technical terms and processes are clearly explained. Yet the author discloses many "tricks of the trade" used by professionals, of which he ranks with the best, making the book one of great value to anyone interested in outdoor photography.

It is a book of a specialty only in that it is limited to photography in the outdoors, particularly of wildlife and camping scenes. There specialization ends, for subjects covered include the selection of equipment (with no holds barred), film, lenses, filters, lighting, action shots, flash photography, color, processing film afield, and many other phases of "still" photography. The second part of the book includes an equally expansive variety of subjects concerning outdoor movie making.

The outdoor photographs by the author and others which are expertly used to illustrate points discussed in the book are alone worth the price of the book.

HAMMOND'S NATURE ATLAS OF AMERICA by E. L. Jordan, Ph.D. 256 pages illustrated with 320 full-color paintings by Walter Ferguson (282) and John Cody (38) plus 104 full-color range maps. Published 1952 by C. S. Hammond and Co., 521 Fifth Ave., New York, N. Y. \$7.50.

Few books combine usefulness with beauty and interest as well as does this one. The heart of the book is built around page after page of colorful illustrations, two subjects to the large page, showing the principal birds, mammals, reptiles, fishes, insects, trees, wildflowers, and rocks of our continent. Beside each illustration is a description of the subject. Interspersed are maps showing where each of the 320 subjects can be found.

One large section tells "where to see American nature best." This also is illustrated with color maps. Another section explains the relationship of climate, vegetation, and topography to living things, another provides a classification key for rocks, and another explains and outlines the orders, families, and classes of living things.

A glossary of terms and a complete index add to the usefulness of the huge, splendid book, a Book-of-the-Month Club selection, which should be a credit to any library.

WATERFOWL IN FLIGHT, a set of eight full color reproductions of photographs by M. T. Johansen. Published 1953 by Ducks Unlimited, 425 Russ Building, San Francisco, Calif. \$12 per set.

These superb prints are lithographed in full color from real-life photographs and each measures 10 and three-fourths by 13 and three-fourths inches, plus border. Their quality is excellent.

Subjects in the set are "Pintails," "Mallard Drake," "Canada Honkers," "Pair of Mallards," "Pair of Pintails," "Widgeon," "Lesser Snow Geese," and "Mallards and Widgeon."

They are fine for framing and would make ideal presents of appreciation or for Christmas. And a purchase will help further the cause of that amazing organization of sportsmen, Ducks Unlimited, which has done so much to increase waterfowl population.

down hill and the large vessels of the neck severed at the point they emerge from the chest cavity. If the carcass can be swung from a tree, so much the better. If the carcass is not swung, keep your eye on those hind feet as you cut into the throat. Reflex action to pain goes on even in unconsciousness and may result in a knot on the noggin of the unwary.

The next step in the process of preservation is the prompt evisceration as soon as bleeding is complete. This should include the removal of the wind-pipe, gullet, kidneys, and all other contents of the body cavities. The sooner this is done, the quicker the carcass will cool.

If clean water is handy the inside of the carcass should be rinsed out thoroughly to remove clotted blood and stomach and intestinal contents that might serve as reservoirs of bacterial contamination. No need to worry about the water being too pure as your hands carry more disease-producing bacteria than a barrel full of ordinary water from a clear running stream. You will wash out more bacteria than you put in, besides washing out material that would serve as ready nutrients for bacteria present.

During this washing process all loose tabs of tissue should be trimmed out. The diaphragm should be trimmed off cleanly at its point of attachment to the rib cage. Spoilage always starts where drying is prevented by improper trimming.

As soon as the carcass is washed and trimmed it should be swung up to dry, either whole or in quarters. Whole carcasses should be propped open at strategic points to facilitate rapid drying and cooling.

Carcasses that have been properly taken and handled are safe up to three days in temperatures as high as 55 to 60 degrees. In colder temperatures the meat will keep for longer periods. However, unless the meat is solidly frozen, aging continues. This tenderizes the meat but increases its "gamey" flavor.

In meats that are allowed to freeze, care should be taken that thawing is accomplished slowly, when they are prepared for consumption. A 40 de-

gree temperature is best for thawing. If meat is to be packaged and refrozen the process should be completed within two hours of the time it is removed from freezing temperature.

Bacteria in meat that are inactivated by freezing become extremely active as thawing occurs. Such meat may spoil in a very short time. This is due to a break-down in the structure of the meat as the result of large ice crystals forming in the tissues during slow freezing.

There is little new about the proper care of game meat in the field. But if we were all a little more thoughtful about the proper handling of this meat, our wives might be a little more condescending in their attitude toward cooking and eating our game. And more of the meat that cost us dollars-a-pound, along with a case of fatigue that we won't recover from until next year's vacation, will reach our eager stomachs rather than the garbage can.

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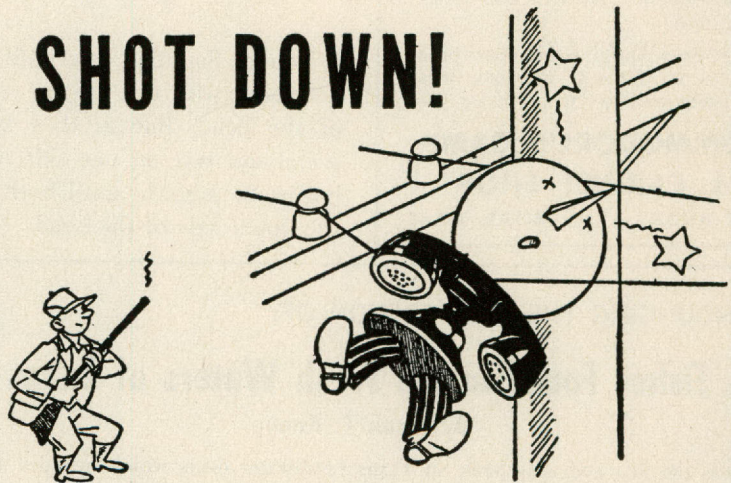
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they had to catch some of 'em and tie 'em to the limbs.

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Carhart \$2.95 ppd.

The American Wild Turkey—
Davis \$5.00 ppd.

Records of North American Big Game—Boone and Crockett Club
\$6.00 ppd.

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hitherto unnoticed—that there would be no open season in Texas on the black-bellied tree duck.

Glory be! There is such a thing as a tree duck, though obviously scarce or else the authorities wouldn't be trying to protect it.

Well, the search has been on these many moons. But, truth to tell, it hasn't been too exhaustive. A few casual looks up in the cedars and mesquites now and then, but nothing has been spotted that faintly resembled a duck.

This latest mention of the hunting ban on the dark-stomached tree duck got us into high gear for some reason and we decided to make our first sincere investigation of the matter. Are there really ducks that roost in trees? We phoned Game Warden Hitzfelder. Said he:

"Well, maybe the word 'roost' shouldn't be used. But there are tree ducks in Texas, down in the coastal region and there are wood ducks that not only bounce around in the trees but actually nest in them—in hollow

* * *

Young flounders start life quite normally, with one eye on each side of the head. But as they begin to swim and rest on one side, one eye begins to migrate until both are on the upper side of the head.

logs and abandoned squirrel holes and whatnot.

"While we're talking about 'em, remember, if you're going hunting, that you can have only one wood duck in your possession. No tree ducks! One wood duck! Very strict law there. Can't fail to distinguish that wood duck either. He's a bright one. Beautiful thing. I don't blame him for getting up in a tree and showing off."

Note to Lucchese: We are going after those ducks in the trees, boy! Vindication is close at hand. We are going after 'em with a camera and a notary public.

You'll get the last laugh on those ribbers after all these years. Or do you remember that awful week of the letters, the photographs, the poems and the guy who sent you a duck feather and a sparrow feather and told you to study 'em closely?

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The author, Mr. Frank T. Knapp, was formerly Assistant Professor of Fisheries at Texas A & M College, and a recognized authority in his field.

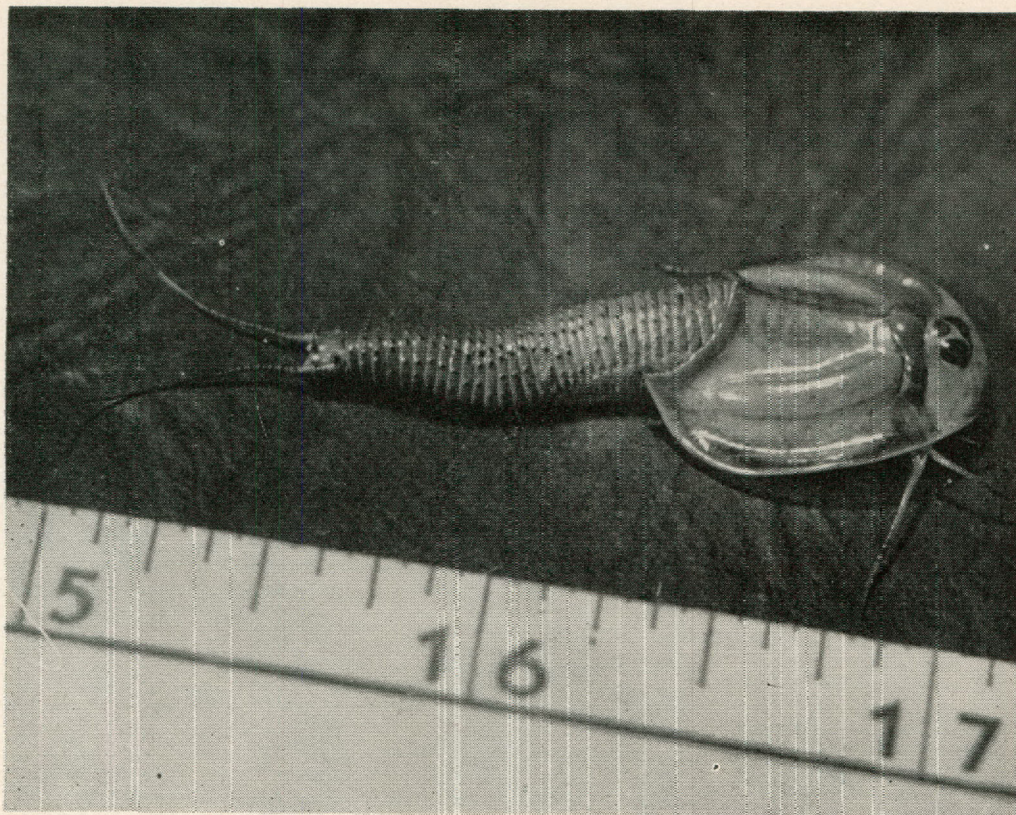
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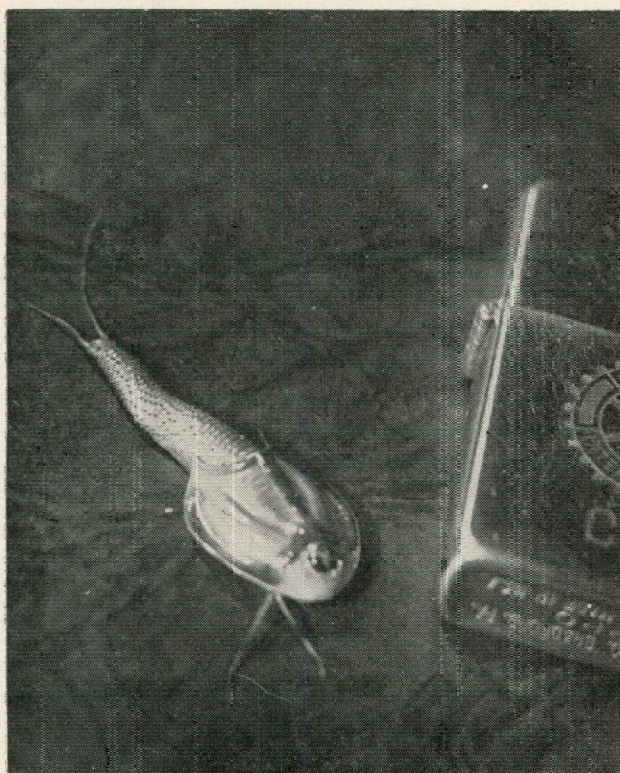


By **BILL WILKERSON**
Borger News-Herald

This desert shrimp, just over two inches long, was found in a lake near Borger. Dry weather presents no problem for this species—its eggs may wait 50 years to hatch.

The **Desert Shrimp**

All desert shrimp are females. A cigarette lighter provides a size comparison below.



A group of fishermen seining for minnows in a rain-water lake south of Borger, Texas, recently pulled out an unusual form of marine life, a desert shrimp. This form of crustaceous creature existed as far back as the Triassic period, some 175,000,000 years ago, and has perpetuated itself in the same physical form since that time.

The desert shrimp has a horseshoe-shaped shell with protruding eyes at the bend of the horseshoe, a long flexible tail with feelers at the end, and small legs that it uses as oars when swimming. Two feelers shoot out the front of the shell near the eyes.

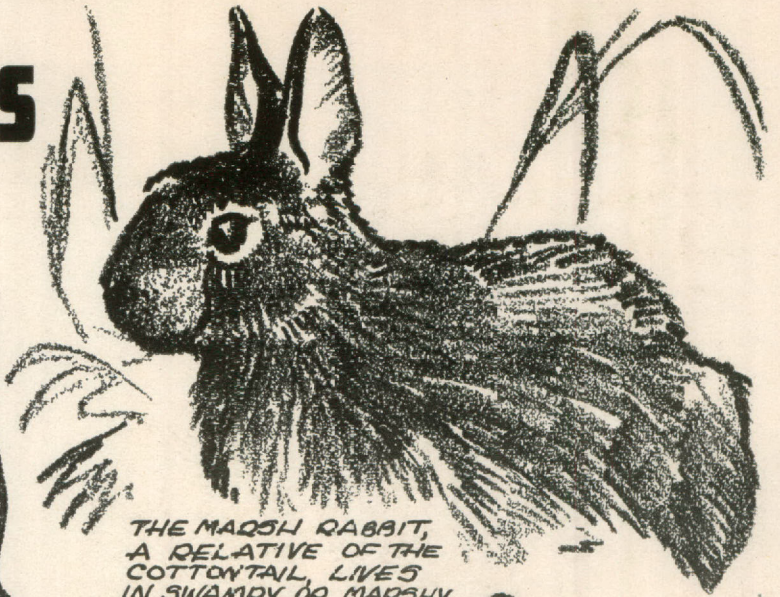
The life span of the desert shrimp is only about 40 days. It spends these 40 days on the bottom of the pond on its back, waving its legs in the water above. Sometimes it swims to and fro searching for food, navigating both upside down and right side up.

In essence, the little "critter" must have a pretty humdrum life. There are no males in the desert shrimp's family. The females lay the eggs that have an automatic fertilization device. Hatching can take place only after several seasons of freezing, thawing, wetting, drying, and a sudden water temperature rise.

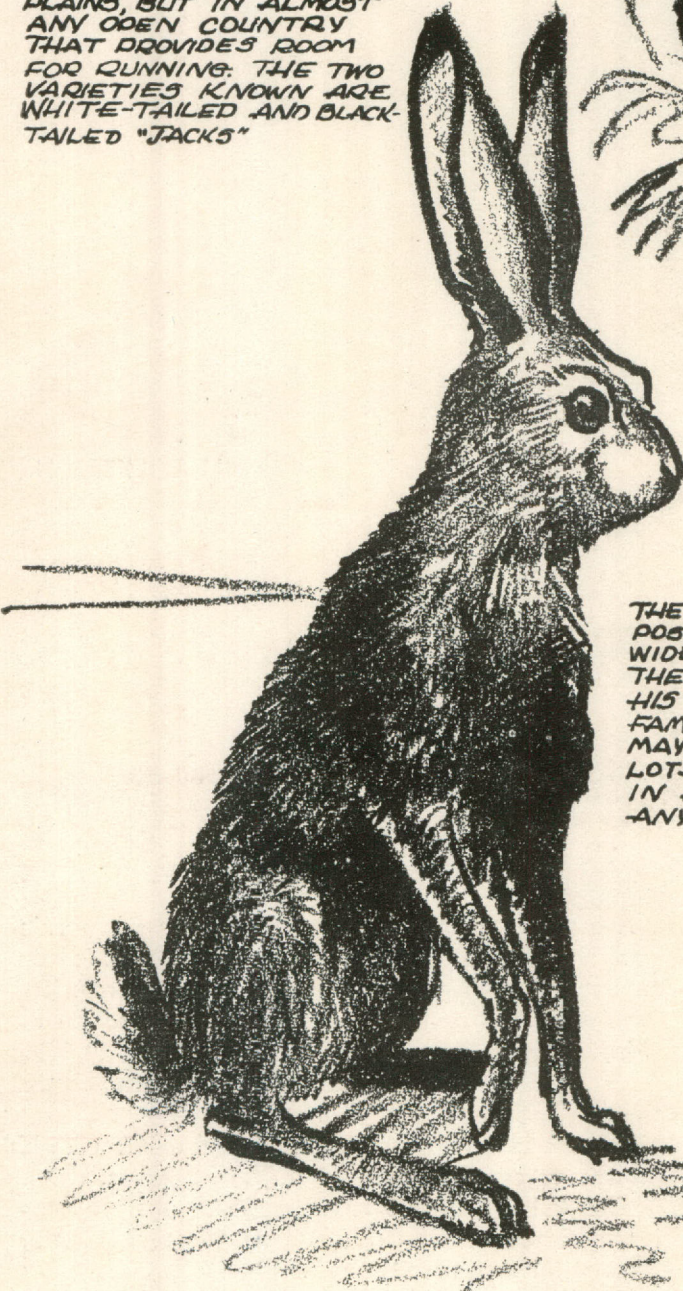
The result of this is that as many as 40 or 50 years may pass between generations of the desert shrimp.

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